Cumulus

The Cumulus® Digital Asset Management System provides powerful tools for archiving, managing and marketing your digital files. Cumulus can store any type of digital media assets, including all types of documents, images, audio, video, layouts from publishing programs, presentations, and PDF files.

Once assets are stored, Cumulus becomes a central media repository from which you and your co-workers can view, locate, search, organize, copy, move, categorize, and otherwise manipulate the cataloged assets. Once you've settled on a process for storing and retrieving your digital assets that works for you, the process can be automated, further enhancing the efficiency of your workflows.

Cumulus has three distinct access points, designed for different types of users. Cumulus Portals offers a web portal style interface for file sharing and publishing. Cumulus Web Client is for work-in-progress. It is ideal for daily work on assets. Cumulus Desktop Client is where the power user sits. Administrative and user tasks can be done here.

Welcome to Cumulus

Using Cumulus Help

The central component of the Cumulus user assistance is Cumulus help.

Canto offers different editions of Cumulus and various add-on products. This help covers the functionality of Cumulus Workgroup and Enterprise employing the Desktop Client or the (Web) Server Console. Functions and feature that are available with certain editions or add-product only are denoted.

The Cumulus Web Client and Cumulus Portals provide own help systems. For an overview on the help available for different Cumulus components and releases, see help.canto.com. How to install Cumulus editions is described in the corresponding Installation Guides. These guides also contain descriptions on how to register and activate add-on products.

TIP: Are you a Cumulus newbie?

Then you should start with the Quickstart Guide.

This help is organized just like a book:

*   To page through, use the arrows at the top right.
*   To browse chapters, click the **Contents** icon. The table of contents entries in the form of an expandable/collapsible tree view are displayed. Closed folder icons represent TOC entries that have subentries. To open such a TOC entry, click the folder icon. To view a topic, click its entry. The corresponding topic is displayed.
*   To find an item via index, click the **Index** icon. A list of topics is displayed. Scroll to find the index entry you want.

- To search for a specific word, enter it in **Search** field. Type the words you want to find and hit Enter or click on the magnifying glass icon. A list of topics is returned. Note that all search words and phrases are combined with "and". Entering *Canto Cumulus* will result in all topics that contain *Canto* AND *Cumulus*. Wildcard (*) and phrase searching are supported. To search for a specific phrase that consists of more than one word, enclose the words with double quotation marks. The words in quotation marks as one search term. Entering "*Canto Cumulus*" will result in all topics that contain the string *Canto Cumulus* (i.e. the words Canto and Cumulus separated by a space).

Different from a book some text sections are hidden and only denoted by headings with a triangle arrow at the right side. To toggle the display on and off, click the heading. Try it below!

TIP: Be up to Date

Load Cumulus Help from the Canto website, where the latest updates will always be available. (**Help > Source > Online**)

Do you prefer reading on paper? Click the Print icon in the top right corner and have the current topic printed.

Tell us what you think! We are committed to providing you with high quality documentation and you can help us to continually improve the documentation that we offer by telling us what you think. We appreciate all types of feedback and look forward to hearing from you. Write to us by clicking the email icon ✉ in the top right corner.

Cross-Platform Issues

Cumulus is a cross-platform application, meaning that it runs on Windows® and Mac® OS X (Macintosh®) systems. Though the program's features are identical in each version, portions of the user interface differ due to operating system or keyboard conventions. These differences are denoted or explained when necessary and assumed otherwise (e.g., the difference between "maximizing" a window in Windows, and "zooming" a window in the Mac OS X is not explained).

 This icon denotes what pertains to Mac OS X only.

 This icon denotes what pertains to Windows only.

User Interface Item Conventions

To differentiate user interface items – buttons, menus, text fields, etc. – from surrounding text, those items are displayed in **bold**. For example:

"Click **Open**."

This example means to click the **Open** button.

Another example: "Select **File > Open** to open a file."

This example means to select the **Open** item from the **File** menu.

Cumulus Step by Step

Instructional steps are identified by numbers:

1. This would be the first step (and could be the least as well).

2. This would be the next step (and could be the least as well).

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Understanding Cumulus

To get started with Cumulus, you need to understand only a few basic concepts. Cumulus creates special files called *catalogs*, which Cumulus uses to keep track of your valuable *assets*. As you catalog your assets, Cumulus creates special catalog entries called *records* that represent the assets to be managed. Each record contains vital searchable information about the asset it represents. To make searching and retrieving records easier, Cumulus lets you organize and classify records into logical groups called *categories*. Any individual set of records comprises a *collection*. A collection is a way of looking at catalog(s).

Get more details about these Cumulus terms:

Assets

An asset in Cumulus is simply any one cataloged file or data stream. A video clip, an audio clip, an image, or a page layout document are examples of files that are commonly cataloged in Cumulus. But the word *file* suggests an asset that is stored on a digital medium like a hard-disk or CD-ROM. What if the asset is a record in a database? This is not a file per se, but as far as Cumulus is concerned, it is a data stream that can be cataloged, kept track of and accessed.

Catalogs

Like a filing cabinet, Cumulus catalogs serve as storage locations for asset collections. You can have as many catalogs as you like. Catalogs are cross-platform compatible, so it doesn't matter what type of computer is used to create a catalog. For more information, see "Catalogs".

Collections

Collections are like snapshots from your open catalog(s). When you work with your assets in Cumulus, you're viewing a constantly changing group of records. Without collections, each view of this group would be lost as soon as it is was changed. Collections, however, enable you to capture any particular set of records and save it as you see it - all without disrupting your workflow. Once you see something you like or could use again, save it as a collection and recall it whenever you need it. You can even send your collection as an attachment to an email message in one easy step.

A collection also acts as your temporary workspace in Cumulus, meaning that changes made to your collections do not affect the content of your catalogs. Even deleting a record from a collection does not remove it from the catalog (unless you really want it to, which you can do, too). For more information, see "Collections".

Categories

Like folders in a filing cabinet, Cumulus categories serve to organize assets (files). But here the similarities end. Assets can appear in any number of Cumulus categories at the sametime. For more information, see "Categories".

Records

Records represent assets. Each record represents one asset. Records hold information on the asset, such as file size, type, location, creation date, and much more. Cumulus allows the creation of customizable record fields, which can contain almost any sort of information you desire. Since these user-defined record fields are also fully searchable, you can tailor Cumulus to fit your requirements.

It's very important to draw the distinction between records and assets. Records are part of Cumulus catalogs; assets are not. Records represent assets. For more information, see "Assets/Records".

Cumulus

Cumulus is Canto's state-of-the-art Digital Asset Management solution. Cumulus makes it easy to quickly organize, find, share, and track all of your digital files: photos, logos, presentations, videos, as well as PDF, Office, or InDesign documents – anything digital, on any platform.

Quickstart Guide

Introduction

This Quickstart Guide is designed to give a first impression of Cumulus, its power and possibilities, as well as a basic knowledge of the user interface of the Cumulus Desktop Client.

Among other things, you will learn how to retrieve assets that are already cataloged in Cumulus. Furthermore, you will learn how to catalog your digital assets and how to categorize, rate and label them. And for the Cumulus Administrators among you, there is a chapter on how to set up a simple Cumulus catalog of your own.

But let's start at the beginning. Here's where you are introduced to the user interface of the Cumulus Desktop Client, the most powerful application mainly used when working with Cumulus.

All you need to begin is:

- a working Cumulus installation (the installation of Cumulus is not within the scope of this document. You'll find this described in the Installation Guides.
- access to the Cumulus Sample Catalog or any other catalog
- some digital files to catalog
- a certain amount of time (30 minutes at least)

NOTE: Most Cumulus functions can be performed in various ways: via menu items, via shortcut menu items from within Cumulus or other applications, via keyboard shortcuts, or via drag & drop.
Therefore, the step-by-step instructions in this Quickstart Guide are just examples – more often than not, there are other ways to achieve the same goal. Feel free to find out which way suits your working habits best!

Further Reading

If you have finished this Quickstart Guide and want to start working with Cumulus, or if at any point you feel lost and need more detailed information, call the Cumulus online help via the help menu, or by pressing F1. Most likely you'll find everything you need to know here, both as the end user and as the person who administrates and manages the Cumulus system.

If you need to know even more, there's plenty of additional information, articles and answers to frequently asked questions in the Canto Customer Community. Not yet a member of the Canto Customer Community? Find out how to join via the [Canto Website](#).

Some Basics

When working with Cumulus, you will encounter some central terms over and over again. These terms and their underlying concepts are crucial for the understanding of Cumulus:

Asset

Cumulus is all about organizing and managing your digital assets. Each and any digital file can be an asset – photos, graphics, PDF files, spreadsheets, Power Point presentations, even single slides from within a presentation, word documents, audio and video clips – you name it. An asset is a file with value added. And this additional value springs from the files' metadata.

Metadata

Metadata is any kind of information about an asset – file name, creation date, modification date, author, size, number of contained characters, number of pixels, creating application, caption, comment, keywords, categories – whatever. some kinds of metadata are provided by the files themselves, others are supplied by Cumulus or Cumulus users.

Record

A record is the representation of an asset inside Cumulus – not the asset itself, but a set of information about the asset: its metadata. What kind of metadata are stored in a record depends on the kind of asset it represents as well as on the settings specified for the respective catalog.

Catalog

A catalog comprises all records created from your assets. Technically speaking, it is a database, and it is cross platform compatible and thus can be shared between Mac and Windows computers. You can even have more than one catalog, e.g. different catalogs for different asset types or purposes.

Collection

A collection is the body of all records you are actually working with, meaning all records from a single catalog, or a subsets of records belonging to one or several catalogs. For example, a collection may comprise only records that are relevant for the project you are currently working on, or records of a certain type, etc. Collections may be saved and re-used later on.

You can open several collections at the same time. Each of them can be displayed in its own Collection window within the Cumulus main window.

Categories

Last but not least, there are categories. Each asset can be assigned to one or more categories – and the other way round: each category can be assigned to one or several assets. Information about categories assigned to an asset is stored in the respective record as metadata. Categories are a great way to making your life easier and to quickly find the needles in the haystack of your assets.

That's it – now let's begin.

How Does It Feel:
The Cumulus Main Window

Cumulus is designed as a client/server solution where the Cumulus Server runs on a computer somewhere on the network and is accessed by the Cumulus Desktop Clients through standard TCP/IP connections, or by a Cumulus Web Client via a standard Internet connection. What a user of a Cumulus Client – i.e. you – can see and do, depends on settings managed by the Cumulus Administrator. So if you can't use or even see some of the features described in this guide, it may be on purpose. If in doubt, ask your Cumulus Administrator!

Canto provides a Cumulus Sample Catalog which we use to illustrate the following explanations. If for any reason this Sample Catalog is not at your disposal, any other catalog you can access will work as well.

Opening a Cumulus catalog:

1. Start the Cumulus Client, e.g. by double clicking the Cumulus icon on your desktop.
   The Cumulus window appears.

2. Select **File > Open Catalog**, or click the Open Catalog button (▢).
   The **Connect to Cumulus Server** window appears,

3. Select a server, if necessary, then enter your user name and password and click **OK**. If in doubt, ask your Cumulus Administrator!
   The **Catalog Access** window appears.

4. From the **Catalog Access** window, select the Sample Catalog (or any other catalog) and click **Open**.

The Cumulus main window is displayed, showing the records of the assets in the catalog with thumbnails and selected information.
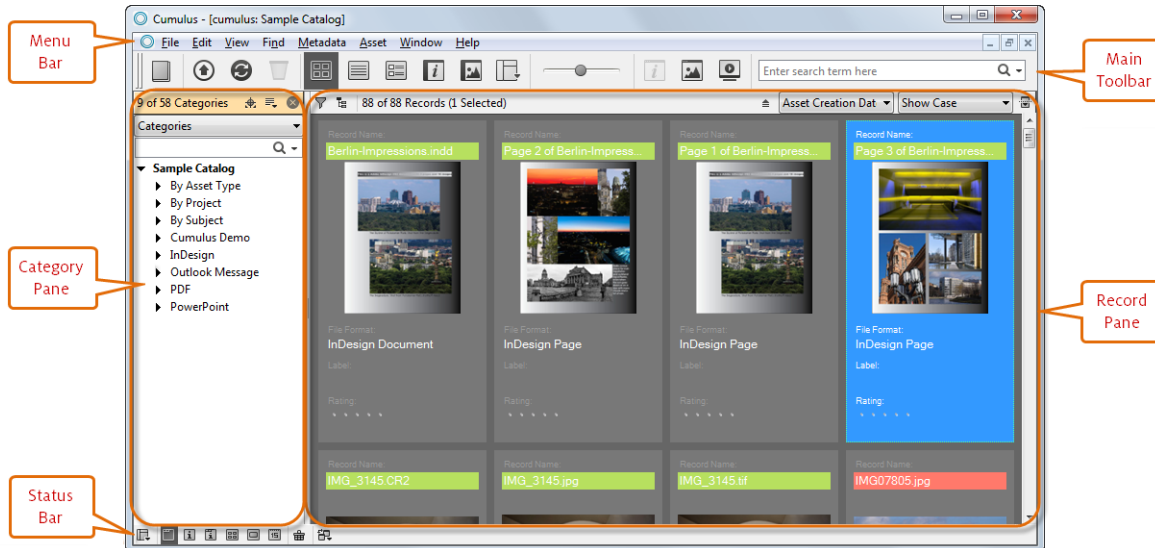
Cumulus main window

Menu Bar   The menu bar provides the Cumulus functions arranged in clearly named menus. For example you'll find catalog related functions in the **Edit** menu, or functions to control

the visual representation of the records on the screen in the **View** menu. The **Meta-data** menu hosts the functions related to the metadata of the assets, and the **Asset** menu functions to handle the assets themselves.

Main Toolbar

The main toolbar provides buttons for some of the most popular of these functions. When hovering with the pointer over a button, a tip appears revealing details on the respective function.

Category Pane

The Category pane displays categories belonging to the catalog. The bar at the top of the Category pane indicates the total number of categories in all open catalogs, the number of currently visible categories and the number of selected ones (if any).

Record Pane

The Record pane displays the records of cataloged assets. The bar at the top of the Record pane indicates the total number of records in all open catalogs, the number of currently visible records and the number of selected ones (if any).

Cumulus offers several ways, or views, to display the records in a catalog. e.g. the Thumbnail View as shown in the picture above.

Status Bar

With the buttons contained in the status bar, you can toggle on and off additional panes, change their order, and manage your workspace.

View It As You Like It

Cumulus lets you look at your records in various ways. For example, you can change the size of the thumbnails using the slider in the main toolbar. Or you can quickly switch between views using designated buttons: from the Thumbnail View, which is the default, to e.g. the Details View or the Report View

Each of these views presents specific subsets of the information stored in the records, and each of them presents it in a specific way. Which of these views you use in your daily work depends on your tasks and your personal preferences.

Which information exactly is presented in any given view, and in which order, is defined in so-called Record View Sets. The View Set specially designed for the Sample Catalog is "Show Case".

The currently applied Record View Set is displayed in the right-most field in the top bar of the Record pane and can be changed via the attached list of Record View Sets:
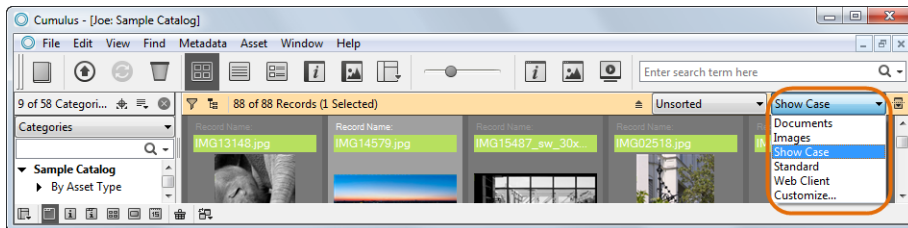
Current Record View Set and list of available Record View Sets

Try switching between views and View Sets to see the differences between them:
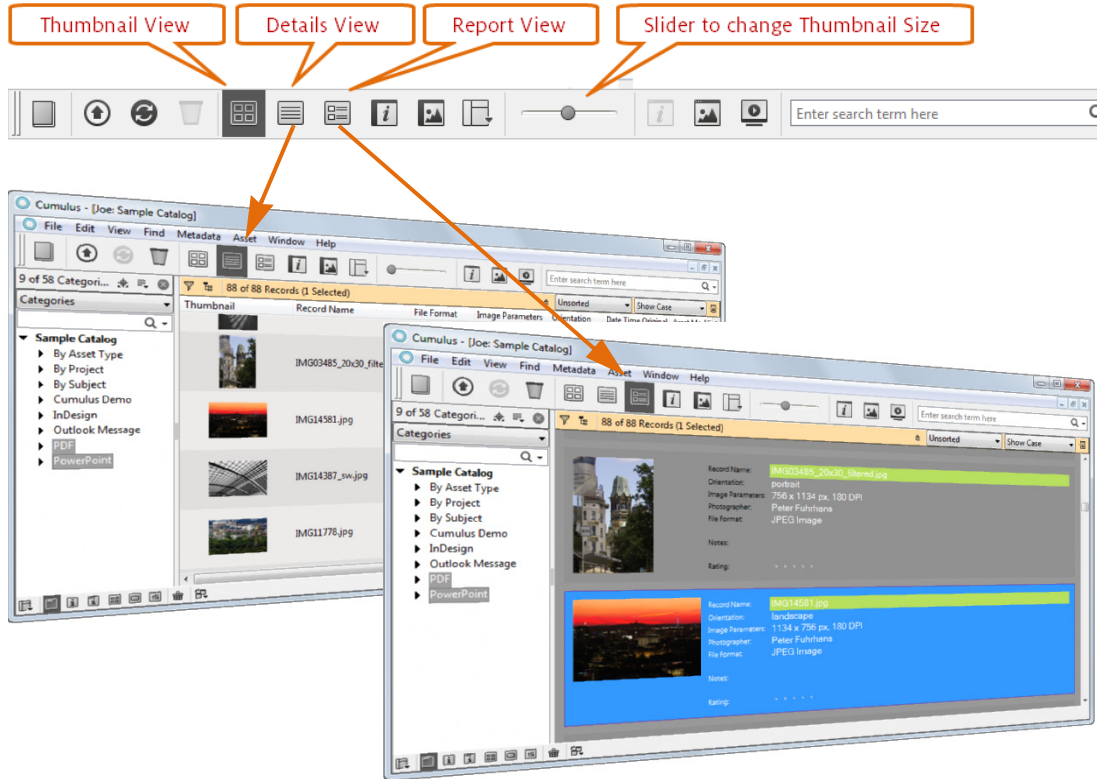
Main toolbar, Details View, Report View

1. Toggle between different views by clicking the respective buttons – – in the main toolbar.

2. Change the current View Set by selecting a different one from the Record View Set list.

3. Again, toggle between different views.

4. Finally, switch back to the Show Case View Set and the Thumbnail View.

See the difference? Each View Set provides a specific flavor with regard to the kind and the amount of information that is displayed, but also with regard to background colors, fonts, thumbnail size, etc.

Record View Sets are highly configurable, but they are usually in the responsibility of the Cumulus Administrator. If you have questions or proposals concerning the View Sets to which you have access, contact your Cumulus Administrator! Beyond that, you'll find all about Record View Sets in the *Cumulus online help*.

Sorting

One of the most basic things you can do with records displayed in any of these views is changing the applied sorting criteria and the sorting order. This works irrespectively of the current View Set.

Both sorting criteria and sorting order can be adjusted in the top bar of the Record pane, where the current sorting criterion is displayed.
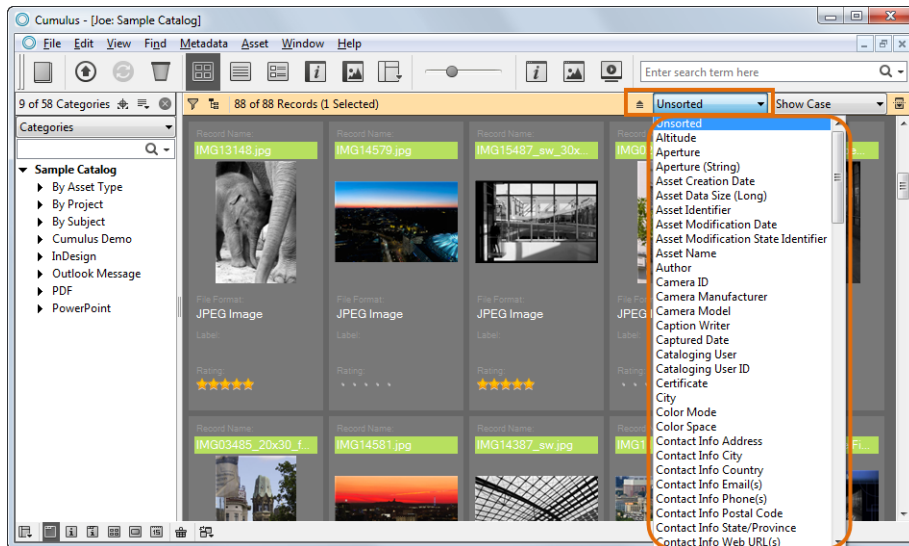
Current sorting criteria with list of available sorting criteria

You can choose a different sorting criterion via the drop down list, and you can change the sorting order (e.g., ascending or descending) via the arrow symbol to the left of the sorting field.

In addition, you may also sort the records in your collection manually by just dragging them with the mouse into any convenient order. If you do so, the sorting criteria field will display **Unsorted**.

Where Have All My Assets Gone?

So what about the needle in the haystack? How can you quickly find the one asset, or that bunch of assets, that you urgently need just now? How can you limit the overwhelming number of records in your catalog to a reasonable amount of displayed records?

- · [Finding Assets: Quicksearch](#)
- · [Finding Assets: The Power of the Find Window](#)
- · [Finding Assets: Search by Category](#)
- · [Finding Assets: Calendar Search](#)
- · [Filtering: Less Might Be More](#)

Finding Assets: Quicksearch

The easiest way to find specific records is the Quicksearch function located in the main toolbar.

Quicksearch field

Simply type a name, a term, or a number into the Quicksearch field and hit Enter, or click the magnifying glass button (🔍). Cumulus searches the metadata that is stored in the records of a Cumulus catalog. (Actually, not all metadata – by default, only certain metadata fields are taken into account by Quicksearch, like Record Name, Document Text, Notes, Keywords, and Categories.)

The result of your Quicksearch – the records containing the search term – are displayed in the Record pane. If no matching record exists, a message is shown.

But of course, searching in Cumulus is not restricted to single words or numbers. To search for a term consisting of two or more words, enclose them in quotation marks.

For example, the search for *Canto Cumulus* will result in records that contain either *Canto* or *Cumulus* or both in at least one of the searched record fields. But searching for "*Canto Cumulus*" – with quotation marks – will result in records that contain the exact phrase only, i.e. the words *Canto* and *Cumulus* separated by a space. You will find more search options explained in the tip that pops up when you hover the pointer over the magnifying glass.

If the search result still contains a huge number of records, just perform a new search and limit it to the current collection, i.e. the results of the previous search. Type a new search term into the Quicksearch field, then click the arrow next to the magnifying glass button to open the Quicksearch menu and select **Find in Collection**:
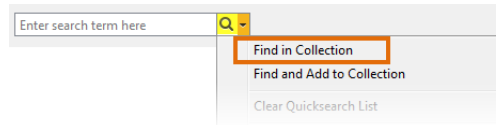
Quicksearch menu – Find in Collection

Please notice that this menu also offers a history of your searches. Any of these searches can be selected and performed again as a new search:
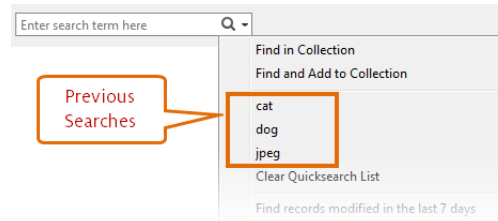
Quicksearch menu – Search history

So, the Record pane now displays the search result – but where is the rest of the records from your catalog? You can easily restore the view of the whole catalog. Either you clear the Quicksearch field and hit Enter (or click the magnifying glass button (🔍), or you just hit ⊞ Ctrl+G / 🍎 Cmd+G, and there you are.

Finding Assets:
# The Power of the Find Window

If the Quicksearch isn't your cup of tea and you're looking for really sophisticated search options instead, have a look at the Find Window which reveals the true search power of Cumulus.

To open the **Find** window:

Finding Assets: Search by Category

The Category pane on the left hand side of the Cumulus main window offers another easy way of finding records: Double-click a category name to change the current collection to the records that are assigned to the selected category (press Alt and double-click any other category to add the records of that category to the collection).
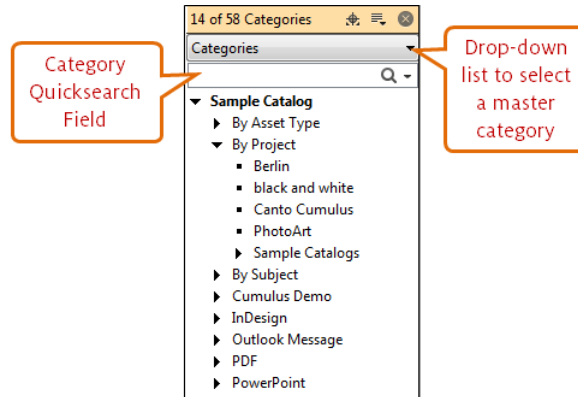
Category tree, partially expanded

Oops, where are the categories? Categories are hierarchically structured. Categories with subcategories show a triangle in front of their name, categories without subcategories show a little square. Click a triangle to expand the next level, or Alt-click to expand all levels below, and you can easily navigate to the category you are looking for.

If you know the name of the category you are looking for, just type this name into the Category Quicksearch field and hit Enter, or click the magnifying glass button (Q), and there you are. This comes in especially handy if you can't remember where a category is buried in a category tree (and category trees can be really huge…).

NOTE: By default, double-clicking a category confines the records displayed in the Record pane to the records that are assigned to that category (and its sub-categories, if any). However, this behavior can be changed, either by the Cumulus Administrator or even by the user himself, so that only the records of the current levels are displayed.

You'll learn more about categories later. See "Categories, Categories"

Finding Assets: Calendar Search

Assets can also be found by date – to be more precise, by one of the different dates stored in one of the records' fields, such as asset creation date, asset modification date, record creation date, capturing date, and many more – depending on the asset type as well as on the settings of the respective catalog.

To perform a calendar search:

1. If the Calendar pane is not already visible, click the Calendar pane button (▦) in the Status bar.

2. Click the Menu button on the Calendar toolbar, then select **Field** from the menu and activate the desired type of date:
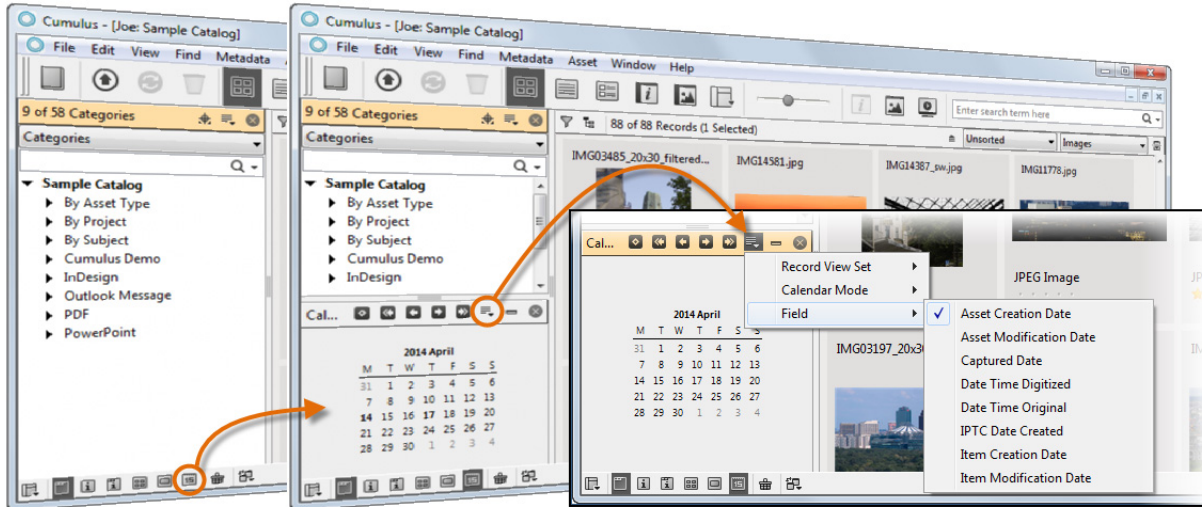
Calendar Search

In the Calendar pane, dates that will find records are highlighted.

3. Use the arrow buttons in the Calendar toolbar to switch between months and find specific dates.

4. Move the pointer over a highlighted date to see a tip displaying the number of records related to that date.
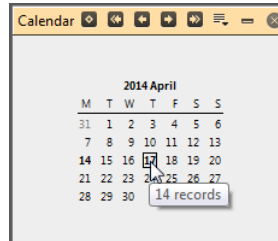
Calendar pane with highlighted date and
number of records related to that date

5. Double-click a highlighted date to change the current collection to the records related to that date.

6. Double-click another highlighted date to change the collection accordingly.

To display all records in the collection again, hit ⊞ Ctrl+G / Cmd+G, or select **Find > Find All Records**.

Filtering: Less Might Be More

Another convenient way of narrowing down the huge amount of records displayed in the Collection window is to filter them. With filters, you can easily adjust what you see (what is in your collection): for example, PDF files only, or assets that were created last February, or pictures of a certain size, or any combination of criteria.
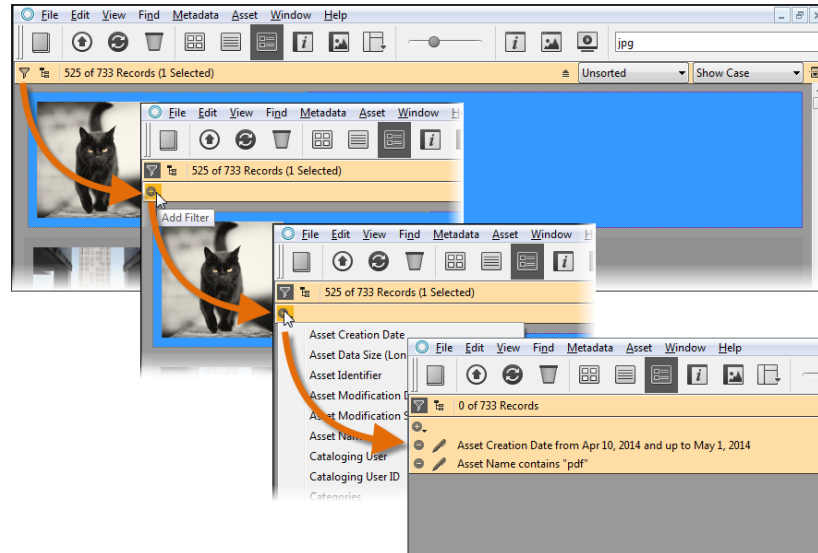
Filtering: Setting up filter criteria

As long as a filter is active, any further search operation – Quicksearch, Category Search, whatever – will only take into account the collection as defined by the filter criteria, not the whole catalog. Accordingly, the **Find All Records** command (or the ⊞ Ctrl+G / Cmd+G shortcuts, respectively) will only find records that match the filter criteria.

Once you've found adequate filtering criteria, you can save your configuration(s) as filters and subsequently switch them on and off as you need them.
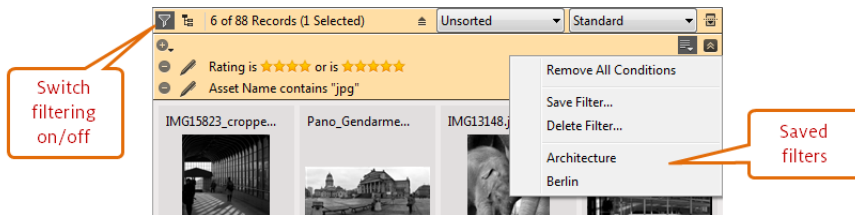
Filtering

All About Assets: What to Do With Them

Now that you have found certain assets, you may want to know more information about them, or view them in their full beauty instead of as tiny thumbnails. With Cumulus, both is easy to achieve.

Mysterious Things: Getting Information on Your Assets

Every Cumulus view presents a specific subset of the information stored in the records, and each view mode presents it in a specific way, depending on the settings of the Record View Sets.

To to get an overview of relevant information on an asset, use the Information window.

To open the Information window:

1. Select a record and click the Information window button (i) in the main toolbar.

The Information window appears.

Information window (fields with light-colored background are user-editable)

2. You may want to arrange the Cumulus main window and the Information window side by side on your monitor. Thus you can benefit from the fact that the information displayed in the Information window can follow the selection in the main window.

3. Change the record selection in the main window. The Information window changes accordingly.

As you might expect, the Information window as seen on your monitor may differ from the screenshot above, depending on the chosen Record View Set and the settings of the catalog you use. You may change the Record View Set via the Record View Set list in the Information window toolbar.

The information displayed in the Information window may be segmented into groups divided by separators. Clicking a separator collapses or expands the respective group of information.

The Information window not only displays a vast variety of information, or metadata, on your assets – it also allows you to modify certain metadata values such as Notes, Keywords, or Rating. If you have the appropriate permissions, of course. You will learn how to do this later on, see "Do It Yourself: The Information Window"

Beautiful Things:
Preview Your Assets

Thumbnails are nice for getting an overview or a first impression, but if you want to explore an asset in detail, you must use other means. Therefore, Cumulus provides asset previews or, to be more specific, different modes for previewing assets. To see a preview of an asset:

1. In the Record pane, select the record of the asset you want to preview and click the Preview window button in the main toolbar.

   A preview of the asset is displayed in a new window. Thus you can see your current collection and the preview of the selected asset side by side.

The toolbar of the Preview window offers functions for handling the preview, such as zooming in and out, flipping and rotating, and adding comments and annotations in different styles directly into the preview of the asset. When hovering with the pointer over an button, a tip appears presenting details on the respective function.
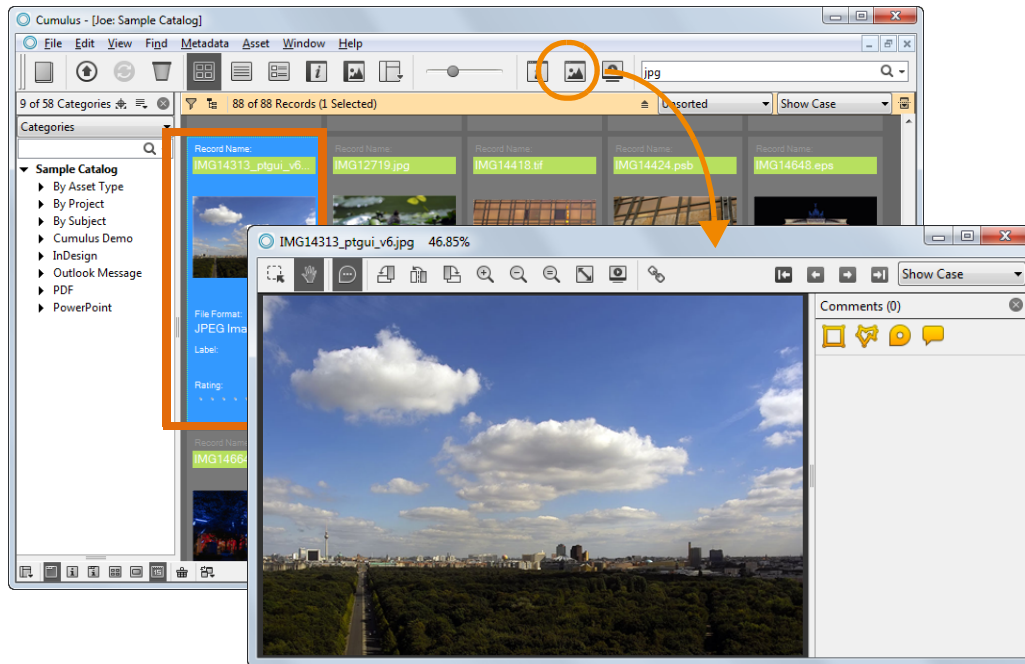
Preview window with comments column

Commenting On Your Assets

The commenting feature is a means to clip hints or thoughts about an asset and to share them with other users.
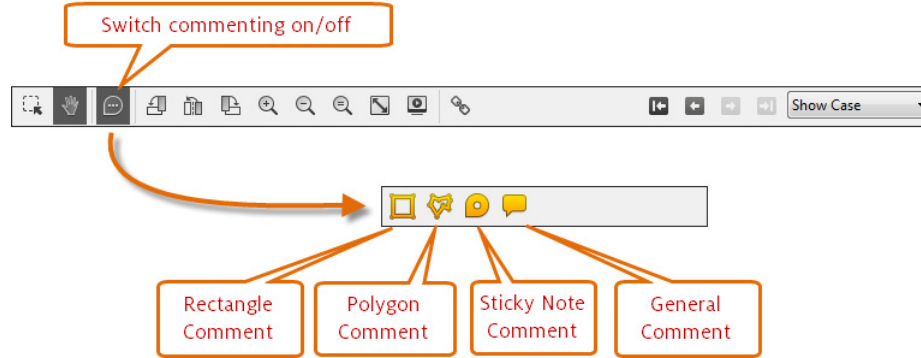
Preview window toolbar and Comments toolbar

To add a comment to an asset opened in the Preview window:

1. Make sure that user comments are switched on via the appropriate button in the Preview toolbar.
2. From the Comments toolbar, select the kind of comment you want to add by clicking the respective icon: either a general comment ("just a comment"), or a comment that is tied to a specific area on the preview of an image.
3. For a general comment, just enter it in the text box.

For a comment that is tied to a specific area, draw a rectangle or a polygon or place a sticky note symbol in a suitable position, then enter your comment into the text box.
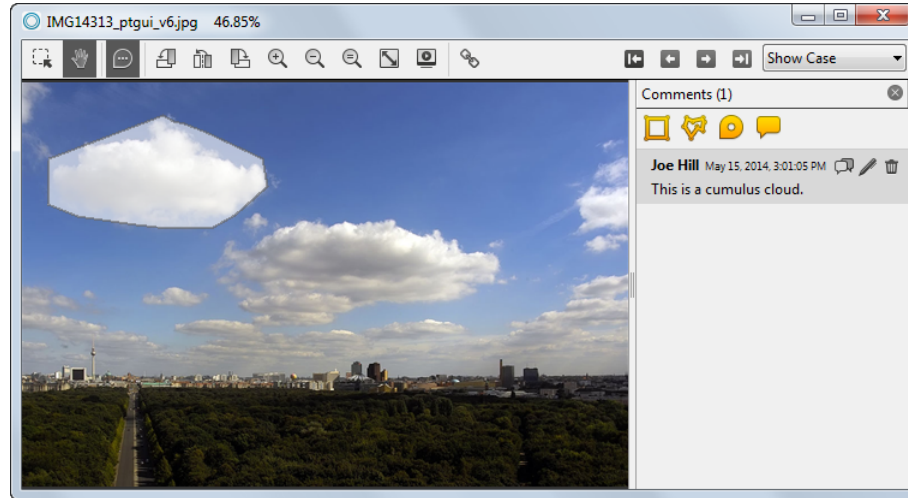
A Polygon Comment on an asset preview

4. When you close the Preview window, your comments are automatically saved and subsequently displayed to other users.

The comments and notes you add are stored as metadata in the asset's record and can be searched and retrieved anytime – provided that your Cumulus Administrator has prepared the catalog to support searching in comments.

Big Things: The Fullscreen Preview

Finally, there is the Fullscreen Preview. To open an asset in Fullscreen Preview:

1. Select the respective record in your collection.
2. From the **Asset** menu, select **Fullscreen Preview,** or press ⊞ Ctrl+Shift+Y / 🍎 Cmd+SHIFT+Y

A preview of the asset is opened in fullscreen mode.

Fullscreen Preview

Move the pointer to the bottom of the Fullscreen Preview, and a toolbar appears offering buttons for navigating, for getting help and for closing the window.

Fullscreen Preview toolbar

If you leave the mouse pointer for a second on the Help button ( ), a list of commands available in Fullscreen Preview is displayed. Clicking this button opens the Cumulus help.

But the Fullscreen Preview can do even more. If you move the pointer to the left hand side of the screen, an information pane is displayed. By default, this pane disappears again when you move the pointer away. However, you can make it sticky, if desired, by clicking the pin symbol in the upper left corner.

To quit the Fullscreen Preview, just pres the ESC key on your keyboard.

By the way, with the Fullscreen Preview, you are not restricted to preview just one asset at a time. In fact, you can preview ut up to six assets simultaneously by first selecting their records, then selecting **Fullscreen Preview** from the **Asset** menu. This makes the quick comparison of various assets a mere child's play.

Real Things: Get Your Assets

Now that you have searched your catalog and found certain assets, and have additionally examined them in fullscreen preview – now you know which of your assets you need for your further work. But how can you get to them? Well, that's another thing that's made very easy by Cumulus: just drag the appropriate records from the Collection window to any folder or directory within your file system, and the corresponding assets will be copied to that place.

Instead of a record, you may also drag a category to any place you want, and a folder is created with the same name as the category containing all assets assigned to that category. It is as simple as that.

Furthermore, you may select one or more assets and select **Show Location** from the **Asset** menu. The folder(s) containing the selected asset(s) will be opened in new 🪟 Explorer / 🍎 Finder windows. The respective file(s) are highlighted.

Last, but not least you may even drag the assets directly to the application where you want to use them, if the target application supports drag & drop.

Metadata: Make Things Significant

Remember what we said at the beginning of this Quickstart Guide: Cumulus is all about organizing and managing your assets. However, in order to do so, Cumulus leaves the actual assets alone and only handles their metadata.

Metadata is any kind of information about an asset – file name, creation date, modification date, author, size, number of contained characters, number of pixels, creating application, caption, comment, keywords, categories – whatever.

There are countless possibilities for metadata, depending on the type of asset. Some of them, such as file name, date, or size, apply to all assets, others only to certain asset types. Data like aperture or exposure time make sense with photographs, but not with, say, PDF files.

A lot of metadata is supplied by the asset itself. The user, however, can add as much user-defined metadata as needed. Adding various kinds of metadata to your records – or modifying existing metadata values – can not only considerably facilitate the organizing of your assets, but can also substantially increase their value. You already got to know the commenting function (see "Commenting On Your Assets"), which provides some quite a sophisticated ways of adding metadata to your assets. But there's a whole bunch of other options, too.

Do It Yourself: The Information Window

You can modify certain of your assets' metadata values from within the Information window (see "Mysterious Things: Getting Information on Your Assets").

Whether values are editable or not depends on the settings of the catalog and on your user permissions. Most likely, you will at least be able to edit fields like Notes, Keywords, or Rating. In the Information window, user editable fields have a white background color, while fields whose values cannot be changed have a grey background color.

To edit a metadata value in the Information window, e.g. to add a note:

1. Select the record to which you would like to add a note and click the Information window button ($\boxed{i}$) in the main toolbar.The Information window appears.

2. If necessary, change the Record View Set, scroll through the Information window, or expand/collapse sections until you see the **Notes** field.

3. Click into the **Notes** field and type in your note (e.g., "What a beautiful picture!").

4. Save your modification by clicking the Save button ($\boxed{\pm}$) in the Information window toolbar.

   Your note is saved with the record.

If you forget to save your modification, Cumulus will ask you to do so as soon as you select a different record.

NOTE: Depending on the settings of the catalog and on your user permissions, the contents of the **Notes** fields of your records may be searchable via Quicksearch or the Find window. (See "Finding Assets: Quicksearch", and "Finding Assets: The Power of the Find Window" .)

Categories, Categories

Cumulus categories are used to organize records, much like folders are used to organize files in a traditional filing cabinet. But as well as a category can be assigned to any number of records, the contrary is also true: any asset can appear in any number of categories. This not only facilitates retrieving assets, but allows for the creation of a network of relations between assets. That is the big difference between categories and folders in a filing cabinet or even in an operating system.

 By default, each Cumulus catalog comes with three master categories – Sources, Keywords and Categories. Each master category has its own hierarchical structure of nested subcategories. Whether all master categories are displayed in the category

pane or only one of them is up on you. Just open the drop-down list on top of the Category pane and select the type of category you want to display.
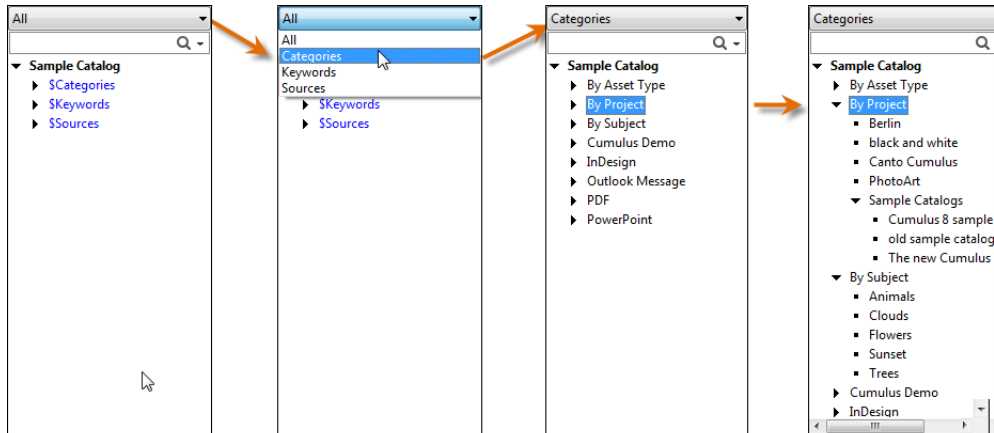
Master categories and categories of the Sample Catalog with nested subcategories, collapsed and expanded

You've already learned how to use categories as one of the easiest methods to quickly find assets – double-clicking a category displays all records assigned to that category in the current collection (see "Finding Assets: Search by Category"). But how do assets get categorized?

Automatically Created Categories

First of all, Cumulus automatically adds source categories to the metadata during the cataloging process. (Other categories can be automatically added, too, but that's another story.) The Sources categories reflect the folder or directory hierarchies in which the assets were stored when they were cataloged.

**Categories
Created by You**

Apart from the automatically created categories, it's basically up to you to categorize your assets – provided, as always in Cumulus, that you have the appropriate permissions. If in doubt, talk to your Cumulus Administrator!

To take full advantage of Cumulus, you have to create and implement your own category tree, either as *Categories* or as *Keywords* or both (but it is a good idea not to tamper with the automatically generated *Sources* categories).

You might ask yourself, what is the difference between *Categories* and *Keywords*? Well, basically, they are the same thing, the difference is merely a semantic one.

For example, you could devote *Categories* to reflect the states of a workflow, or the structure of your organization, and use *Keywords* to tag your assets and make them accessible with regard to their content. That is completely up to you – or maybe rather to your Cumulus Administrator.

To create a new category (no matter whether under **Categories** or under **Keywords**):

1. Right-click the category in which the new category should be nested.
2. From the Shortcut menu, select **New Category**.

   This creates a category nested in the selected category.
3. Give the new category an appropriate name.

You can easily change the category hierarchies by dragging a category onto another category anywhere in the category tree(s).

Assigning Records to Categories, or Vice Versa

Assigning categories to records, or records to categories, is easy:

1. Select a category or several categories and drag them onto the record you want to assign them to.

   OR

   Select one or several records and drag them onto the category you want to assign them to.

That's handy if you only have to deal with a few records and a few categories. But with lots of categories and lots of records, its much more convenient to use the **Assign Categories** menu item:

1. Select the records you want to categorize.
2. Select the categories to which you want to assign the selected records.
3. Select **Metadata** > **Assign Categories**. The records are assigned to each of the currently selected categories.

Detaching Category Assignments

Removing a record's category assignment is just as easy:

1. Select the record whose category assignments you want to change.
2. Select **Metadata > Information**. The Asset Information window appears.
3. Select the category you wish to remove and press the **Delete** key.
4. In the Asset Information window, click the Save button (↧) to save your changes.

Again, if you have to deal with lots of categories and lots of records, it is much more convenient to use the **Detach Categories** menu item:

1. Select one or more records.
2. Select the categories which you want to detach from the selected records.
3. Select **Metadata** > **Detach Categories**. The records are detached from each of the currently selected categories.

Ratings

With Cumulus you can rate your assets from 1 to 5. Rating values are searchable, so when you want to find your best assets, it's easy to do so.

Ratings are shown as stars. A rating field can be displayed in most views and windows, depending on the settings in the respective Record View Sets.
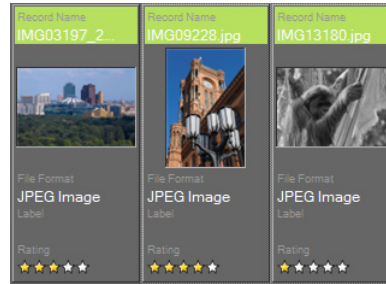
Thumbnails with rating stars

To set (or remove) a rating value:

1. Select the record(s) you want to rate.
2. Right-click the selected record(s). From the Shortcut menu, select **Assign Rating** and then the value you want to assign.

Labels

With Cumulus you can label your assets with various colors, which is a convenient way to mark them for different purposes.

Labels can be displayed in most views and windows, depending on the settings in the respective Record View Sets.
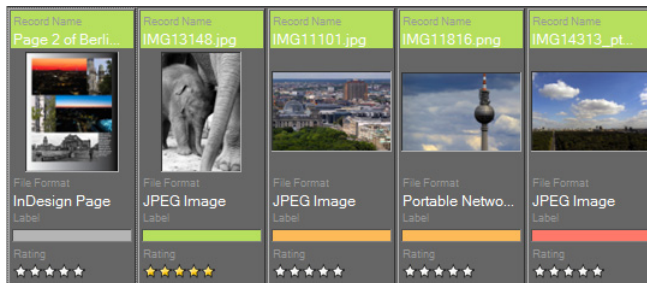
Thumbnails with labels of different colors

To set (or remove) a label:

1. Select the record(s) you want to label.
2. Right-click the selected record(s). From the Shortcut menu, select **Assign Label** and then the label color you want to assign.

Files to Assets: Cataloging Your Digital Files

Chances are that you never need to do this. Maybe someone else in your organization is responsible for cataloging things, and you don't even have the appropriate Cumulus permissions.

On the other hand, maybe you are the one who's in charge of the catalog? Your Cumulus Administrator may assign you appropriate permissions anytime. Then you'll be glad to know how simple it is to add files to a Cumulus catalog.

As you might expect, Cumulus offers a whole bunch of ways for adding assets to catalogs. Besides the drag & drop method as described here, you could also use the **File > Add Assets to Catalog** menu item from within Cumulus. And there is the **Add to Cumulus** Shortcut menu item available from in the Windows Explorer or the Mac OS Finder. The result would be the same.

To add new items to a Cumulus catalog via drag & drop:

1. Use the Mac OS Finder or the Windows Explorer, respectively, to navigate to the files you want to catalog. Select the respective files or the containing folders and drag them into the Record pane of your catalog.

2. Possibly, the **Add Assets to Catalog** window box appears. If so, choose an Asset Handling Set from the **Use Asset Handling Set** list, e.g. **Images (Fast),** and click **OK**. (If in doubt, ask your Cumulus Administrator.)

Cumulus starts to create records for the selected files or the files contained in the selected folders and their subfolders. This may take some time.

While Cumulus catalogs your assets, the Metadata Editor window is shown displaying some information, a progress indicator, and a **Cancel Progress** button.

Once the cataloging process is finished, the respective records are displayed in your current collection. If you can not see them immediately, try to sort your collection anew.

TIP: Dragging onto a category

Instead of dragging files or folders onto the Record pane, you can also drag them onto a category in the Category pane. Then the assets will not only be cataloged, but simultaneously assigned to that category.

Now, that is easy, isn't it?

Making It Work: Setting Up a Catalog

NOTE: This section is mainly aimed at Cumulus Administrators, because if you are not the Cumulus Administrator, you are not allowed to create new catalogs. In this case, feel free to skip this chapter!

Imagine you've got a whole lot of images and PDF files – photographs, product descriptions, newspaper articles –, files you may want to share with other people like customers or employees. Of course you don't want anybody to mess things up in your file system or local network, or to modify your original assets.

That's why you need Cumulus.

Setting up a catalog of your own is easily done – assumed, of course, that you have been granted the appropriate permissions.

Technically speaking, a catalog is a database that holds all the information about your assets. A catalog does not contain the assets themselves, but records about them – one record per asset.

Thus, it is crucial to ensure that your new catalog contains all appropriate data fields for the storage of the desired information. To make things easier, Cumulus provides preconfigured Catalog Templates for different purposes. For example, a catalog based on the Catalog Template for Images contains fields for picture-specific information like the EXIF data or the IPCT data that is contained in your digital photographs. This would not be the case with a catalog based on the Standard Catalog Template.

Create a new catalog, e.g. for your images and PDF files:

1. Start the Cumulus Desktop Client and connect to the Cumulus Server: **File > Connect to Cumulus Server**.

2. In the **Catalog Access** window, click **New**.

3. In the **Browse** window, enter a name for the new catalog into the **File name** field (e.g. MyPictures), then click **OK**.

4. In the **Create New Catalog** window, select **Catalog Template for Images** from the template list, then click **OK.**

   The new catalog is listed in the **Catalog Access** window.

5. Make sure that the **Open selected catalog(s) in new window** is activated.

6. Finally, click **Open**.

   The new, still empty catalog is displayed in a new Collection window.

So far, the new catalog is available only to its creator – to the Cumulus Administrator. There is one more step necessary to make the new catalog available for other Cumulus user:

1. Make sure the Collection window containing your new catalog is the active window in Cumulus.

2. Select **Cumulus > Preferences** / **Edit** > **Preferences**.

3. Click **Catalog Settings**.

The Catalog Settings window appears. If the active Collection window contains more than one catalog, select your new catalog from the **Catalog** list.

4. In the **Sharing** section, activate the **Share catalog** option.
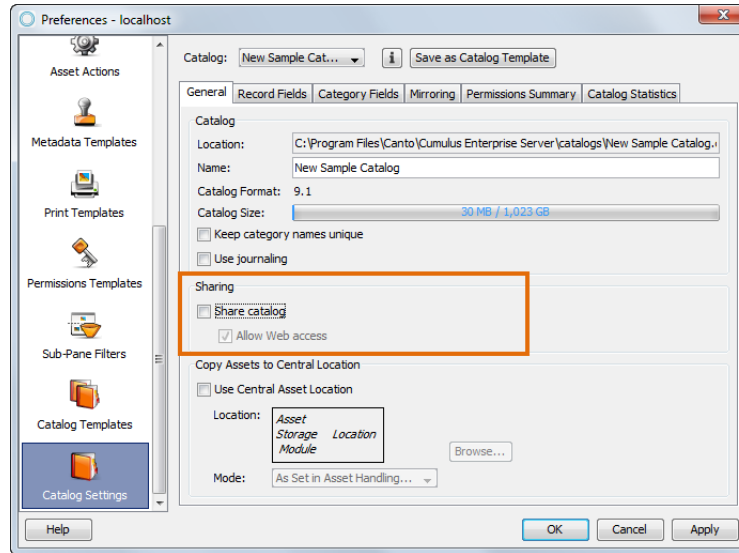
Preferences – Catalog Settings: Sharing

5. Confirm your settings and close the **Preferences** window with **OK**.

Only with the **Share catalog** option activated, other Cumulus users can access the new catalog, too. That is, if they have the appropriate permissions. But user manage-

ment and permission handling are different stories, and not in the scope of this Quick Start Guide.

Just in Case: Central Asset Location

Before you actually start to catalog your assets, there is one more topic to be considered: Where will your cataloged assets reside? You have two options: either leaving them where they are, or copying them to a central storage location.

Cumulus can manage assets regardless of their storage location in your file system. Perhaps you have already set up a folder hierarchy that fits your specific needs or your sense of order. Then there is no need to change that. The cataloged assets remain where they are. Cumulus, however, will preserve your order and map it out in the *Sources* categories, thus allowing you to easily navigate within a structure you are already familiar with. If that is the case, you may now begin to add assets to your catalog, just as described in the chapter "Files to Assets: Cataloging Your Digital Files"

On the other hand, you might consider to collect your newly cataloged assets in a central storage place on your file server. This might be a good idea especially if the files you want to catalog and manage with Cumulus are scattered all over your hard disks or your local network. It is also more secure to use a central location, because it lowers the risk of accidentally corrupting your data structure. Arbitrary files or folders are easily moved or deleted, and even though this would not affect your catalog or the contained records, the assets referenced within them could no longer be accessed.

NOTE: A Central Asset Location is a per-catalog-setting, i.e. each catalog can have its own Central Asset Location, regardless of the settings in any other catalog.

So, if you do want to have your assets copied to a central storage location just while cataloging them, here is how:

1. Make sure the Collection window containing your new catalog is the active window in Cumulus.
2. Select **Cumulus > Preferences** / **Edit > Preferences**.
3. Click **Catalog Settings**.

   The Catalog Settings window appears. If the active Collection window contains more than one catalog, select your new catalog from the **Catalog** list.

4. In the **Copy Assets to Central Location** section, activate the **Use Central Asset Location** option.
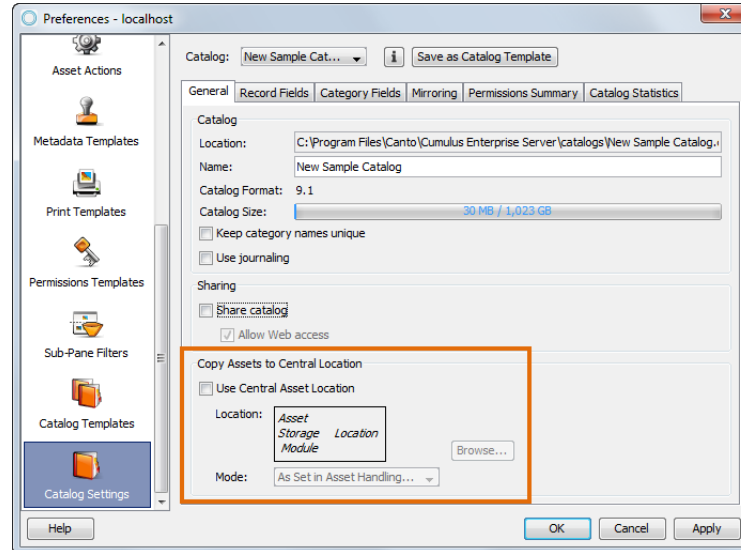
Preferences – Catalog Settings: Central Asset Location

5. Click **Browse** to specify a location. In the **Choose an Asset Storage Module** window, confirm the preselected asset store for your operating system. The **Browse For Folder** window appears. Select a folder you want to use as your Central Asset Location and click **OK**.

6. From the **Mode** list, select **Always**.

7. Confirm your settings and close the **Preferences** window with **OK**.

Now you can begin to add assets to your catalog, just as described in the chapter "Files to Assets: Cataloging Your Digital Files". During cataloging, the assets are automatically copied to the Central Asset Location defined for your catalog.

This is Not the End…

This is the end of our short survey of Canto Cumulus which introduced you to the user interface and some of the most popular and important functions of Cumulus. Maybe you already feel quite familiar with Cumulus? Congratulations, then!

However, chances are that you still feel a little confused and overwhelmed by Cumulus and its countless functions and possibilities. If so, do not worry – this is quite normal. The more you use Cumulus, the more familiar you will get with it, and the more you will benefit from it.

In any case, you should now feel confident to perform basic tasks with Cumulus. If questions arise, or if you just want to learn more, call the Cumulus online help via the help menu, or by pressing F1. Or visit the Canto Cumulus Website, providing you with a wealth of information and useful links to Cumulus Professional Services, Cumulus News, Experts, and Webinars.

In order to exploit the potential of Cumulus fully, it's necessary to proceed from a strong foundation. It's a good idea to know the meaning and capabilities of the features you're using in Cumulus and how they're related.

This chapter contains an overview of the Cumulus Desktop Client interface and describes the basic components of Cumulus in more detail:

- Catalogs
- Collections
- Assets/Records
- **Categories**
- **Sets and Templates**

Explore Cumulus

The Desktop Client User Interface

The Cumulus Desktop Client main window, your workspace, is the Collection window. It provides two main panes, the Category pane and the Record pane. Additional panes, e.g. the Info pane, can be activated.
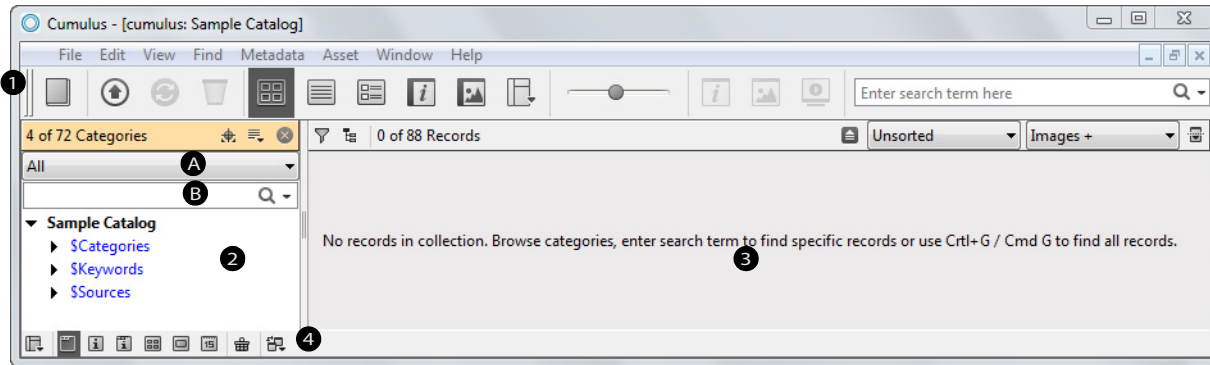
1. **Main Toolbar** – *provides icons for some of the most popular functions and for modifying the workspace. For details refer to the tool tips that appear when hovering with the mouse over an icon.*
2. **Category Pane** – *displays categories. Each Cumulus catalog provides three master categories by default (Categories, Keywords and Sources), each of which builds its own category tree. A drop-down list (A) allows to switch between the display of all categories or any of the master category trees. Categories may be searched for via the category quicksearch field (B).*

The top bar of the Category pane indicates the total number of categories in all open catalogs, the number of currently visible categories and the number of selected ones (if any). Additionally, the Category pane top bar contains three icons.

- **Category Pane Top Bar Icons**

    indicates the active category search options; opens the Search & Sort preferences

    opens a menu to change the Category View Set

    closes the Category pane

3   Record Pane – *displays the records of cataloged assets.*

    The top bar of the Record pane indicates the total number of records in all open catalogs, the number of currently visible records and the number of selected ones (if any). Additionally, the Record pane top bar contains icons and selection lists.

- **Record Pane Top Bar Icons and Selection Lists**

    displays and/or activates filters

    toggles the display of records (records of master assets only/records of all assets). (For more information, see page 318*.)*

    toggles the sort order (ascending/descending)
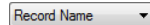
    `Record Name ▾` *displays the current sorting criteria;*
    clicking on the arrow opens a selection list of available sorting criteria (record fields)
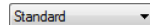
    `Standard ▾` *displays the current Record View Set;*
    clicking on the arrow opens a selection list of available Record View Sets

    opens/closes a subpane of the Record pane (for more information, see page 315*.)*

4   Status Bar – *contains icons for toggling the display of additional panes and one icon to change the order of the left side panes.*

- **Status Bar Icons**

  opens a menu to mange the workspace

  hides/shows the Category pane

  shows/hides the Information pane (providing further information on the selected record)

  shows/hides the Category Information pane (providing information to the selected category)

  shows/hides the Thumbnail pane

  shows/hides the Preview pane

  shows/hides the Calendar pane

  All panes listed above are displayed on the left side of the Record pane.

  shows/hides the Collection Basket pane on the right side of the Record pane

  opens a dialog to rearrange the order in which the panes on the left side are displayed.

Catalogs

A Cumulus catalog is a group of records that, together, represent the assets you want to manage. Each asset is represented by one record. There is no limit to the number of different media file formats that can be represented in one catalog. One of the greatest features of Cumulus is its ability to catalog any digital asset, in addition to the file formats directly supported.

A catalog has a database file at its core. The way you work with the information in this file can be extensively customized.

When you catalog assets, the catalog settings determine how and what sort of information Cumulus extracts, creates and stores on the assets as metadata in the record fields and category fields.

Each catalog can have its own distinct properties. Any changes made to the catalog settings affect the way information is stored on all of that catalog's assets. For more information see "Catalog Settings". To set up a catalog to store information in addition to or differently from the default settings, fields can be added to the catalog either by activating them from the list of fields that Cumulus supports or by defining your own custom fields. (See "Adding Fields", and "Creating a Custom Field".)

With Workgroup or Enterprise, catalogs can only be created by the Cumulus Administrator. And the Cumulus Administrator can give each user different rights for each catalog. The range of functions a specific user is allowed to perform depends on the rights the Cumulus Administrator assigned to her/him.

Catalog Size and Performance

As catalogs increase in size, so do the requirements they place on computer hardware. It takes more processing power to work with 200,000 records than it does with 200. It also takes more RAM to hold the larger catalog in memory.

NOTE: The unique way Cumulus searches for records prevents large catalogs from slowing down the search speed.

There is virtually no limit to the size of a catalog file (up to 1 TB). Most users will find it best to split catalogs for organizational and performance reasons. The actual number of records that can be stored in a catalog and the catalog's actual file size is determined by the size of each record. (See "Record Size".)

Catalog Scope

Catalogs can include records for as many different asset types as you like. But you may find it best to have different asset formats cataloged independently. For example, it might not make sense to have your image assets in the same catalog as your audio clips, though it is possible.

On the other hand, don't limit the scope of each catalog too much. For example, when you're looking for an image to be used on a Web page, do you care if it's in GIF or JPEG format? Separating similar asset types by specific file format can be inconvenient when searching. Cumulus cannot search through catalogs that aren't open. If each of your image file formats has its own catalog, they'll all have to be open if you want to search through all of them. Remember, you can use Cumulus' categories or built-in information fields to find files based on format, projects in which they were used, or status, for example.

Live Filtering

Optional feature! May not be available with your Cumulus configuration.

Maybe you have a "filtered view" on a certain catalog or some or all accessible catalogs. The Cumulus Administrator can limit the view of a user or a user group to preselected categories and/or records. For example, the asset access for the sales staff can be limited to final, approved material, while the work in progress in the Marketing department should not be visible.

For a description on how to set up Live Filtering as a Cumulus Administrator, see "Live Filtering" .

Things You Can Do with Catalogs

You can:

- **Open** the catalogs assigned to you. (See "Connect to Cumulus Server", and "Open Recent Catalog" .)
- **Search** through one or multiple catalogs. (See "Find Assets".)

If you are the Cumulus Administrator or have the appropriate permissions, you can:

- **Backup**. (See "Backing Up Catalogs".)
- **Change** catalog setting. (See "Catalog Settings".)
- **Compress**. (See "Compressing Catalogs".)
- **Copy** a catalog. (See "Copying Catalogs".)
- **Create** a new catalog. (See "Catalog Access Window for Administrators".)
- **Delete** a catalog. (See "Deleting Catalogs".)
- **Divide** a catalog into smaller catalogs. (See "Dividing Catalogs".)
- **Merge** one catalog with another. (See "Merging Catalogs".)
- **Publish** catalogs on the Internet using Cumulus Portals or Cumulus Web Client. (For more information, see the corresponding Administrator Guide.)
- **Rename** a catalog. (See "Renaming Catalogs".)
- **Repair** a damaged catalog. (See "Repairing Catalogs".)
- **Update** catalogs from earlier Cumulus versions. (See "Migrating Catalogs".)

Adding Assets to Catalogs

The term *cataloging* describes the process of importing and storing information about your digital assets. This information, called *metadata*, is the data associated with a digital asset beyond the actual file data itself. So, while the words you type in a Microsoft Word file constitute the file's *data*, the file's name, size, location, author, creation date etc. are examples of the file's *metadata*.

Metadata

Some metadata is added to assets automatically by the software used to create or edit the asset. This is the case with the most common file metadata, such as size and modification date. But, depending on the creating software (or hardware), additional metadata can be embedded, too. This is the case with digital cameras that embed photo shoot dates, camera type, lens aperture and shutter speed, and even the GPS coordinates of the shot location into the files.

Additional metadata can be added after the asset has been cataloged. An asset's metadata serves as the basis for how you find the asset, so it's important that your DAM system enables you to create as much metadata as you need. For example, if you need to find photographs based on the photographer's name, you want to make sure photographer names are included in the metadata stored for your photograph assets. If you need to find a Microsoft Word file that includes a certain text phrase, is associated with a given fiscal year's revenue, and edited within the last month, the proper metadata enables that too. A complete DAM solution like Cumulus can also enable you to automatically find all images used in that document, and even find the PDFs that were later generated from it.

Supported Formats

With regard to file formats, Cumulus can catalog any type of digital asset and offers enhanced support for the most popular formats. (You can download an overview on Cumulus enhanced format support from Canto's website.) The term "enhanced support" means different things, depending on the file format in question. For example, Cumulus offers enhanced support for Adobe® InDesign® and QuarkXPress® files by enabling you to preview individual layout pages right from within Cumulus. Enhanced support for Microsoft® PowerPoint files enables you to actually generate new Power-Point presentations—right from within Cumulus—using assets and PowerPoint slides cataloged in Cumulus. Enhanced support for Microsoft® Word, Excel, Illustrator and PDF files includes extracting text that's included inside the files and making it searchable catalog metadata. So, not only can you find the files in Cumulus based on *metadata*—file name, modification date, production status, etc.—you can also find some files based on their actual contents.

Tasks Behind the Scenes

When you catalog digital assets, Cumulus performs a number of behind-the-scenes tasks in order to generate an asset record that best represents the asset. It's easiest to think of these tasks as a series of steps through which the asset flows during the cataloging process. They are:

- Filters
- Metadata Extraction
- Field Linking
- Metadata Templates
- Asset Handling Sets

Filters

Filters provide "knowledge" of a given asset type to Cumulus. They are, in fact, what enables the program to offer enhanced metadata support for so many file formats. For example, the JPEG filter knows to parse incoming JPEG assets for information common to that file type, such as horizontal and vertical dimensions (and much more). The MP3 filter extracts audio-related metadata, such as length and sample rate. Filters are like plug-ins—they can be added, activated and deactivated at any time. The Cumulus SDK (software development kit) enables others to create custom filters.

Metadata Extraction

As mentioned, all file formats include at least a basic set of metadata that Cumulus captures during the cataloging process. For many file formats, this core information is the only metadata captured during cataloging. Some formats, however, store extensive metadata right "inside" the file itself through the use of metadata standards called XMP, IPTC and EXIF. Popular formats that support one or more of these standards include JPEG, PDF and TIFF.

Many applications enable users to "stuff" metadata directly into files using these standards. During the cataloging process, Cumulus copies this data into the asset record, making it easily searchable. (Cumulus can also write data back into some "metadata fat" file formats.)

Metadata can also come from sources other than assets, such as databases or financial systems. Cumulus enables you to import metadata originating from sources like these into your catalogs through a menu command. This offers a great way to synchronize your Cumulus catalogs with other systems, such as product databases or financial systems.

EXAMPLE: Product Details From Database

Say you have a database that contains details about each of your products—UPC codes, color options, sizes, etc.—and you use Cumulus to keep track of product photographs used for packaging, online sales and advertising. By importing the product data into Cumulus, you can perform the same searches for product images as you can for product information.

This is a workflow example already in use successfully at Cumulus installations now. One customer produces weekly fliers that showcase sale items. UPC codes for products to be featured are sent to the graphics department who then use Cumulus to find acceptable product images. This ensures the correct image is used for each product in the advertisements. (If you've ever seen a weekly mailer that describes one product, but shows another, you can understand the value of this workflow.)

Category trees can also be constructed based on imported data. This makes it easy to create an organizational structure that's familiar to your employees: just provide Cumulus with a text file that represents your current organization structure, and the category tree is created for you automatically. The import function can also make upgrading to Cumulus from other DAM systems much easier.

No matter what the origin, Cumulus stores all metadata in catalog fields. A default set of fields is provided with each newly created catalog, and you can also define any number or type of custom fields you need. Later, you'll read about the various field types available in Cumulus.

Field Linking

Cumulus can map and copy the metadata found inside your assets to appropriate fields inside your Cumulus catalogs. So, for example, the contents of the "Notes" field in the asset can be copied to the "Notes" field in the catalog.

You can also define field links of your own, in case you want to override default mappings, or create new ones. This is especially helpful when you want certain fields in your catalog to serve the same purpose for different asset types.

EXAMPLE: Author & Writer

Say you work with video in both QuickTime and Windows Media formats. QuickTime includes a standard metadata field for video that's called "Writer." Windows Media, on the other hand, includes a field called "Author." You could have fields in your catalogs for both, but then you'd have to include both when searching for that information. A more convenient way to go about this would be to choose one of those field names for your Cumulus catalog and use field linking to map the contents of the other field to that field. That way QuickTime "Writer" and Windows Media "Author" metadata are stored in the same catalog field, making searching a breeze.

Asset metadata fields can also be field-linked to generate Cumulus categories. This is handy if your assets contain metadata keywords that you want translated into Cumulus categories. Cumulus can even generate category trees that emulate the folder structure the asset was found in. If your current folder structures are based on hierarchies that enhance your workflow, this option offers a great way to get instant category trees that will be familiar to users.

Collections

A collection is Cumulus-speak for a set of records from any one catalog or even multiple catalogs. It is a way of looking at your catalog(s) – the way that you look at it at any given time. Whenever you work with assets in the record and category panes – which make up the Collection window – you're creating or modifying collections. When you view the records in any category, you're looking at a collection. When you view the results of a search, you're also looking at a collection. The same is true for individual records you've dragged and dropped into the window – any 'snapshot' of your catalog can comprise a collection. A collection acts as your temporary workspace in Cumulus, and you can also save it as a file.

While a collection can contain all records in a single catalog or all in a single category, it is neither one nor the other. A collection can also contain – and here is where its advantages become obvious – the results of a search (either as a new collection or replacement of the current collection), or any records you drag and drop into the Collection window. Any individual set comprises a collection. The records in one collection may even belong to different catalogs.

Once saved, a collection file remembers the records it contains and the Record View Set used. A collection file also keeps track of column width of the Details View.

EXAMPLE: Special Project Collection

Assume that you have a catalog containing thousands of records organized neatly into categories. Your latest project, however, only requires assets from four of those categories, and from those it only requires the image files. You could first run a search to pull all image files from those four categories. Then you could select a Record View Set and emphasize the exact information you need for this project. Save the collection, and from now on you can simply open the collection containing the records you really need – while the entire catalog remains available to you in the background. You could then email the collection to in-house members of the project team.

A collection, whether saved or unsaved, is always connected to its catalog(s). When a collection is open, the catalog(s) storing the records of the collection are also open. In order to open a particular collection, you must have access to its catalog(s). If a record is removed from a catalog, it is removed from any of the collections it was in. Similarly, if you delete a category, it is deleted not only from one collection, but also from the catalog.

You can, however, delete a record from the collection without deleting it from the catalog – as long as you press only the DEL key. But if you press both Command / Control and DEL, the record will be removed from both collection and catalog (see "Delete", for more information).

Working with Collections

Collections can be customized and then saved, so that your particular preferences for a special set of records can be recalled. A collection file remembers the records it contains, the Record View Set used and the column width of the Details View.

As collections are such flexible and malleable creatures, it might be a good idea to save your special collection once you have configured it. This is because an unsaved collection with its specific configuration is not automatically saved when you close it. And as soon as your collection changes – which can happen quite often – any unsaved changes are lost. Saving a collection is easily done via **File** > **Save Collection As**. A dialog appears for you to choose the name and location for the collection file. Once a collection is saved, it is easy to open it via **File** > **Open Collection**

Cumulus provides several collection types:

- **Private collections** – collections private to the user who created them.
- **Shared collections** – collections that are available either to all Cumulus users, or to selected ones. The sharing state of a collection can be changed anytime via its properties (on Cumulus Desktop Client only).
- **Download collections** – collections that have been made accessible by sending either a general download link, or personalized download links, to arbitrary recipients who don't even need to be Cumulus users. – Note that with Cumulus Portals and the Cumulus Web Client, only personalized links can be sent.
  Recipients can open the link and view the collection with Cumulus Portals in any web browser. Via the **Send Collection Link** dialog, you can specify a password and an expiration date for your download collection. You can also specify which actions recipients may perform on the assets in the collection. Note that this function will only work if your Cumulus installation includes Cumulus Web Solutions

(with Portals). Also, a Base Web URL for Portals must be defined by your Cumulus Administrator.

- **Upload collections** – a special kind of collections that are created implicitly whenever a Cumulus user sends out an invitation to upload files. Upload collections can not be saved manually, i.e. the only way to change their content is by uploading files. However, they can be saved as normal collections via the **Save As** command (with Cumulus Desktop Client only).

The usage of both download collections and upload collections can be tracked. Via the Properties of the collection, information on every recipient of a respective upload link or download link, as well as the last access to the collection, is provided.

BACKGROUND INFO: Usage Tracking with External Users
To enable the usage tracking for download and upload collections, every recipient's email address not yet known to Cumulus is saved to the Cumulus users catalog, as a so-called "external user".
Initially, the email address is the only piece of information known about any external user. Also, external users don't have any permissions by default.
However, it is possible to add more information to such users, and to grant them permissions, and even to change their state from external to internal via the User Manger.

All collections are stored at the Cumulus Server and can be shared between users. When connecting to the Cumulus Server with the Cumulus Desktop Client, you can open catalogs and/or collections.

Shared collections can be created and modified only by users who are allowed to do so (User Manager > User/Role Properties > Server Permissions > Collections Permissions.)

On Cumulus Desktop Client only:

Collections stored with previous Cumulus versions on the computer running the Client application can be imported (**File** > **Import** > **Collections**.) To store collections at any location other than the Cumulus Server, you can use the export function (**File** > **Export** > **Collections**.)

For sending a collection via email to another user (as opposed to sending a link to a collection), a special export function is provided (**File** > **Export** > **Mail Collection To**.) However, don't forget: Since a collection is always connected to catalog(s), it is necessary for the recipient to have access to the catalog(s) 'serving' the collection.

To make use of a collection you received, you use the import function.

When you create a new collection via **File** > **New Collection**, it can either be empty or contain the currently selected records. However, concerning the view, the new collection will be a copy of the active collection. In other words, the colors, fonts, and fields of the new collection will be the same as the previous one. From here, you can proceed to make any changes you like while retaining the old collection in the background. You might want to save your new collection after you have assembled the desired records and carefully arranged them.

IMPORTANT! If the Remember Password option is activated in your Connect to Server window, any collection you export or mail contains your login information. Opening such an exported or mailed collection will connect to the Cumulus Server with your (the sender's) login and password. And this means that the user who opens the collection works as you and has your permissions. If this option is not activated, the Connect to Server dialog will appear when an exported or mailed collection is opened.

Things You Can Do with Collections

- **Create** a new collection manually (see "New Collection"), or create a new upload collection by sending out an invitation to upload files (see "Send Upload Link")
- **Open** an existing collection (see "Open Collection")
- View and Edit the **Properties** of collections (see "Open Collection")
- **Save** a collection (see "Save Collection As" and "Save Collection")
- **Search** through a collection (see "Searching with the Find Window")
- **Send** a collection by email. (see "Export")
- **Send** a link to a collection (see "Send Collection Link")

Assets/Records

In Cumulus, each asset is represented by one record. Cumulus is able to catalog every sort of digital asset such as Photoshop® image files, video clips, sound clips, or QuarkXPress® page layouts. However, a digital asset can also be a spreadsheet file or even a data stream such as an entry in a data base that Cumulus is keeping track of for you. Records can contain a thumbnail image of the asset. Records can (and should) be categorized for easy maintenance and searching. (See "Categories", for more information.)

Records are not actual copies of the asset. They merely "point" to the original file. This saves disk space and avoids confusion caused by maintaining multiple copies of an asset. Records contain information on the assets, which is called metadata. Using metadata makes it possible for Cumulus to track your assets and find their records at lightning-speed. A record is the sum of metadata stored on an asset. The metadata is kept in Record Fields.

All records contain at least some searchable information in their record fields on the asset file they represent. Generally, the range of information each record includes depends on the kind of asset represented.

However, Cumulus makes it possible to determine precisely what sort of information should be kept on assets. Remember, this can be defined differently for each catalog as each catalog has its own properties. It is the catalog settings that determine what information is stored on the assets in the record fields.

As it comes 'out of the box,' Cumulus has many record fields ready to be filled while cataloging, depending on the nature of the asset. Not all of the record fields that Cumulus supports are activated with Cumulus' default settings.

BACKGROUND INFO: Asset Types Supported

Cumulus can catalog any kind of digital asset you throw at it. Moreover, it directly supports file formats with specially developed filters. (see Asset Format Support, for details on supported formats or download an overview on Cumulus enhanced format support from Canto's website.)

Asset Information

The information stored on an asset can be viewed and edited in the Information view or in the Information window.

What you see depends on:

- the fields selected to be displayed in the current Record View Set.
- the fields of the catalog the asset is cataloged in and whether these fields contain any information or not.

TIP: View Set Should Match Catalog

The View Set you select should match with the catalog(s) you use it with. For example, if you have a special catalog for images that includes all fields that are important for images and you use a View Set that was designed for audio files, you may not see much information. If the catalog does not contain the fields that are selected for display in the View Set, no information can be displayed.

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Record View Sets by selecting the **Customize** entry in the drop-down list for selecting Record View Sets. This entry opens the preferences for the current Record View Set.

To change to the Information View, click ⓘ on the toolbar.

To open the Asset Information window for an asset:

1. Select the record of the asset of which you want to see the information.

2. Select **Metadata > Information** or click ⓘ on the toolbar. The Asset information window opens.

Once the Asset Information window is open you can use the arrow buttons to load other records into the window. For more details on the Information window, .

Field Types

Information on assets can be viewed and accessed via record fields and information on categories can be viewed and accessed via category fields. Cumulus can store different kinds of information. Consequently, Cumulus features many different field types for storing information. The different field types are (the examples are drawn from the default record fields):

- **String** – Can be used to store textual information (e.g. Notes). String fields can be set to support multiple languages. In this case, the content of the field can be hold in different languages.
- **Boolean** – Great for on/off, yes/no options. Displays as a check box (e.g., Don't Delete Record).
- **Integer** – Any non-fractional number up to 32 bits (e.g., non-decimal numbers as a price of $2).
- **Real** – Any number up to 64 bits (e.g., a decimal number such as a price of $2.99).
- **Long** – Can store 64-bit integer numbers.
- **Data Size** – Size in bytes (can store 32-bit values up to 4 GB)
- **Data Size (Long)** – Size in bytes (can store more than 4 GB values up to 64-bit values)
- **Date** – Any valid date (including time) between than January, 1st, 1970 and January 19, 2038 03:14:07, entered in the format that is standard for your country.
- **Date (Extended)** – Any valid date (including time) between January, 1st, 0001, 00:00:00 and December, 31st, 9999, 23:59, in the format that is standard for your country.

- **Date only** – Any valid date for any day entered in the format that is standard for your country.
- **Time only** – Any valid time of day entered in the format hh:mm:ss. Optionally you can also enter milliseconds by employing a dot as separator: hh:mm:ss.123
- **Length** – In inches – displayed in the measurement you have chosen in your User Settings for the Cumulus application.
- **Resolution** – in dots per inch.
- **Binary** – Not user-editable; administered by custom asset information applications, which can manipulate and store binary data for further automation.
- **Asset Reference** – Special binary field used for asset references only. Not user-editable.
- **Picture** – Pictures can be pasted into these fields (e.g., Thumbnail).
- **String List** – This field type supports lists, such as menus, which can make data entry easier. The items in the list can be defined by the user (e.g., Status). The items can only be defined by users with the appropriate rights.
- **Audio** – Can store voice annotations that can be recorded directly into the computer or come from the assets themselves.
- **Label** – Enables users to label records by assigning colors.
- **Rating** – Enables users to rate assets or records.
- **Table** – Special field type that can include other metadata fields. This field type was designed for special usage purposes, e.g. the user comments added to a preview are managed by such a field. The fields included in a Table field can be configured to be searchable and sortable.
- **Vocabulary** – Special string list field type used for controlled vocabulary assignments only. Vocabulary fields only accept predefined values (terms) as input – the

categories of a special $Vocabularies catalog. This catalog requires special permissions for editing.

For more information on Cumulus custom fields see "Catalog Settings" .

Editing Asset Information

In general, you can edit the information stored on an asset. But you can only edit information which is stored in record fields you are allowed to edit.

To edit the information stored on an asset:

1. Select a Record View Set that displays the information you want to edit in the Information View or the Asset Information window.

2. Select the record you want to edit and change to Information View or open the Asset Information window.

3. Click the field you want to edit.

   Fields with white backgrounds can be edited. If a field has a gray background, then it cannot be edited. (Either you are not allowed to edit or the field is not editable in general.)

4. Make your changes.

5. Click ⬇ to save your changes.

If you want to edit further records in the collection, you can use the arrow icons to load a new record.

Editing a String Field in Multiple Records

If you are about to edit the content of a string field for multiple records at once and one or more records already contain text in the field you want to edit, Cumulus will ask you how to handle the new text.
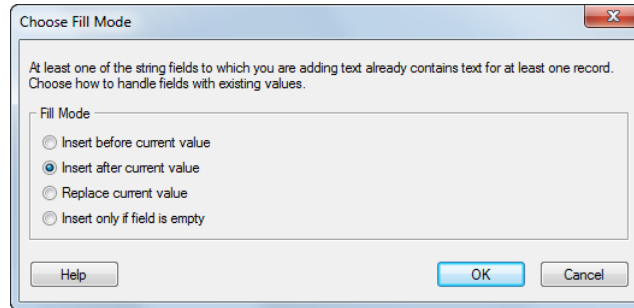
Editing Fields with Validators

If a catalog contains fields with validators and one or more of these fields contain invalid values, or if mandatory fields have no value at all, a validator pane is displayed at the bottom of the Information Window or Information View, and the respective fields are marked with a special icon.

The message(s) displayed in the validator pane can be different for each field, depending on the settings defined by the administrator. Clicking on a message immediately activates the field with the erroneous value, even if it is not visible in the first place. As soon as you enter a correct value, both the special icon and the message disappear.

As long as a record contains invalid field values, it can not be saved. Either you fill in appropriate values in all of these fields, or any changes made to the record will be discarded.

Using a Metadata Template

To add information to the metadata information that is stored on an asset or a category, you can employ a Metadata Template. Metadata Templates can be set up by any user. (For a description on how to set up Metadata Templates, see "Metadata Templates" .)

To make use of such a template, you can either use it while cataloging (along with the Prefiller Utility, see page 466) or apply the metadata information to existing records or categories.

There are different methods through which you can apply information from Metadata Templates to records or categories:

•   Select one or more records or categories, then select **Metadata** > **Assign Metadata From Template**. A list containing all your Metadata Templates is displayed. Select the desired one. The changes are applied immediately.

NOTE: With this method, all fields are taken into account, that are
– contained in the catalog the records or categories belong to and
– set in the selected Metadata Template.

•   Select one or more records or categories, then select **Edit** > **Paste Metadata**. The Bulk Edit window is displayed. Click the icon in the lower left corner and select a Metadata Template. The respective values are displayed in the Bulk Edit window. You can edit them before applying them to the selected records or categories.

NOTE: With this method, all fields are taken into account, that are
– included in the Information window of the current View Set and
– user editable and
– set in the selected Metadata Template

- Open the Asset Information window or Category Information window and click
  ♟ , then select the Metadata Template you want to apply. You must explicitly
  save your changes in order to apply them.

  NOTE: With this method, all fields are taken into account, that are
  – included in the Information window of the current View Set and
  – user editable and
  – set in the selected Metadata Template

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences
of Metadata Templates by selecting the **Customize** entry in the drop down list
for selecting a Metadata Template. This entry opens the preferences for the cur-
rent Metadata Template.

Record Size

In general, a record's size can depend on several factors:

- The size and quality setting of the thumbnail (if you choose to include one).
- The amount of text and notes stored in various record fields.
- The asset format the record represents. (Different assets generally require different amounts of data to describe them.)
- The amount of additional information you include in the record.

The customizability of Cumulus means that you can determine what information is stored on the assets in a particular catalog. If catalog size is a concern, there are a few catalog settings to keep in mind. These settings can affect the size of the records cataloged.

Renaming Records

Records are named as the assets they represent by default. Sometimes asset names are not what you would like them to be. For renaming assets (and their records) Cumulus provides a special function. (See "Rename", for details.) However, you can also rename the record only. Though there is no menu item specifically for this use, renaming records is easy:

1. Select the record to be renamed.

2. Select **Metadata > Information**. The Asset Information window opens, which shows information on the asset.

3. Find and change the record's name in the **Record Name** field.

4. Click ⬇ to save your changes.

If you want to edit more records in the collection, you can use the arrow icons in the Information window toolbar to load a new record.

Editing a Record's Category Assignments

Also found within the default Asset Information window is a list of the categories currently assigned to the record. From this list you can remove category assignments or add new ones.

To remove a record's category assignment:

1. Select the record whose category assignments you want to change.
2. Select **Metadata > Information**. The Asset Information window opens, which shows information on the asset.
3. Select the category you wish to remove and press the DEL key.
4. Click ⬇ to save your changes.

If you want to edit more records in the collection, you can use the arrow icons in the Information window's toolbar to load a new record. After deleting a category in the category pane, all assignments to this category are automatically deleted as well.

There are different ways to add a category assignment to a record, or to assign a record to a category, depending on your perspective. The perhaps most intuitive way is by dragging and dropping the category to the record, or the record to the category. (See "Editing a Record's Category Assignments".) It is also possible to add a category assignment to a record via the Asset Information window, which displays a list of the categories the record is associated with.

To add a category assignment to this list:

1. Select the record whose category assignments you want to change.
2. Select **Metadata > Information**. The Asset Information window opens, which shows information on the asset. If necessary, drag this window aside so that you can also see the Category pane of the Collection window.
3. Click the category in question in the Category pane.
4. Drag the category to the categories list in the Asset Information window. The category is assigned to the record.
5. Click ⬇ to save your changes.

If you want to edit more records in the collection, you can use the arrow icons to load a new record.

Things You Can Do with Records

- **Assign** a record to a category. (See "Editing a Record's Category Assignments".)
- **Change** a record's category assignments. (See "Editing a Record's Category Assignments".)
- **Copy/Cut** and **Paste** records between catalogs and/or collections. (Record categories are copied along with records.)
- **Create** a new record (same as cataloging assets). (See "Browse for Assets".)
- **Create custom record fields.** (See "Creating a Custom Field".)
- **Delete** a record and (optionally) its asset. (See "Delete".)
- **Drag and drop** a record into another drag and drop-supporting application. Dragging a record copies the asset into the target document. You may prefer, instead, to place the asset manually and access it by reference.
- **Export** records. (See "Export")
- **Import** records. (See "Import".)
- Optimize a records' preview icon. (See "Optimize Thumbnail".)
- **Print** records. (See "Print".)
- **Rename** a record. (See "Renaming Records".)
- **Rotate** a record's preview icon. (See "Rotate Thumbnail".)
- **Search** for specific records. (See "Searching with Quicksearch", and "Searching with the Find Window".)
- **Update** a record to reflect an edited asset. (See "Update Record".)
- **Update** a record to reflect a relocated asset. (See "Update Record".)

NOTE: It's very important to keep records in sync with their associated asset files. If you move an asset after cataloging it, be sure to update its record by using the menu item. (See "Update Asset Reference(s)".)

- **View** and optionally **edit** a record's asset information. (See "Asset Information", for details.)

Things You Can Do with Assets

Cumulus is also able to help you manage your original assets. Cataloged assets can be copied, deleted, moved, printed – all from the Cumulus interface using the Asset menu commands. And when you copy, delete or move an asset, Cumulus takes care of its TAG file at the same time, treating it accordingly. For further information on TAG files, see "Options While Cataloging" .

- **Convert** the asset to another file format. (See "Convert To")
- **Copy** the asset into another application by dragging the record into the application.
- **Create** copies of the assets in another location. (See "Copy To".)
- **Customize** the display of the information on an asset. (See "Record View Sets".)
- **Delete** an asset. (See "Delete".)
- **Move** assets. (See "Move To".)
- **Open** assets using the application they were created with or another application. (See "Edit With".)
- **Preview** a record's asset. (See "Preview".)
- **Print** assets using the application they were created with or another application. (See "Print With".)
- **Send** your assets by email. (See "Mail To".)
- **Rename** assets. (See "Rename".)
- **Show** information on an asset. (See "Asset Information".)
- **Show** the location of the asset. (See "Show Location".)
- **Show** a preview image of the asset. (See "Preview".)

Categories

Cumulus categories are used to organize records, much like folders are used to organize files in a traditional filing cabinet. But the asset can appear in any number of Cumulus categories at the same time. They are similar in purpose to keywords used in other programs.

Simply double-clicking on a category is the most direct method of searching in Cumulus. All records assigned to that category are displayed. You can also use the category list to find contents of two or more categories at a time. Other options for category list searching include the ability to see the contents of categories in the tree either above or below the one you double click. (See "Search & Sort Tab", for more detailed information.)

To make organizing easier, Cumulus by default provides multiple master categories each of which constitutes its own category tree. Categories can be created in each tree independently. Which categories are displayed in the category pane, either all, or just the categories belonging to a specific master category, can be specified any time via a drop-down list.

- The **Keyword** tree contains those categories that are created with the intention of organizing the assets via keywords. These categories may be created manually by the user or automatically by Cumulus Filters and AssetStores.
- The **Sources** tree contains automatically created categories that reflect the folder or directory hierarchy in which the assets reside.
- Use the **Categories** tree to build a hierarchical order of your own that suits your specific needs.

- **All** displays all master categories and their respective subcategories contained in the current collection. In this case, the master categories are denoted with names that begin with a **$** sign.

  NOTE: Do not rename or move these special categories.

If you don't get all default category trees displayed, your administrator has restricted your access to categories.

Categories can be nested within one another. The highest hierarchical category level – the one that is not nested in any other category – is the category representing a catalog. A category that nests other categories is also denoted by a small triangle. A square denotes a category that does not nest any other category. To expand a category in order to see its subcategories, click on the triangle. Use drag and drop to move categories to where you want them inside the master category they belong to, or even between master categories.

The Category pane displays all available categories. To see the categories a record is assigned to, open the Asset Information window and check the entries in the Categories field. (For information on how to edit, see "Editing a Record's Category Assignments".)

Category Types

Cumulus offers different types of categories: Normal Categories, Related Categories and Folder Categories. These category types have the following characteristics:

- **Normal Categories** can be created by the user at any position in the category hierarchy. We recommend creating individual categories either in the **Categories** or the **Keyword** tree.
- **Related Categories** are aliases of existing categories which can be created by the user. They can be placed in any position in the category hierarchy. Complete alternate catalog hierarchies can be built using related categories.
- **Folder Categories** are automatically created by Cumulus during the cataloging process. These automatically created categories reflect the folder or directory hierarchy in which the assets reside. The **Source** tree displays them all. They are created by default but this option can be disabled (with Workgroup or Enterprise, by users with the specified rights only).

NOTE: Live Filtering (optional)

If you can see categories but can't select them, your administrator has activated pre-selections for you and those categories do not belong to the range of pre-selections.

Creating Categories

If you've been snooping around the Cumulus menu bar, you can probably guess how to create a new category.

To create a category:

1. Click the category in which the new category should be nested.
2. Select **Metadata** > **New Category** or **New Related Category**. This creates a category nested in the selected category.
3. Rename the new category. (Category names can be up to 255 characters in length.)

You can easily change the category hierarchies by dragging a category on top of another category. This places the category inside the other category. To move a category to the top level of a catalog, drop it on the category representing the catalog.

Master categories can't be dragged to a different place.

Renaming categories is easy:

1. Double-click the category's name (not its icon). Its name will be selected for editing.
2. Edit the name. (Category names can be up to 255 characters long.)

Custom Ordering of Categories

By default, the categories displayed in the category pane are sorted alphabetically. As this may not always be the most convenient solution, the order of the categories can be changed manually by dragging a category to a different place in the category tree, e.g. to have frequently used categories shown on top of the category tree.

Custom ordering of categories only works if

- the respective catalog contains the category field *Custom Order*,
- the **Enable/Show Language Specific Category Sorting and Custom Ordering** option is activated in the used Category View Set,
- the user who wants to reorder the categories has the permission to modify categories.

A custom-ordered category tree is displayed in that order only for users that employ a Category View Set with the **Enable/Show Language Specific Category Sorting and Custom Ordering** option activated. Else wise the category tree is displayed in the default order.

NOTE: It is advised to be extremely cautious with custom ordering of categories, as this may effect the view of potentially all other users.

To manually change the order of categories:

1. Drag any category with the mouse to the position where you want to have it.

   A thin black line indicates where it will be placed when you release the mouse button.

To override custom ordering and re-establish the alphabetic sorting of categories:

1. Right-click into a category level that you want to sort alphabetically and select **Sort by Name** from the shortcut menu.

   The respective level of categories is sorted alphabetically.

NOTE: Sorting categories by name only affects the current level. If subcategories have a custom order, they will retain it. Thus you can sort any level in your category tree either by name or manually as you need it, independent of any other level.

Category Fields

Category fields are used for information that relates to all records assigned to that category, or they can be used to store additional information on the category itself.

Category fields can be activated and set up in the Catalog Settings. This can only be done by the Cumulus Administrator.

Category Information Window

Information on categories can be viewed in the Category Information window. What you see depends on:

- the fields selected to be displayed in the Category View Set defined for the category tree the selected category resides in.
- the fields of the catalog the selected category resides in and whether these fields contain any information or not.

TIP: Access Preferences

If you have the appropriate permissions, you can easily access the preferences of Category View Sets by selecting the **Customize** entry in the drop-down list for selecting Category View Sets. This entry opens the preferences for the current Category View Set.

To open the Category Information window:

1. Click once on a category to select it.
2. Select **Metadata** > **Information**. The information window for the selected category appears.

The information on categories can be viewed and accessed via category fields. What category fields are displayed and also how the category fields are displayed depends on the selected View Set.

Once the Category Information window is opened, you can use the arrow buttons to load other categories into the window. For more details on the Information window, see "Information Window" .

Editing Category Information

In general you can edit the information stored on a category. But you can only edit information which is stored in category fields you are allowed to edit.

To edit the information stored on a category:

1. Load the category you want to edit into the Category Information window.
2. Click the field you want to edit.

   Fields with white backgrounds can be edited. If a field has a gray background, then it cannot be edited. (Either you are not allowed to edit or the field is not editable in general.)
3. Make your changes.
4. Click ⬇ to save your changes.

If you want to edit more categories, you can use the arrow icons of the Information window's toolbar to load another category.

Categories and Auto-cataloging

NOTE: Auto-cataloging makes use of the AutoSync function. Starting with Cumulus 10.1, this function is disabled by default with new Cumulus installations for performance reasons. Canto recommends to make use of the Cumulus FileSystemCompanion or RoboFlow for watching folders and auto-cataloging assets.
If for any reason you need to use the old Cumulus AutoSync function, contact Canto Professional Service or a Canto partner.

Cumulus can auto-catalog the contents of folders that are represented by folder categories in Cumulus. Any new assets saved to this folder will be cataloged periodically, depending on how often you would like this done. This feature can be customized to be performed anything from hourly to daily to weekly. It is performed on the machine you are working at.

To make use of this feature:

1. Select the **Sources** master category.
2. Select the category representing the folder you want to have auto-cataloged.
3. Select **File** > **Add Assets to Catalog** >**Setup Auto Cataloging**.
   OR
   Open the context menu by clicking ⊞ the right mouse button / **Control** key + mouse button and select **Setup Auto Cataloging**.

   The Auto Cataloging dialog is opened.
4. Activate the **Use AutoSync on Category** option.

5. Define the performance options:

- Select the Asset Handling Set for the auto-cataloging.

  NOTE: You should select an Asset Handling Set with the **Skip Duplicates** option activated for cataloging. Otherwise all assets in the folder will be cataloged again and again with each run.

- Under **Next Start**, enter date and time when the function should be performed.
- Under **Period**, enter the regularity time interval you want the function to be performed. For example: to start it once a day enter 24:00
- Under **User**, enter your Cumulus Login name.

6. Click **OK**.

NOTE: With this version of Cumulus the Auto Cataloging feature works only for folders that were created when cataloging was performed on the same operating system you are working with. You can check this with the information in the Category Type field. A category of the type Directory Category can only be auto-cataloged when you are working under Windows. And a category of the type Directory Category Mac can only be auto-cataloged when you are working under OS X.

TIP: More Autocataloging Features

Optional features provide additional auto-cataloging options; e.g. a Cumulus Scheduler Action that enables Cumulus to check a standard POP3 email account and retrieve and automatically catalog any email it finds. For more information, see "Provided Scheduler Actions" .

Individual Master Categories

Instead of having all categories appear in one category tree, Cumulus provides multiple master categories, each with its own category tree: Cumulus lets you create your own master categories with their own individual category trees.

To create a new master category:

1. Click on the entry for the catalog in which you want to have the new master category.
2. Select **Metadata** > **New Master Category**. The New Master Category dialog is displayed. Enter a name for the new master category and press **Enter**.

You can rename or delete such a category just as any other category.

Things You Can Do with Categories

- **Assign** a category to a record. (See "Editing a Record's Category Assignments".)
- **Create** a new category. ("New Category" , and "New Related Category".)
- **Create** a related category. (See "New Related Category".)
- **Delete** a category. (See "Editing a Record's Category Assignments".)
- **Export** categories. (See "Export".)
- **Import** categories. (See "Import".)
- **Move** a category inside or outside another category. (See "Creating Categories".)
- **Remove** a category assignment from a record. (See "Editing a Record's Category Assignments".)
- **Rename** a category. (See "Creating Categories".)
- **Search** for categories. (See "Searching with Quicksearch".)
- **Show** or **hide** categories. (See "Collection Basket Pane".)
- Use **AutoSync** on categories. (See "Categories and Auto-cataloging".)

Information Window

The information stored on an asset or category can be viewed and edited in the Information window. What you see depends on:

- the fields selected to be displayed in the current Record View Set or Category View Set,
- the fields of the corresponding catalog and whether these fields contain any information or not.

BACKGROUND INFO: Information Window vs. Properties Window

Whereas the Information window provides access to the metadata stored on an asset or a category, the Properties window provides access to the triggers and permissions set for an asset's record or a category.

Overview: The Information Window

The Information window provides access to the information (metadata) stored on a category or on an asset. The Asset Info window provides access to the information on the asset stored in the record. The Category Info window provides access to the information on a category. Which fields are displayed in which order depends on the selected View Set. The field contents are editable depending on the field type and the properties set for it. However, to edit the metadata stored you need the appropriate permissions to modify records.

- **Information Window Toolbar (1-8)**

1   *Save the edits you made in this window.*
2   *Click to add information from a Metadata Template. (For details on how to set up Metadata Templates, see "Metadata Templates" .)*

IMPORTANT! *The template will only fill in the fields that are included in the Information window. And only those that you are allowed to edit. Note that these changes will not be saved until you do so.*

TIP: *If you have the appropriate permissions, you can easily access the preferences of Metadata Templates by selecting the **Customize** entry in the list for selecting Metadata Template. This entry opens the preferences for the current Metadata Template.*

3   *Loads the first record/category from the collection window's current selection.*
4   *Loads the previous record/category from the collection window's current selection.*
5   *Loads the next record/category from the collection window's current selection.*

6   *Loads the last record/category from the collection window's current selection.*

7   *Displays the selected Record View Set.*

8   *Click to select a Record View Set.*

- **Field Display (9-12)**

This sample Information window shows:

9   *Name of the field (as defined in the Catalog Settings).*

10 *Content of the field for the selected record/category (editable or not depending on the field type and whether **Allow User to Edit** is checked in the record field properties). If the field background is dark gray it cannot be edited.*

11 *Displays the categories the asset is assigned to. (For more on categories and category trees, see "Categories" .)*

12 *Separator for grouping fields. Click to expand or collaps the display of the fields.*

• **Field Types (A-H)**

The letters mark a few examples of the various field types.

A **Date:** *Can be user-editable; click in field and type new value (or in Windows use arrow up/down keys).*

B **Integer:** *User-editable; numbers only (without decimal places), up to 32 bits.*

C **Boolean:** *Check box to be selected or deselected. Can be user-editable.*

NOTE: *Besides being activated or deactivated, boolean fields can have a third state: No Value. This state can be set via an options menu.*

D **Picture:** *Not user-editable; maintained by Cumulus or an Asset Storage Module.*

E **String:** *User-editable; characters and numbers.*

F **String List:** *Can only be filled with predefined values. (For details on inserting a value to a String List, see "Editing a String List Field".)*

The values are either displayed as a list or as radio buttons (defined in the View Set.) Click the arrow button to select a value from a list.

G **String List – Multi-Select:** *The values are displayed with check boxes. You can select multiple values by activating them in the check boxes.*

H **Asset Reference**: *Not user-editable; maintained by Cumulus or Asset Storage Module.*

I **Vocabulary**: *Can only be filled with predefined values (controlled vocabulary items). Click **Add**/**Remove** to add/remove vocabulary items.*

Adding Terms to a Vocabulary Field

*Enter a letter or phrase and click **Find.** The **Add Vocabulary Terms** window opens, displaying matching terms.*
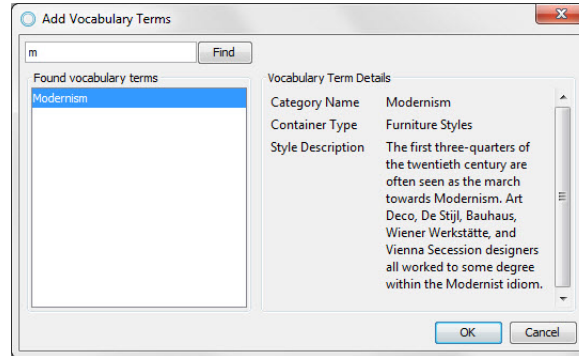
*Select the desired term and click **OK**. (Note: Which Details are displayed for a term depends on the available metadata, and on the view configuration of the Vocabulary field.)*

NOTE: Multiple Records in Asset Information window

If you have selected multiple records before opening the Asset Information window and the option **Display values identical for all selected records** (**User Settings**> **Display** > **Asset Info Window**) is activated, you can change the field values for multiple records at once.

If the asset information of multiple records is shown in one window, only those field contents are displayed which have the same value. So the **Asset reference** and **Thumbnail** fields will always be empty. Check boxes (Boolean fields) with different values display the string **Multiple values**. The field **Categories** only displays those categories the selected records have in common. All other field types are displayed with no value if there are different values for fields.

Fields with different values do not show a value but can be edited - as well as gray (neutral) check boxes. If you add an additional category, this category is added to the set of categories for each record.

Sets and Templates

To ease your work Cumulus provides several sets and templates. Access to them is controlled via user permissions. Users who are allowed to create them can share them so that they are accessible to all users with the permissions to use them.

View Sets

What Cumulus calls *view sets* are the screen layouts that enable users to interact with the metadata stored for the managed assets. Each View Set contains several different types of views, or view modes, including thumbnail view, list view, asset preview, and more. A single View Set represents the way each of these individual views appear to users.

View sets make it easy for you to switch between different views that are set up for certain formats or tasks. Once view sets have been appropriately defined to meet differing demands, you can switch between them with just a mouse click.

Each view in a View Set can contain a different array of metadata fields from a catalog. This is helpful because you don't likely want to see all data fields when looking at thumbnails, but you might want to see them when looking at an Information View. Some metadata fields, such as thumbnail or record name, might be useful in both views.

The ability to create different view sets enables you to configure screen layouts that are task or user specific.

Examples

When browsing catalogs for images, a layout artist might want to see a Thumbnail View that includes no other fields. To address this, you'd create a "Browsing" View Set. The omission of others fields in the Thumbnail View enables Cumulus to display as many thumbnails on a single screen as possible, which is great for browsing. The Info View of your "Browsing" View Set might include the remaining fields that a layout artist should see before making a selection, such as "License Restrictions," "Copyright Notice" and "Approval Status" fields.

If that same layout artist was cataloging new assets, he/she would want to see more than just those few fields useful for browsing. She might need access to a "Notes" field, a "Production Status" field or even the "Categories" field, which enables her to easily see and edit the category assignments made for the asset.

These are examples of task-specific view sets. But user- or group-specific view sets are just as important. Your catalog might include financial or licenser contact fields that are of no interest to designers, but paramount to accountants. On the other hand, your accounts probably don't care about "Color space," "File Resolution" or "Workflow Status" fields. You'd create view sets for them that include only the fields they need to see.

Access to view sets is permissions based, so you can easily determine which users can access which view sets. This is particularly important if any of your metadata fields contain sensitive or private information. For example, you might use "Notes" fields to enable managers to communicate thoughts to one another that designers shouldn't see. Using view sets in this manner offers an additional layer of security to your metadata, but it also helps "clean up" everyone's workspace by displaying to them only what they need to see.

Category View Sets

Cumulus categories have view sets of their own. We call these *Category View Sets* to differentiate them from the *Record View Sets* just covered.

Category View Sets are required because Cumulus categories also have metadata fields. This enables you to use categories as a type of "asset container" for project management—each category can have a manager, budget, due date, etc. Asset records added to the category are assumed to be a part of the project. Double-click on the category and you see all the assets used in it. In practice, Category View Sets are created, edited and chosen by users, just like Record View Sets.

View Sets & Catalogs

Newly created Cumulus catalogs include default view sets for records and categories. These view sets include many of the default metadata fields created for each new catalog, which enables you to start managing assets immediately.

If you add any metadata fields of your own, however, you'll also need to add those fields to view sets before users will be able to see the fields and edit their contents. You can add your custom fields to existing view sets, or you can create new view sets from scratch. There is no limit on the number of view sets that you can create.

View sets are not "connected" to any one catalog—they are Server specific. This means that each view set you create will potentially be available from all catalogs hosted on that Server. This enables you to create view sets that include fields from multiple catalogs. (Cumulus enables users to open several catalogs at once.)

You can limit view set access on a catalog-by-catalog basis, so if a given view set includes fields not found in other catalogs, you can create custom view sets for that

catalog and configure user permissions to ensure that those view sets are not accessible in other catalogs.

Asset Handling Sets

An Asset Handling Set is also not specific to any one catalog. It affects how Cumulus deals with your assets – during the cataloging process and when accessing assets.

Asset Handling Sets define:

- Which filters should be active during cataloging,
- What metadata should be extracted from the assets (via filter settings),
- How field linking should be configured,
- Which Metadata Template (if any) should be used, and
- Whether central asset storage should be used, and where that location should be. (file server, ftp site, Vault, etc.)

Additional configuration options include:

- The size of the "thumbnail" that represents the asset record,
- Whether Cumulus should catalog duplicate assets, or ignore duplicates while cataloging,
- Whether Cumulus should resolve operating systems aliases and shortcuts and catalog the assets they point to, and
- Whether Cumulus should automatically catalog assets referenced in "container" documents, such as InDesign and QuarkXPress, which is a powerful option available with some Cumulus solutions.

You can define as many Asset Handling Sets as you need, which is great because they serve so many useful purposes.

Examples

One set, for example, might extract all text from a Word document and add that as metadata to the asset record. Another set might extract a maximum number of characters or none at all. (Similar options exist for the PDF, PowerPoint, Excel and even the Adobe Illustrator filters.)

Or, you might have a set for laptop-based remote users that copies all assets they catalog into a secure, remote location, turning Cumulus into a convenient on-the-road back-up solution. A "hotspot" Internet cafe is never far away; now users can back up new orders and expense reports while they're there.

Asset Handling Sets can also determine special ways in which assets are accessed *after* cataloging, such as whether QuarkXPress files should be previewed inside Cumulus, or opened from within QuarkXPress itself.

For details on how to customize Asset Handling Sets, see "Asset Handling Sets" .

Asset Storage Modules

At the heart of Asset Handling Sets are a series of "engines" called *Asset Storage Modules*. Asset Storage Modules enable Cumulus to communicate with different types of storage systems and provide additional functionality for certain file types. Examples of different systems Cumulus supports "out of the box" include the filing systems of the Mac OS, Windows and Unix. Without Asset Storage Modules for these operating systems, Cumulus would not be able to read and write data to storage devices hosted on those systems as it does. Keep in mind that Cumulus Servers are available on many different operating systems, and the Client software is available for OS X and Windows. Because it's transparent to the user, you might not wonder what enables Cumulus to "speak" all those different filing system languages so fluently, but the credit goes to the Asset Storage Modules.

Asset Storage Modules that offer additional file-handling capabilities include those for Zip, QuarkXPress and PDF files. Using the Zip module, for example, you can drag a Zip archive onto your catalog and Cumulus will extract and catalog its contents on the fly—each file within the archive becomes its own searchable asset record. On the flip side, this same module enables Cumulus to deliver one or more assets to a user already Zipped up and ready to go. This is especially handy when assets are downloaded over the Web.

Similarly, Asset Storage Modules for PDF, InDesign, PowerPoint and QuarkXPress give users the option of splitting the various pages (slides) found in those files into individual asset records, each with its own set of metadata. These modules have output benefits too: For example, users can assemble brand new PowerPoint presentations using cataloged slides or even stand-alone assets in the catalog.

In a nutshell, Asset Storage Modules enable Cumulus to read from and write to *storage locations*. Those locations include the physical storage locations we naturally think of, such as hard discs and servers, but they can also be less conventional "locations," such as Zip archives and PowerPoint presentations.

Fore more details on Asset Storage Modules, see "Asset Storage Modules" .

Default Asset Handling Sets

The Asset Handling Sets that come standard with Cumulus are not configured with any custom purposes in mind. While this makes them useful for all cataloging processes, it also makes them less efficient. To ensure optimum performance from Cumulus, set up custom Asset Handling Sets to specifically deal with the asset types your company uses. (Cumulus "offers" each file being cataloged through each of the activated file filters. So if you know what type of asset you're cataloging, it makes sense to disable unnecessary filters.)

Asset Handling Sets and Workflow

Access to Asset Handling Sets is based on user permissions, so administrators can define, in advance, exactly how assets should be cataloged for each user or group. If a user is permitted access to only one Asset Handling Set, that set will be used automatically during all cataloging performed by that user. If more than one set is available to the user, a dialog appears that prompts the users to select an Asset Handling Set for the cataloging operation.

Cumulus can also "watch" certain folders and automatically catalog assets dropped into them. Asset Handling Sets and Metadata Templates can be determined in advanced for these operations, making the process entirely automatic.

If your workflow were to use a system like this, and you needed an easy way to see which assets were newly cataloged, you could have a Metadata Template automatically load a field called "New" with the value "yes." Users could then easily find new asset records based on that value, make any metadata edits needed, and then change the "New" field value to "no," indicating the asset record was ready for use.

Metadata Templates

In order to fill asset records or categories with predefined metadata values, Cumulus provides Metadata Templates. You can think of Metadata Templates as a "rubber stamp" that's applied to a selection of records or categories. Metadata Templates can be used to update existing asset records or "prefill" new asset records during cataloging.

For example, say you're about to catalog a group of photographs taken by the same photographer on the same date, using the same camera. Each photograph has unique attributes, which you'll enter into its asset record later, but you can save yourself some time by using a Metadata Template to "stuff" the asset records at cataloging time with the information common to all. In this case you'd be using the photographer's name. But you could also "pre-choose" category assignments, set a status field to "new," or any other combination of field edits.

You can define as many Metadata Templates as you need. At cataloging time, you can choose an existing template, or manually enter data to be "prefilled" into the new asset records.

Access to Metadata Templates is controlled via user permissions. They can be shared so that they are accessible to all users with the permissions to use them.

For details on how to customize Metadata Templates, see Metadata Templates.

Print Templates

Different combination of print options can be combined and saved as Print Templates. A Print Template defines how records will be printed. Print Templates include definitions for the document layout (page size and orientation, as well as margins) and the layout of the records to be printed. Either a Record View Set or defined advanced print settings can serve as print layout for the records.

For details on how to customize Print Templates, see "Print Templates" .

Permissions Templates

Permissions templates enable you to assign, remove or explicitly set individual asset or category permissions for users or entire groups at once. Note that permissions templates are an optional feature which may not be available with your Cumulus configuration.

A Permissions template includes permissions for records and categories. Depending on the context in which a template is used, either the record or the category permissions will be used. With selected records, the defined record permissions will be used; with categories, the defined category permissions will be used.

For details on how to customize Permissions Templates, see "Permissions Templates" .

Collaboration and Workflow

Cumulus provides features that support your workflows as well as the ad-hoc collaboration between Cumulus users, such as:

- the possibility to set up, manage and employ status-based workflows, and to attach workflows to individual files
- the possibility to comment on assets and mention someone in the comment text who will be notified about the mentioning
- subscriptions to individual files in order to get notified whenever metadata of this file is changed

In addition to status-based workflows, Cumulus also offers workflow support functions that are based on Action types, such as:

- User-defined actions (see Cumulus Asset Actions)
- Event-based actions see (Cumulus Trigger Actions)
- Time-based actions (see Cumulus Scheduler Actions)

Workflows

A workflows consists of a sequence of freely definable states, and the activities that cause the transition from a source state to a target state. To each state, one or several users (or roles, if your Cumulus runs in role-based mode) can be assigned which are responsible for the further processing of the files (assets) in the current state, and for promoting the file (asset) to next possible state in the workflow.

From an Administrator's Point of View

Workflows are created via the **Workflow Manager** of the Cumulus Web Server Console and must be added to catalogs via the Catalog Settings section of the Preferences window at the Cumulus Desktop Client.

Creating Workflows with the Workflow Manager

First you must create the states you need in your workflow (which basically consists in giving them meaningful names...), then the activities. For each activity, you must select one or more possible source states (i.e., the states in which the activity can be performed) and one target state, thus defining the sequence and order of the states in the workflow.

In addition to the modification of the state, an activity can also:

- assign one ore more users / roles to the target state, or clear the assignment
- trigger an asset action that is performed on the file during the transition to the next state
- have their availability restricted to certain users only

For details, see Configuring Workflows.

Adding Workflows to a Catalog via the Preferences Window

Workflows are defined catalog-independent. However, in order to be applicable to the files/assets in a catalog, a workflow must at first be added to the catalog. Files/assets can only be attached to workflows that have been added to the catalog containing the assets. You add workflows to a catalog on the Workflows tab of the Catalog Settings section of the Preferences window.

Additionally, workflows must be made known to Asset Handling Sets, e.g. in order to attach newly cataloged assets automatically to a workflow.

Fore details, see the Workflow Tab section in Overview: Catalog Settings Window, and the Workflow Tab section in Overview: Asset Handling Sets.

From a User's Point of View

If a catalog contains workflows, they are available

- with the Desktop Client via a **Workflows** menu
- with the Cumulus Web Client on the **Workflows** overview page.

Users can manually attach workflows to individual files: with the Web Client via the **Start workflow** entry in the tool box, and on the Desktop Client by applying the starting activity from the **Workflows** menu (or the shortcut menu).

Workflows can also be attached automatically to files during the cataloging process via an Asset Handling Set, and they can be started by a Scheduler action, or a Trigger, on files that match a given query (see Provided Scheduler Actions and Cumulus Trigger).

Files/assets with an attached workflow have a workflow state and are assigned to one or several users (or roles, if your Cumulus runs in role-based mode). To which user(s)/role(s) a file/asset is assigned depends on its current workflow state.

- Only users which are assigned to a certain state can perform the activity that leads to the next workflow state:
- With the Cumulus Web Client, a user gets displayed all files he/she is assigned to on the Workflows page. If the user is responsible for files in different states, the

Workflow page provides a tab for each state. For each file on the workflows page, the appropriate activities are provided in the toolbox. As soon as the user selects such an activity, the file is promoted to the next workflow state (and therefore no longer displayed on the current tab).

- With the Cumulus Desktop Client, a user can find all assets/files he/she is assigned to for any single workflow via the Workflows menu (**Workflows > [workflow name] > Currently assigned to me**).

Commenting and Mentioning

Cumulus provides a user comments function, both with the Desktop Client as with the Web Client, allowing Cumulus users to comment on assets. A comment can apply to an asset in general, or it can refer to a specific detail in the asset, e.g. an area of a picture.

With the Cumulus Web Client, it is additionally possible to mention Cumulus users within a comment by entering the @ character followed by a username (*@username*). Mentioned Cumulus users are notified about the comment via email.

Subscriptions

With the Cumulus Web Client, users can subscribe to individual files/assets in order to get notified if the metadata of these files/assets is modified. These notifications are sent via email to the subscribing user. Which metadata fields are taken into account for a notification can be specified by an administrator for each catalog individually.

Fore details, see the Workflow Tab section in Overview: Catalog Settings Window.

If you can't find it, you can't use it. With Cumulus it is easy to find the assets you are looking for as Cumulus provides easy and powerful search capabilities. These are described in this chapter.

There are several ways to find what you are looking for: searching by category, quick searching and searching with the Find window. Depending on the size of your catalogs and the complexity of your search requirements, you may find one way better suited to your needs.

The topics of this chapter include:

: Searching for Records By Category

: Searching with Quicksearch

• Searching with the Find Window and Working with Saved Search Queries

: User Live Filtering

For additional specific Find options, see "The Find Menu" .

Find Assets

Searching for Records By Category

The simplest form of searching for records is simply double-clicking on a category in the Category pane, also known as Category list Search. This quickly finds all of the records that are associated with that category. You can also select multiple categories before the double click to see all the records associated with the set.

There are several Preference options that affect the way category list searching works. (See "Search & Sort Tab", for more detailed information.)

In order to find records by category, it may be helpful to find appropriate categories initially. Finding categories even in deeply nested category trees is easy with the Category Quicksearch.

Searching with Quicksearch

Cumulus provides two Quicksearch fields, one to search for records (located in the toolbar), and one to search for categories (located in the Category pane).

Both Quicksearch fields work the same way – just enter a search term (e.g. a name or a number) into the field and click the 🔍 icon or press Enter.

With Record Quicksearch, Cumulus by default searches the record fields Record Name, Document Text, Notes, Keywords, and Categories. The result shows all records that contain the search term in any one of these fields.

With Category Quicksearch, Cumulus by default searches the Category Name field. The result shows all categories that contain the search term in their names. To provide orientation in the category hierarchy, the categories above the found categories are displayed additionally.

By default, the Quicksearch is performed as a "contains" search for all included String fields and String List fields, and as an "is" search for all included Integer fields in all catalogs open in the current collection.

A contains search means, that searching for the string *dog* not only will find the word *dog*, but also *doggy*, *dogma*, *bulldog*, *endogenous*, etc – in short, any word containing that particular sting.

Additionally, word-searching for String fields and String List fields can be enabled by activating the **Index for word-searching** option in the properties of the field, via the Catalogs section of the Preferences dialog (see Overview: Field Properties / General Tab / Indexing, for details.

The selection of fields used by Record Quicksearch as well as by Category Quicksearch can be changed in the User Settings section of the Preferences dialog (see Search & Sort Tab / Records and Categories, for details).

Search Options

If you enter two or more terms into a Quicksearch field, Cumulus combines these terms with AND. Searching for *canto cumulus* will result in all records that contain *Canto* (or *belcanto*, *cantor*, *cantonese* ...)and *Cumulus* in any of the searched record fields.

To use a term that consists of more than one string, you have to enclose the strings with double quotation marks. Quicksearch handles the strings in quotation marks as one search term. Searching for "*canto cumulus*" will result in all records that contain *canto cumulus*, i.e. the strings Canto (or *belcanto*, but not *cantor*, *cantonese* ...) and Cumulus, separated by a blank, in any of the searched record fields.

To combine search terms with OR, you have to separate them with two pipes (||). Searching for *canto || cumulus* will result in all records containing either *canto* (*belcanto, cantor, cantonese* ...), or *cumulus,* or both, in any of the searched record fields.

To search for records that do not contain certain terms in any of the searched record fields, you have to prepend the terms with a minus symbol (-). Searching for *cumulus -cloud* will result in all records that contain *cumulus*, but do not contain *cloud*, in any of the searched record fields.

To search for one of the special characters you have to put a backslash in front; e.g. \- to find - (the minus symbol), **\&&** to find *&&,* \/ to find **/** (the slash), and \\ to find \ (the backslash itself).

NOTE: If the Categories field is included in the Record Quicksearch (which is the default), the search results also depend on the settings specified under **Category Search Also Finds Records of** (Preferences > User Settings > Application > Search & Sort). (See "Search & Sort Tab", for details.)

Additional Search Options with Index for word-searching activated

Only if an administrator has activated the **Index for word-searching** option in the properties of a string field or string list field, it is possible to perform a word search in the respective field, that is, to search for a term exactly as it is.

To perform a wordsearch, you must enclose the search term in single quotation marks: Searching for *'canto'* then will result in all records containing exactly the word *canto* in any of the searched record fields, but not *belcanto, cantor, cantonese,* etc.

To perform a word search for a term that consists of two or more strings, you must enclose the strings first in single quotation marks, then in double quotation marks: doble quote - single quote - term1 - blank - term 2 - single quote - double quote.. Searching for *" 'canto cumulus' "* will result in all records, that contain precisely the strings *canto* and *cumulus,* separated by a blank, in any of the searched record fields.

The Quicksearch Menu

The Quicksearch menu is displayed by clicking the arrow button next to the magnifying glass icon on either Quicksearch field.

Besides a section displaying previously used search terms, and a section displaying saved search queries (see "Working with Saved Search Queries"), the Quicksearch menus provide the following entries:

- **Find in Collection** – Searches in the currently displayed collection only, e.g. in the result of a previous search. Handy for narrowing down search results. (Record Quicksearch only)

- **Find and Add to Collection** – Searches in all open catalogs; adds the search result to the currently displayed collection. Handy for broadening a search result. (Record Quicksearch only)

- **Clear Quicksearch List** – Deletes the previously used search terms.

- **Advanced** – Opens the Find window (See "Searching with the Find Window," below, for details.)

Searching with the Find Window

The Find Window reveals the true search power of Cumulus. Complex search set-ups (queries) can be constructed to find virtually any type of data stored for an asset. Boolean operators (and, or) increase the query possibilities even further. Different search methods let you define the search area (either all records of all catalogs opened in the current collection or only the records contained in the current collection.) The matches can either be added to the current collection, replace the records in the current collection or comprise a new collection of their own.

For a detailed description of the Find window, see "Overview: The Find Window".

For a comprehensive listing of searchable fields, see "Sample Search Options".

Overview: The Find Window

To open the Find window: Select **Find** > **Find Records** or **Find** > **Find Categories**
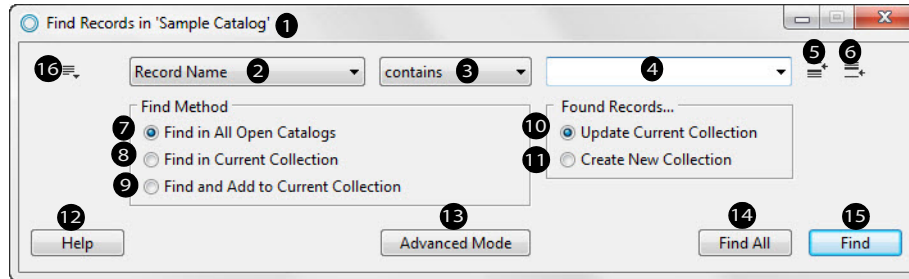
1 *Displays the name of the collection/catalog(s) that will be searched by the query in this Find window and that is referred to as 'current collection'.*

2 *Search criteria.*

3 *Search operator.*

4 *Search value. (If the selected search criteria is a Vocabulary field, a Browse button is offered to select a value from the given terms.)*

   NOTE: *You can search for whole words, not just for matching strings – if the Record field set as search criteria is activated for word-searching. Enclose the word you are searching for in single quotation marks and Cumulus will only find the records that contain the exact word. For example searching for* **copy** *will find records containing the words* **copy** *as well as* **copyright, copyhold, copyfree** *and so on. Searching for* **'copy'** *will find records containing the word* **copy** *only.*

5 *Inserts a new search condition before the current one.*

6 *Inserts a new search condition after the current one.*

NOTE: The order of search conditions is important when you connect search conditions with the Boolean operator "or". (For more details, <u>see "Sequence of Search Conditions"</u> .)

Find Method (7 - 9)

7 *Will search all open catalogs of the current collection.*
8 *Will search the current collection only. (For more information and examples, <u>see "Narrowing the Search"</u> .)*
9 *Found records/categories are added to the current collection. (For more information and examples, <u>see "Narrowing the Search"</u> .)*

Found Records/Categories (10 - 16)

10 *Found records/categories replace the current collection.*
11 *Found records/categories will comprise a new collection.*
12 *Displays help text.*
13 *Opens the Advanced Find windows for entering nested queries.*
14 *All records/categories of those catalogs opened in the current collection will be shown.*
15 *Starts the search.*
16 *Opens a menu for saving or loading queries. (For more details, <u>see "Working with Saved Search Queries"</u> .)*

NOTE: Cumulus search options are NOT case sensitive.

BACKGROUND INFO: Window Connected to Collection

When a Find window is opened, it is connected to the active collection or cat-alog window. That's why the name of the source window is displayed in the title of the Find window. It is important to be aware of this fact, when you use an open Find window for multiple searches – especially, if you decide to have the search results displayed in a new collection. Be aware of this fact when using the following search methods:
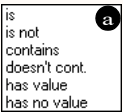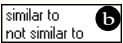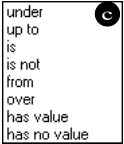
– **Find in Current Collection**: the contents of the source window defines the 'search area'

– **Find and Add to Current Collection:** the matches of the search are added to the contents of the source window

Sample Search Options

Criteria	Field Type	Opera-tor	Searches for	Sample Data/*Instructions*
Categories	*Special*	**a**	Records associated with specified category.	*Type category name or drag category onto Value field. Use drag method if catalog has multiple categories of the same name. Current Search Preferences settings affect results. (*See "Search & Sort Tab"*)*
Thumbnail	*Special*	**b**	Similar thumbnails. Compares brightness and contrast.	*Type record name or drag record thumbnail onto Value field.*
Horizontal Resolution	Real	**c**	Dot-per-inch resolution of an image asset file.	200, 300
File Data Size	Integer	**c**	The asset file size. (Not the record size.)	1024 KB *(use KB for kilobytes)* 24 MB *(use MB for megabytes)*
Asset Creation Date	Date	**c**	The date the asset was created.	11/22/97
Color Mode	String List	**d**	The color mode of an image.	*Select from Value list.*
Cataloging User	String	**e**	The name of the user who cataloged the asset.	Clint, Carolyn
Notes	String	**e**	Records with a *group of characters* in the Notes field that matches criteria.	*Any line of text. For example, "ball" finds ball, balloon and baseball. "ll rights res" finds "All rights reserved."*
Record /Category Name	String	**e**	The name of the record /category.	Balloon, Clouds, Gun Shot / Illustration, Aircraft, Sounds

Field Type	Categories	Thumbnail	Date, Real, Integer	String List*	String*	
Operator Menu Options	is is not contains doesn't cont. has value has no value **ⓐ**	similar to not similar to **ⓑ**	under up to is is not from over has value has no value **ⓒ**	is is not has value has no value **ⓓ**	starts with is is not contains doesn't cont. has value has no value **ⓔ**	*The menu options for this field type may differ depending on the field properties the Cumulus Administrator has set up for the selected field.*

NOTE: If the searched field is empty (has no value), the operators "is not" and "doesn't contain" will not return a result.

To find records with no value in a specific field, use the operator "has no value".

Instead of a value to be searched for, you can enter a placeholder string. This causes Cumulus to display a dialog for specifying the search value each time the query is executed. See "Using Place-holders".

Simple Searches

To set up a simple search (as opposed to a compound search, described on):

1. Click **Find** > **Find Records** or **Find Categories** to open the Find window.

2. Select a search criterion from the **Criteria** list. This list contains all record or category fields activated for searching.
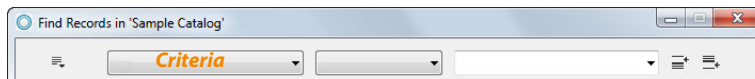
Search Criteria

3. Select an operator from the **Operator** list. This list contains all operators that are possible for the field type of the field selected as criteria.
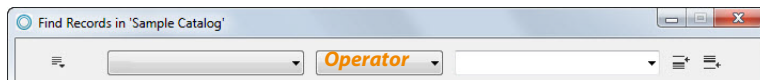
Search Operator

4. Either select a value from the **Value** list, type a value in, or drag an appropriate object onto the field. (Appropriate objects can be either thumbnails or categories.)
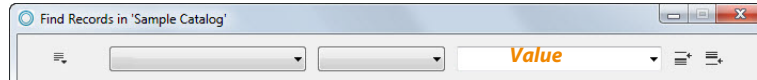
Search Value

5. Leave the default search method **Search in All Open Catalogs**. This method searches all catalogs included in the current collection.

6. Click **New Collection** so that the records found will be displayed in a new collection of their own.

7. Click **Find**.

Compound Searches

In larger catalogs, finding records with a single search criterion may not be efficient. To avoid sifting through tens of thousands of records, you may need to use more than one search criterion.

Cumulus lets you do this in two different ways:

- You can enter a compound search (more than one search criterion), OR
- You can narrow the results of a simple or compound search. (See "Narrowing the Search".)

Setting up each condition in a compound search is the same as setting up a simple search. The only additional steps are adding a new line of search fields, and specifying the Boolean connector between each condition.

Additional conditions may be added to further refine the search. Add and delete conditions using the following buttons:

- ≡⁺ Inserts a new search condition before the current condition. (The current condition is the line in which a field is highlighted or the flashing cursor I-beam is found. Click in any field to make that line the current condition.)
- ≡₊ Inserts a new search condition after the current condition.
- ✕ Deletes the current condition. This is *not* undoable!

Example

Building a compound search isn't much more difficult than building a simple search. You just have to think in terms of what you are asking Cumulus to do, and then translate that request into the search fields.

Your request, in English, might read:

"I need all records in the Pictures category that have 'tree' somewhere in their names."

Translated into Cumulus-speak, this becomes:

• *Category is Pictures and Record Name contains tree.*

Now let's break it down into separate search statements, called "conditions."

• *Category is Pictures*

In our first condition, **Category** is our search criterion, **is** our operator, and **Pictures** is the value we're searching for. This tells Cumulus that the records we want are all in the **Pictures** category. This alone would find the records we're looking for, but if our catalog contained thousands of images in the Pictures category, we'd spend quite a bit of time browsing through them all.

• *and*

This next little bit is very important. This is a Boolean operator that tells Cumulus how to consider the previous and next search conditions. By selecting **and**, we tell Cumulus that the records we want must match *both* conditions of our compound search. Another option here is **or**, which would tell Cumulus that the records we want only need to match one of the conditions.

• *Record Name contains tree*

In the second condition of the search, we help Cumulus narrow the search results by giving it part of the record name that we want. We use the operator **contains** instead of **is** because we're looking for records that have 'tree' anywhere in their names. **Is** would require that the record be called exactly 'tree,' with no variation.

In the Find window, the field values will construct a sentence similar to the one we just broke down. When you can see each condition on a line by itself, it's easier to visualize the results of the request.

Sequence of Search Conditions

When performing a Find window search Cumulus performs one search condition after the other. The Boolean **and** and **or** operators define how Cumulus has to connect the previous and next search conditions. The operator **and** defines that the records must match *both* conditions. The operator **or** defines that the records need to match *one* of the conditions only. If you have more than two search conditions in a search query, a condition connected with **and** will search the matches of the previous condition and reduce this result – whereas a condition combined with **or** will search the entire 'search area' (as defined under Search Method) and add the new matches to the previous matches.

SPECIAL TECH INFO: Nested Queries

If you want to enclose search conditions in brackets and set up nested queries, you must use the Find window in advanced mode. See "Using the Find Window in Advanced Mode", for details.

Examples

Search Query A:

Category is Photographs
and
Record Name contains penguin
and
Record Name contains balloon

First, Cumulus will search for all records that are assigned to the category **Photographs** and then, second, the result will be refined by searching for records that contain **penguin** in their names. Third, this result will be refined by searching for records that contain **balloon** in their names.

In the Sample Catalog the final result of this search query is:

- Penguin Balloon.psd

Search Query B:

> Condition 1: *Category is Photographs*
> **and**
> Condition 2: *Record Name contains penguin*
> **or**
> Condition 3: *Record Name contains balloon*

First Cumulus will search for all records that are assigned to the category **Photographs** and then, second, the result will be refined by searching for records that contain **penguin** in their names. Third, the 'search area' (as defined under Search Method) will be searched for records that contain **balloon** in their names and the matches will be added to the results of the previous conditions.

In the Sample Catalog the final result of this search query is:

- Penguins.jpg
- Penguin Balloon.PSD
- Balloon Race.BMP

Narrowing the Search

If the results you get from either a simple or compound search are too broad, Cumulus can help. The search method **Find In Current Collection** allows you to search through the set of records contained in the current collection, instead of the entire catalogs of the current collection, thereby reducing the number of records found.

If it helps, you might want to think of Narrow Current Collection as an **and** Boolean operator. That is, after your first search, you conduct another search with different search criteria, and the final results are the same as from the corresponding compound search using **and**. In the example above, the same final results were achieved with the compound search previously conducted.

Broadening the Search

If the results you get from either a simple or compound search are too narrow, Cumulus can be of assistance again. The search method **Find and Add to Current Collection** adds the results of a subsequent search to the records contained in the current collection.

This search method can be seen as an **or** Boolean operator. That is, after your first search, you conduct another search using a different criteria, and the final results are the same as from the corresponding compound search using **or**.

Working with Saved Search Queries

Although Cumulus remembers your search set-ups if you leave them open when you quit Cumulus, you can also save search set-ups, called queries. This prevents you from having to rebuild them each time you need them. It also ensures that your searches are consistent from session to session, which is important for some purposes.

With saved queries, you can use placeholder in the search value field, thus allowing the users to specify the query further during its execution.

Cumulus query files can be used on any supported platform. You can store and load queries for quick retrieval if you have the appropriate permissions.

NOTE: A saved query can be used with any catalog you have access to. However, there is something to take account of: If a query uses a field with the operator "has no value", and you run that query in a catalog that does not contain that specific field, the query will find all records in that catalog. Although this may not be what you expect, it is the proper behavior.

Saving and Loading Search Queries

To save the current query:

1. Click the ▤ button and select **Save**.

   A dialog appears in which you can name the query.

2. Type a name for the query in the **Query Name** field.

3. Enter a description for the query. Make the description meaningful especially for queries that contain placeholders, because the description text will be displayed in the dialog window.

4. To make the query available for other users, activate the **Share Query** option.

5. Click **Save**.

The query is stored in one of the two special query files Cumulus provides – one for the individual queries of a user and the other one for shared queries. With Workgroup or Enterprise these files are centrally stored at the Cumulus Server.

To load a query:

1. Click the ▼ button. A menu containing entries for all queries that are available to you is displayed. These include those that you set up as well as those set up by other users for sharing.

2. Select the entry for the desired query file.

Using Placeholders

Placeholders enable you to set up complex search queries which appear for the executing user as easy search forms. With placeholders included in a query, Cumulus dis-

plays a dialog each time the query is invoked, forcing the user to enter appropriate values before the query is finally executed.
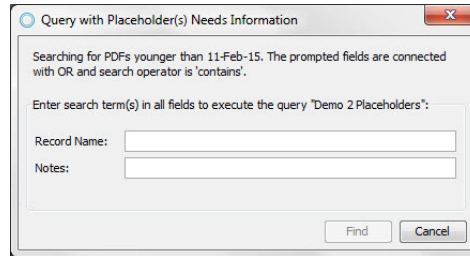
Example: Dialog window for a query with two placeholders, one for a string to be found in the record name, and one for a string to be found in the Notes field.

Placeholder can be used with most field types except UserUID, Binary and Picture fields.

To include a placeholder with a query:

1. Enter ${} as an identifier into the search value field of a search option.

   In a compound query, you can use as many placeholders as you need. However, when using several placeholders in one single query, each placeholder must have a unique identifier, e.g. ${p1}, ${p2}, ${abc}, ...

TIP: Query Description is Displayed

When saving a query with placeholders use the description to inform the user what to do.

Exporting and Importing Search Queries

If you want to store a query as a separate file anywhere in the file system, you have to export it:

1. Click the 📑 button.
2. Select **Export**. A dialog appears from which you can save the current query anywhere in the file system.
3. Select a location.
4. Click the button **Save**.

To load such an exported query file you have to import it:

1. Click the 📑 button.
2. Select **Import**. A dialog appears from which you can select a query.
3. Select a query file.
4. Click the button **Open**.

Things You Can Do with Searches/Queries

- **Create** a new search condition. (See "Compound Searches".)
- **Load** search queries. (See "Working with Saved Search Queries".)
- **Save** search queries. (See "Working with Saved Search Queries".)

Using the Find Window in Advanced Mode

This mode is designed for advanced users only who know how to set up search queries that are of greater technical depth. In standard mode, the Find window combines search conditions in a sequence for a complex query, whereas in advanced mode, the Find window allows you to set up nested queries. If you are working in a multilingual environment, the advanced mode provides another advantage as the queries that are set up in this mode are language independent.

To switch the Find window to advanced mode, click the **Advanced Mode** button in the Find window. In advanced mode the Find window looks like this:
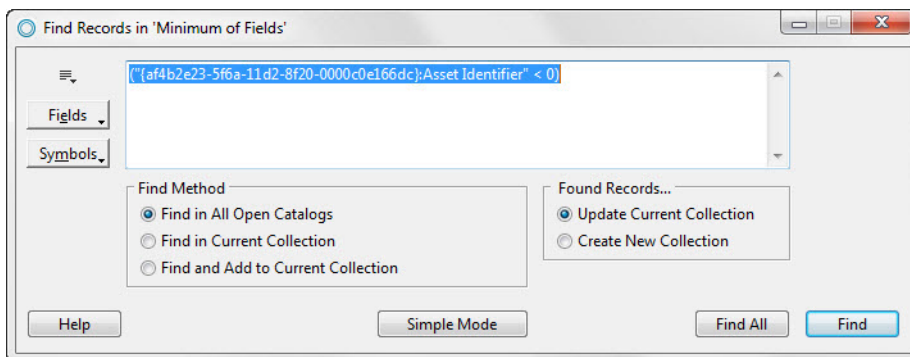
In the edit field you can enter any combination of search criteria, operators, values, and Boolean operators. For a detailed description see Query Format.

NOTE: If the edit field was empty before you switched to the advanced mode, the field will contain the search query set up in standard mode.

Record fields that can be used as search criteria are displayed when you click the **Fields** button. This list displays all fields contained in the current collection that are indexed for search. If you select an item in this list, it is inserted in the edit field of the Advanced Find window at the current cursor position.

The symbols you can use for search combinations are displayed when you click the **Symbols** button.

If you select an item in this list, it is inserted in the edit field at the current cursor position – exception: If you have marked a selection and then choose the "combine" symbol, the "combine" symbol will wrap the selection (opening bracket at the start and closing bracket at the end of the selection).

You can also set up a query in standard mode first and then switch to advanced mode. When switching back to standard mode by clicking the **Simple Mode** button, the query will be the same as before switching to the advanced mode. Note that it does not reflect the changes made in advanced mode. When changing back to advanced mode, the query set up in this mode is displayed again.

Searching for Categories

The **Find Categories** window has the same look and feel as the Find Records window and offers the same possibilities to configure your searches.

For more details, see "Overview: The Find Window".

The categories found as a result of your search are displayed in the Category pane. The found categories are displayed and can be used. Additionally, the categories above the found categories are displayed for better orientation.

The categories found as a result of your search can either replace the categories of the current collection or comprise a new collection of their own.

NOTE: The result of a category search also depends on the Live Filtering options the Cumulus Administrator may have set for you.

User Live Filtering

User Live Filtering enables you to set parameters that serve as a filter for all the records you find. Easily hide the file formats you don't need, make sure what you see has been approved for use, or any other combination you need. Save your filters and even share them with others.

With User Live Filtering activated, the records on your Record pane get 'filtered' by conditions you set up.

NOTE: User Live Filtering vs. Live Filtering

Do not mix up this User Live Filtering with that Live Filtering the Cumulus Administrator can set up to limit the view of a user or a user group to preselected categories and/or records.

You activate and deactivate User Live Filtering via the Filter icon in the Record pane top bar.
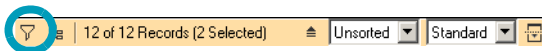
As long as filtering is active, any further search operation – Quicksearch, Category Search, whatever – will only take into account the collection as defined by the filter criteria, not the whole catalog. Accordingly, the **Find All Records** command will only find records that match the filter criteria.

Working with Filters

Create filters to quickly find files. For example, you can create a filter to find all files in a specific workflow state, a filter to limit the results you see in the Cumulus window to certain file types or to just those assets that belong to a certain client.

Adding Filters

Conditions define the criteria that files must meet to be included in filter results. You can combine multiple conditions to perform more complex filtering.

To add a filter condition:

1. If filtering is not activated, click the Filter icon.
2. Click the plus sign icon. A list of record fields opens.

    The list contains all record fields that are contained in the catalogs opened in the current collection and that have **Include Field in Find and Filter Options** activated in their properties.

    NOTE: Record Fields Offered as Criteria
    Per filter a record field can only be used once as a criteria for a condition. This means that a record field already used for a condition is not offered in the list when adding a new condition.

3. Select the record field you want to function as criteria.

    The **Define Filter Condition** dialog opens.

    Depending on the field type of the field you selected as search criteria, the options differ.

4. Set the criteria records must meet to pass the filter. For information on the different options, see "Using Filters" .
5. Click **OK** to save your settings and activate the filter condition.

To add additional filter conditions, repeat steps 2-5.

To edit an existing filter condition, maximize the pane (⯬) and click the pencil icon.

To remove a filter condition, click the minus sign icon in the maximized pane.

To remove all filter conditions at once, from the Manage Filters menu select **Remove all Conditions**. Note that conditions not saved as filter will be lost.

Saving Filters

Use the Manage Filters menu to save the active filter conditions as a filter under a name. Saved filters are added to the menu and can be used any time you need them. You can share them with others.

1. Click the Manage Filters icon to open the menu.

2. Select the **Save Filter** option. The Save Filter dialog opens.

3. Enter a Filter name. Make sure you use a descriptive name. If you want this filter to be available for other users, activate the **Share Filter** option. Note that you may only be able to save shared filters depending on your permissions for shared queries.

4. Click **OK** to save the filter.

An entry for this filter is added to the Manage Filters menu.

Using Filters

You can filter the records of a collection window to display specific records only. Use the Manage Filters menu to select the desired filter.

1. Click the Manage Filters icon (▤) to open the menu.
2. The available filters are listed at the bottom of the menu. The menu displays all shared filters in addition to private filters that you created.
3. Select the desired filter.

Only the records of assets that meet the filter criteria are displayed.

Deleting Filters

Use the Manage Filters menu to delete filters you need longer.

1. Click the Manage Filters icon to open the menu.
2. Select the **Delete Filter** option. The Delete Filter dialog opens. It lists the available filters.
3. Select the filter you want to delete.
4. Click **OK** to delete the filter. The entry for this filter is deleted from the Manage Filters menu.

Configuring Filters

Filters comprise one or multiple conditions.

Defining Conditions in General

Conditions are criteria that records must meet to be included in filter results. Depending on the field type of the field you selected as criteria, the options differ. For most of them you first have to decide on one of the three main options – either on one of the simple ones:

- **Has value** – Record will be included in the filter result if the field contains something.
- **Has no value** – Record will be included in the filter result if the field is empty.

Or the third one which offers further options that allow a precise description:

- **Matches / Does not match** (for most types) OR
  Contain / Does not contain (String lists only) OR
  Is assigned to (Categories field only)

The further 'sub-options' depend on the field type and range from general search criteria to exact matches with existing values. For most types the option **From existing values** is offered. It enables you to search for exact matches with existing values.

Field Type Specific Condition Options

The options offered as conditions depend on the type of the field you have selected as search criteria.

String

Limits filter results to records with: Text that matches or does not match specific text string or a regular expression

Select a matching option:

- Select **Matches** to search for records that contain the text.
- Select **Does not match** to search for records that do not contain the text.

Select the type of value to search for and enter or select the value:

- Select **Custom value** to search for a text string you define. Enter the string and select the search operator.
- Select **From existing values** to search for exact matches with existing values. Once you have activated this option, existing values are displayed which you can select to be searched for.

String List

Limits filter results to records with values, such as workflow states, that contain or do not contain any or all of the values selected.

Select an option to indicate if the results contain the selected values:

- Select **Contains** the following items to search for records that contain the values.

- Select **Does not contain** the following items to search for records that do not contain the values.

Select the value(s) to search for:

- Select **Restrict to existing values** to search for exact matches with existing values. Once you have activated this option, existing values are displayed which you can select to be searched for.

Long & Integer, Real & Data Size

Limits filter results to records with: numbers that match or do not match a number or numbers in a range. Integer restrictions, which are based on non-decimal numbers, limit results to records that contain or do not contain numbers in a range or list.

Select a matching option:

- Select **Matches** to search for records that contain the numbers.
- Select **Does not match** to search for records that do not contain the numbers.

Select the type of value to be searched for, and enter or select the value:

- Select **Range** to search a range of values. Enter the **From** and **to** values.
- Select **Any of the following numbers** to search for multiple numbers. Enter the numbers to be searched for, separated by semicolons.

  TIP: Greater Range
  *You can search for ranges greater than or less than a specific value. Leave the **From** field empty to search for matches less than the value in the **to** field. Leave the **to** field empty to search for matches greater than the value in the **From** field.*

- Select **From existing values** to search for exact matches with existing values. Once you have activated this option, existing values are displayed which you can select to be searched for.

Time Only & Date Only

Limits filter results to records with: Time data or dates that match or do not match a specific date, date range, or time period.

Select a matching option:

- Select **Matches** to search for records that contain the selected dates.
- Select **Does not match** to search for records that do not contain the selected dates.

Select the type of value to be searched for and enter or select the value:

- Select **Range** to search a specific date/time range. Enter the range in the **From** and **through** fields.
- Select **Any of the following dates/times** to search for multiple statements. Enter the time data to be searched for, separated by semicolons.

   ### TIP: Greater Range
   *You can search for ranges greater than or less than a specific value. Leave the **From** field empty to search for matches less than the value in the **to** field. Leave the **to** field empty to search for matches greater than the value in the **From** field.*

- Select **From existing values** to search for exact matches with existing values. Once you have activated this option existing, values are displayed which you can select to be searched for.

Date/Time

Limits filter results to records with: Dates that match or do not match a specific date, date range, or time period.

Date range restrictions limit results to records that contain or do not contain a date range, date/time range, or time period.

Select an option to indicate if the results meet the specified dates and times:

- Select **Matches** to search for records that contain the selected dates and times.
- Select **Does not match** to search for records that do not contain the selected dates and times.

Select the time period to search.

- Select **From date** to search a specific date range. Enter the range.

  ### TIP: Greater Range
  *You can search for ranges greater than or less than a specific value. Leave the **From** field empty to search for matches less than the value in the **to** field. Leave the **to** field empty to search for matches greater than the value in the **From** field.*

- Select **From date/time** to search a specific date/time range. Enter the range. This option is only available for date/time fields.
- Select a time period option to search a specific period, such as last week or last year. This option is only available for date fields that include the time, such as event date/time fields.
- Select **In the** to search a specified number of days, weeks, months, or years before or after the current date. Select **Last** or **Next**, enter a number, and select the time period.
- Select **From existing values** to search for exact matches with existing values. Once you have activated this option, existing values are displayed which you can select to be searched for.

Boolean

Limits filter results to records with: True or false set

Select an option.

Categories

Limits filter results to records that are assigned to any or all categories selected.

Check the categories to be searched for. Note that the categories available under **Is Assigned To** depend on the tab currently selected in the Category pane.

Cumulus

If you intend to do anything more than simply browsing through catalogs, you should read this chapter. It describes how to use, present and share your cataloged assets. This is followed by a few simple guidelines that will ensure your workflow is as efficient as possible.

The topics of this chapter include:

Use Assets

Drag and Drop

Cumulus does not only support drag and drop in the Cumulus application and for cataloging. From within Cumulus you can drag and drop assets into other applications that support drag and drop. Under OS X you have to press the ALT key when starting dragging.

Copying Assets

You can drag and drop a record into another drag and drop-supporting application. Dragging a record copies the asset into the target document. Dragging a record into the Windows Explorer or the OS X Finder copies the asset into the selected folder.

NOTE: It is not recommended to use drag and drop for copying a large number of files, because this may seriously impact the performance of your system and the available disk space. To copy a large number of files, use the **Copy to** menu command instead.

The reason for this is that both methods are handled in different ways internally. With the **Copy to** menu command, Cumulus creates a temporary file for each asset which is deleted as soon as the asset is copied. On the other hand, with drag and drop, temporary files of *all* selected assets are created before the first asset is copied, and these temporary files are not deleted until a new copy process via drag & drop is started, or Cumulus is closed.

Copying Categories and Associated Assets

Categories can be dragged and dropped – along with the assets associated with each category – into the Windows Explorer or the OS X Finder. When you drop the categories, Cumulus creates a folder with the same name as the category and copies the assets to that folder. If the category contains subcategories, subfolders will be created and the assets assigned to these subcategories are copied to the corresponding subfolders.

This option may be handy for collecting production files for output (assuming the files all have at least one common category, such as project name).

To copy categories and associated assets:

1. Select one or more categories that you want to copy along with the associated asset files.

2. Drag and drop the selected categories into the target application.

   NOTE: If you use this way of copying assets, any associated metadata files (e.g. TAG files) will not be copied even if the corresponding metadata modules are activated.

   A folder named as the category is created containing the asset assigned.

You also have the option of copying only the asset files associated with selected categories (see "Copy Assets Assigned to Category To").

Mailing Your Assets

Cumulus also lets you email the assets themselves, so that you can easily share them with people who don't have access to your Cumulus catalogs. You can use Cumulus' powerful search and display features to find just the right assets, and then send them off with a single command.

To email assets from within Cumulus:

1. Select one or more records whose assets you want to mail.

2. Select **Asset > Mail To**. A dialog opens prompting whether you want to send the original asset or to have a Cumulus Action performed on the asset(s) before it is sent.

3. Select the desired option (and if you decided on an Action, the desired Action) and click **OK**.

   Cumulus launches your email application (in case you have more than one, offers you a menu to select) / launches your default email application and attaches the selected asset(s) to an outgoing message. (If you decided on an Action, the result of the Action will also be saved as defined for the delivering module of the Action.)

Previewing Assets

Cumulus provides several ways of previewing assets:

- Preview pane
- Preview view
- Preview window
- Fullscreen Preview
- Fullscreen Slide Show

Viewing an asset in Preview view or window lets you add user comments to it. In Fullscreen Preview you can compare up to six different assets and add labels and ratings. The Fullscreen Slide Show displays assets as fullscreen previews in a slide show. The Preview pane can be opened additionally at the left side of a collection window.

For the preview of video files, an appropriate player is used which provides usual controls (play/pause, stop, volume control, timeline, full screen, etc).

Preview View and Window

The records' assets must be available to display.

Previews can be zoomed in or out and displayed in different sizes using the window's toolbar or menu options. (See "Overview: Toolbars for Previews"and see "Zoom In" , and "Zoom Out".)

The default size of the preview display can be set in the User Settings. (See "Display Tab").

You can copy all or part of a preview to the Clipboard. To select a portion of the preview image:

1. Click the Select Tool ( ) on the toolbar and then click and hold the mouse down in the upper left hand corner of the region you want to copy.

2. Drag the mouse to the lower right of the region. A box is drawn around the selected area.

3. Press **Command** / **Control** and **c** to have the selected portion on the Clipboard.

The selected portion of the preview is on the Clipboard and may be pasted into other applications. Remember, this is a copy of the preview image, not the actual asset.

A selected portion of a preview can also be zoomed in:

1. Click the Select Tool ( ) on the toolbar and then click and hold the mouse down in the upper left hand corner of the region you want to zoom in.

2. Drag the mouse to the lower right of the region. A box is drawn around the selected area.

3. Click the Zoom in icon ( ) on the toolbar to have the selected portion fill in the entire size of the Preview window.

Overview: Toolbars for Previews

Preview Window

Preview View

Comment Tools
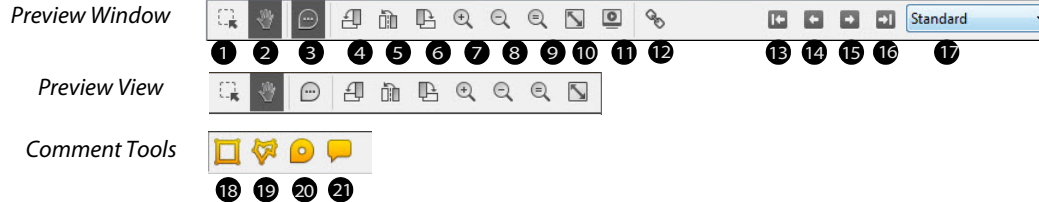
1 Select tool: Use to select an area of the preview.

2 Handtool: Use to move around the preview so you view all areas of it. (Works only if the preview is larger than the window.)

NOTE: *Toggling between Hand Tool and Select Tool: Activating the Hand Tool deactivates the Select Tool and vice versa.*

3 User Comment tool: Show or hide the comments column.

4 Rotates the preview 90° counter-clockwise

5 Rotates the preview 180°

6 Rotates the preview 90° clockwise

7 Zooms in the preview.

8 Zooms out the preview.

9 Shows preview in original size.

10 Fits preview to window.

TIP: *Independent from the selected tool, using the ALT key in conjunction with the mouse lets you move the image inside the Preview window.*

- **Icons with Preview Window Only (11-17)**

11 *Shows preview in fullscreen.*

> TIP: *If you have a fullscreen preview, you can use the mouse scroll wheel to get the next or previous asset displayed.*

12 *If activated, the displayed preview follows the selection in the collection window (same behavior as the Information Window). If not activated, the displayed preview remains independent from the selection in the collection window and must be changed manually.*

13 *Shows the preview of the first record from the current collection.*

14 *Shows the preview of the previous record from the current collection.*

15 *Shows the preview of the next record from the current collection.*

16 *Shows the preview of the last record from the current collection.*

17 *Displays the current Record View Set; clicking on the arrow opens a selection list of available Record View Sets.*

- **Icons with Comment Tool Only (18-21)**

18 *Rectangle tool.*

19 *Polygon tool.*

20 *Sticky notes tool.*

21 *General comment tool.*

Multi-page Previews

Multi-page previews are available for the following file formats: GIF, InDesign, JPEG, PCX, PDF, PowerPoint Presentations, Photoshop, Quark XPress, and TIFF.

For InDesign a multi-page preview can be provided only if one of the following requirements is fulfilled:

- A Cumulus Metadata file (TAG file) is available which was created by the Cumulus Plug-in for Adobe InDesign

  OR

- The corresponding XPV file is available (and a licensed HELIOS Image Server accessible in the network).

For Quark XPress a multi-page preview can be provided only if one of the following requirements is fulfilled:

- The corresponding XPV file is available (and a licensed HELIOS Image Server accessible in the network)

  OR

- The Cumulus DDS Companion is installed and configured in the Cumulus Quark DDS Filter

  OR

- *Under Mac OS*: Quark XPress is installed.

NOTE: The preview always shows the current status of an asset. So the number of pages/slides might differ from those cataloged as contained sub assets if the asset has changed and the records were not updated.

User Comments

For work-in-progress management Cumulus provides user comments. From the Preview view or window, add comments, draw rectangles or polygons and communicate your ideas, approvals or anything else to other users. All comments are searchable, meaning you can find assets based on comments they contain. Plus, you have an archive of change requests stored right alongside the assets.

Cumulus provides several types of user comments: general comments to an asset, and comments that are related / linked to specific areas on the preview of an asset. For comments related to specific areas, three different tools – the rectangle tool, the polygon tool and the sticky note tool – allow to precisely place a respective mark wherever it is desired on a file's preview. All comment text is displayed in a column to the right side of the preview. The comments column itself can be hidden.

Comments are displayed in chronological order (newest first).

A comment and the replies to it constitute a thread. If there is a new reply to an older comment, the whole thread is regarded as new and displayed on top of older threads.

Prerequisites

To have the user comment feature available for assets, the catalog which manages them requires the record field **User Comment Thread** (and the fields contained in that table field) to store the comment information. If the **User Comment Thread** field is not yet included in your catalog, you must add it from the catalog template *Fields for user commenting*). For a description on how to add fields to a catalog, see "Adding Fields" .

To use the user comment feature, a user requires the appropriate permissions for the **User Comment Thread** field. (For more information, see "Subtable Permissions" .)

Adding User Comments

You can add general comments to a file as well as comments to specific areas marked on the file's preview.

To add a comment, the Comments column must be displayed. The visibility of the Comments column can be toggled with the User Comment tool 🗨 in the Preview toolbar.

General Comment

To add a general comment:

1. Click the general comments icon 🗨 in the Comments toolbar.
   A new section is added to the Comments column. The entry field is activated.
2. Enter the text for the comment, then click **Post comment**.

Your comment is saved and is immediately visible to other Cumulus users.

Sticky Note Comment

To add a sticky note comment:

1. Click the sticky note icon 🟡 in the Comments toolbar.
2. Click the location where you want to place the note.
   As soon as the note is set, a new section is added to the comments column. The entry field is activated.

3. Enter the text for the comment, then click **Post comment**.

Your comment is saved and is immediately visible to other Cumulus users.

Rectangle Comment

To add a rectangle comment:

1. Click the rectangle icon ▢ in the Comments toolbar.
2. Draw a rectangle wherever you want it to appear on the preview.
    As soon as the rectangle is set, a new section is added to the comments column.
    The entry field is activated.
3. Enter the text for the comment, then click **Post comment**.

Your comment is saved and is immediately visible to other Cumulus users.

Rectangle comments: See how it works!
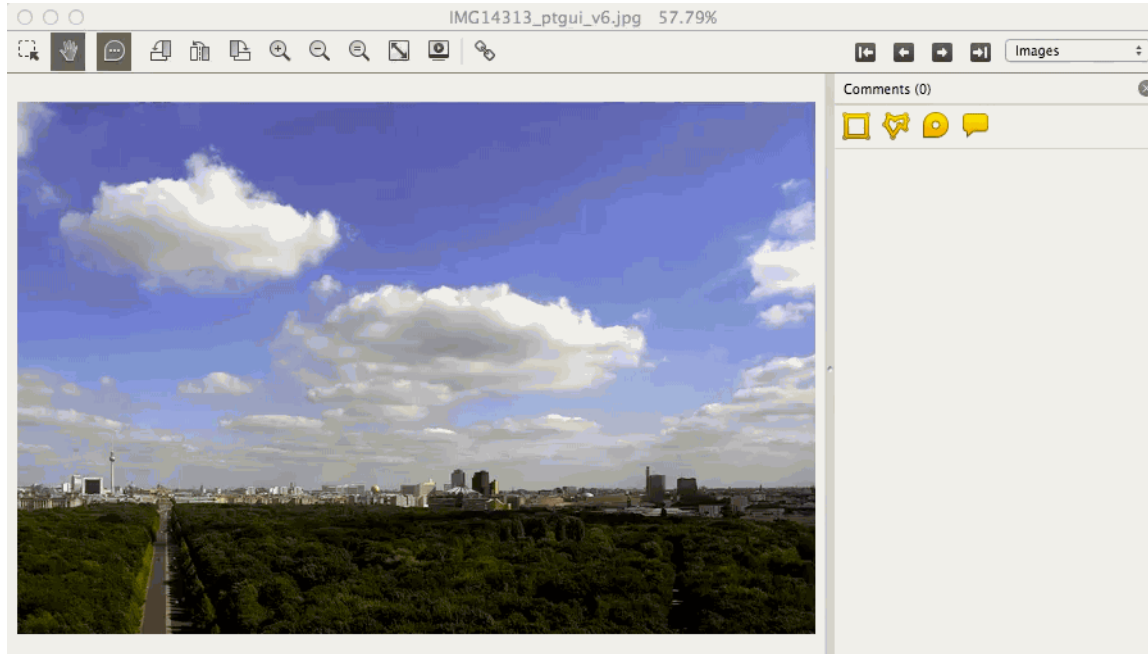
Polygon Comment

To add a polygon comment:

1. Click the polygon icon in the Comment toolbar.

2. Draw a polygon wherever you want it to appear on the preview. Clicking adds a corner, double clicking closes the polygon.
   As soon as the polygon is set, a new section is added to the comments column. The entry field is activated.

3. Enter the text for the comment, then click **Post comment**.

Your comment is saved and is immediately visible to other Cumulus users.

Polygon comments: See how it works!
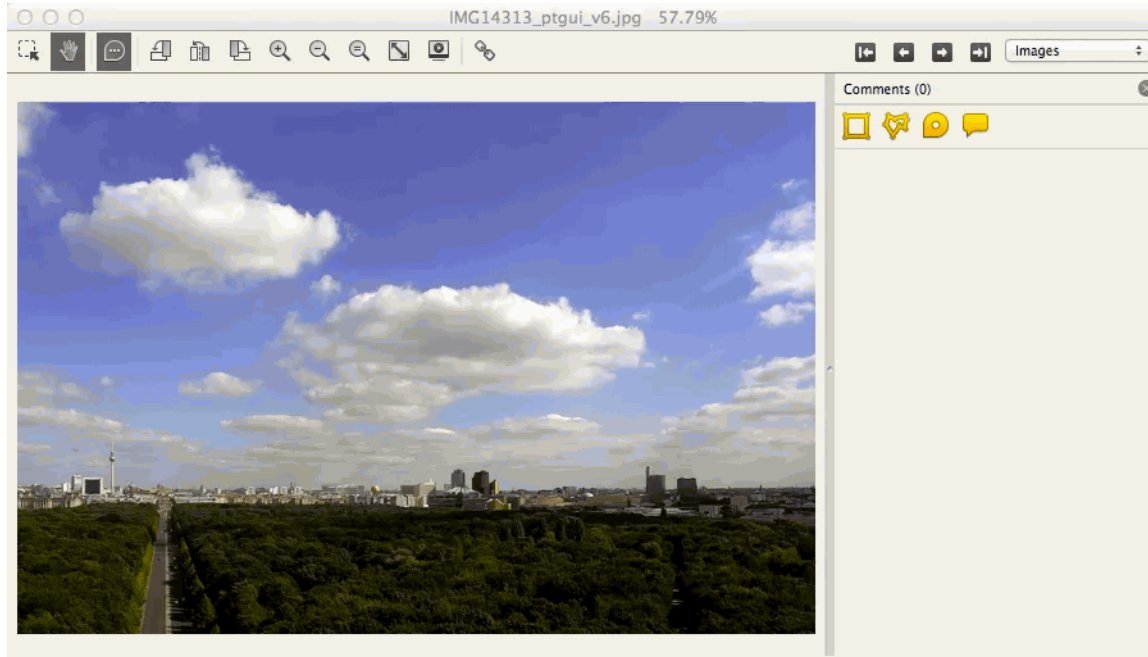
Editing User Comments

You can edit your own comments (but not comments of other users).

You can edit the comment's text and modify size, shape and position of the markers placed on a file's preview.

NOTE: As an administrator, you may have the permission to edit the comments of any user.

For editing comment, the Comments column must be displayed. The visibility of the comments column can be toggled with the User Comment tool 💬 in the Preview toolbar.

To edit the text of a comment:

1. On the comment that you want to edit, click the edit icon (✐).
   The comment is displayed in edit mode.
2. Edit the text as needed, then click **Save**.

Your modified comment is saved and is immediately visible to other Cumulus users.

To modify size, shape and position of a marker on a file's preview:

1. Click on a marker to activate it.
2. Drag the marker to a different position.
   OR

Use the handles (little squares) at the corners of activated rectangles or polygons to resize or reshape them.

Modifications to markers are saved implicit and are immediately visible to other Cumulus users.

NOTE: Displaying User Comments in a Sub-Pane
With any Cumulus view, you can use the sub-pane filter **User Comments** to have all comments of the selected assets displayed in a sub-pane.

NOTE: Searching for User Comments
Use the Find window to search for text entered as user comments. As search criteria select the field **User Comment Thread – User Comment – Comments**.

Replying to User Comments

You can reply to exiting comments.

For replying to comment, the Comments column must be displayed. The visibility of the comments column can be toggled with the User Comment tool in the Preview toolbar.

To reply to a comment:

1. On the comment that you want to reply to, click the reply icon (   ).

   A new entry field is added below the comment. The entry field is activated.

2. Enter the text for the reply, then click **Post reply**.

The reply is saved and is immediately available to other users.

Deleting User Comments

You can delete your own comments (but not comments of other users).

NOTE: As an administrator, you may have the permission to delete the comments of any user.

If you delete a comment that has replies, the whole thread is deleted (i.e. the original comment including all replies).

For deleting comment, the Comments column must be displayed. The visibility of the comments column can be toggled with the User Comment tool 💬 in the Preview toolbar.

To delete a comment:

1. On the comment that you want to delete, click the wastebasket icon (🗑). A confirmation window is displayed.
2. Click **OK** to confirm the deletion of the comment.

The comment is deleted and is no longer available to other users.

Fullscreen Preview

The Fullscreen Preview offers an interactive display of up to six different assets at once, making it easy to pick the perfect one each time – compare quality, sharpness, composition, etc.

To open the Fullscreen Preview:

1. Select the records of the assets you want to have displayed in the window.
2. Select **Asset > Fullscreen Preview**.

Additional information on a previewed asset can be displayed, depending on the settings for the Preview Window in the current Record View Set. (For a description on how to configure the view of the Preview window see "Record View Sets".) Always displayed on the status bar and not depending on the selected Record View Set are the record name, the label and the rating of the respective asset (if contained in the catalog.)

Linking Panels

In Fullscreen Previews of multiple assets, two or more panels can be linked together for synchronous zooming, rotating and panning.

To link panels:

1. Click the 🔗 icon on the statusbar of every panel you want to link, *OR*

   ⊞ CTRL-click / 🍎 CMD-click any of the 🔗 icons to link all panels in the fullscreen preview.

In linked panels, the 🔗 icon is highlighted.

To unlink panels, i.e. to exclude them from synchronous zooming, rotating and panning:

1. Click the highlighted 🔗 icon of every panel you want to unlink, *OR*

   ⊞ CTRL-click / 🍎 CMD-click any of the 🔗 icons to unlink all panels in the fullscreen preview.

NOTE: In fullscreen previews of single assets, the 🔗 icon is not displayed.

Displaying the Info Window

Ready "slide on" access to the Info Window makes metadata edits easy. Move your mouse pointer to the left edge of the screen and the Info window will show up. Click the pin icon to dock it so it will stay when you change the mouse pointer position.

Using the Toolbar

Move your mouse pointer to the bottom of the window and its toolbar pops up.

Fullscreen Preview Toolbar Items

1 *Shows the preview of the first record from the current collection.*
2 *Shows the preview of the previous record from the current collection.*
3 *Shows the preview of the next record from the current collection.*
4 *Shows the preview of the last record from the current collection.*
5 *Shows/hides statusbar (comprising label, rating, rotating & zooming icons.)*
6 *Mouse over: Display list of available commands / Click: Open help system*
7 *Closes the window.*

Displaying a Command Overview

Position your mouse pointer on the question mark icon to have a list of available commands and keyboard shortcuts is displayed.

Marking Assets

In the Fullscreen Preview window you can mark assets by using labels and ratings.

Color labels are set using the square symbol. Clicking on this icon opens a list of available labels. Select the label you want to mark the asset with.

You can also mark assets using star ratings. Use the shortcuts ⊞ CTRL+ALT+1-5 / ⬤ ALT + CMD+ 1-5 to set the rating. See "Labeling", for more about labels; see "Rating" for ratings.

Adjusting Preview Size

The magnify glass icons of the statusbar let you scale how an asset is displayed within each preview area (panel). To zoom in on a preview image, you also use the + (plus) and - (minus) key shortcuts.

Rotating Previews

The rotation icons of the statusbar let you rotate a preview 90° clockwise or counter-clockwise.

Next and Previous Assets

You can use the arrow icons of the toolbar or the PAGE DOWN and PAGE UP key to load assets in the window. When there is more than one asset on-screen, the asset that is changed is the one that is marked as selected by a light green border and a big check mark symbol. If none is selected, the entire group of previewed assets is replaced by the next group. If one is selected, the PAGE DOWN key changes the asset to the next one in the collection and the PAGE UP key changes it to the previous one. You can also use the mouse wheel to scroll through.

TIP: Loading Another Preview

If multiple assets are displayed in the Preview window, a single asset can be loaded into more than one preview area, enabling you to pan, zoom and examine it in detail. To load another preview in a preview area, select the preview area and use ALT+Mouse Wheel.

NOTE: Linked preview images are navigation locked, i.e. they never change position and can't be replaced with other assets via the PAGE UP / PAGE DOWN keys or scroll wheel navigation.

Comparing Previews

Any two selected preview images can be automatically compared by Cumulus, with a visual representation of the comparison result displayed in the Fullscreen Preview. For details, see "Preview Comparison"

Fullscreen Slide Show

Shows assets as fullscreen previews in a slide show. You can load the assets manually or run them in a loop.

To open the Fullscreen Slide Show:

1. Select the records of the assets you want to have displayed in the slide show
2. Select **Asset > Fullscreen Slide Show**.

You can have record fields displayed. What is displayed along with the previews depends on the selected Record View Set and its setting for the Preview window. (For a description on how to configure the view of the Preview window see "Record View Sets" .)

Using the Toolbar

Move your mouse pointer to the bottom of the window and its toolbar pops up

Fullscreen Slide Show Toolbar Items

1   *Shows the preview of the first record from the current collection.*
2   *Shows the preview of the previous record from the current collection.*
3   *Shows the preview of the next record from the current collection.*
4   *Shows the preview of the last record from the current collection.*
5   *Displays how many seconds each slide (asset's preview) will be displayed in a looping slide show. You can enter the number of seconds you want.*
6   *Stops/starts the loop.*
7   *Shows/hides statusbar (Statusbar comprises of label, rating, rotating & zooming icons.)*
8   *Mouse over: Display list of available commands / Click: Open help system*
9   *Closes the fullscreen slide show.*

Preview Comparison

Cumulus provides a smart option that allows you to compare two image assets. A visual representation of the comparison result as well as the previews of the compared assets are presented in fullscreen preview.

The comparison is done on a pixel-by-pixel base, i.e. any pixel in the preview of an asset is compared to the according pixel in the preview of the other asset. The comparison result is computed – and displayed – as the difference of the RGB values of the corresponding pixels. Pixels that are identical in both images appear as black in the comparison result.

If the two images to be compared have the same aspect ratio but different sizes, the larger one is scaled down to the size of the smaller one. If the images differ both in size and aspect ratio, they are overlaid centered.

Compare Previews is especially useful for detecting subtle differences in apparently identical image assets.

Starting the Comparison

The preview comparison can be started either from the collection window, or from the fullscreen preview.

1. In the collection window, select the records of the two assets you want to compare, then select **Asset > Compare Previews**.

   OR

   In a Fullscreen Preview of multiple assets, select the previews of the two assets you want to compare, then open the context menu (with ⊞ the right mouse button / 🍎 **Control** key + mouse) and select **Compare**.

Using the Window

A fullscreen preview comprising a comparison result behaves the same way and offers the same options as any fullscreen preview (see "Fullscreen Preview" .)

The statusbar of the panel with the resulting image displays the title **Comparison Result** and the current zoom factor.

By default, the comparison result and the two previews of the compared assets are linked for all zooming, rotating and panning commands, i.e each zooming or panning operation in either panel is performed on the other two panels at the same time and in the same way (see "Linking Panels").

Comparison results can only be viewed, but not saved, rated, or labeled. And of course, there is no metadata for the comparison result to be displayed.

To get rid of the comparison result and possibly restore the preview image that was displayed previously in that panel, select the compare image, then open the context menu (with ⊞ the right mouse button / ⌘ **Control** key + mouse) and select **Reset Compare Panel**.

Repurposing Assets

Cumulus provides several ways for you to repurpose your cataloged assets. The following sections describe how you can do this making use of Cumulus Converter module.

- Converting Image Assets with the Pixel Image Converter
- Cropping Image Assets with the Pixel Image Crop Processor
- Cropping Image Assets with Templates with the Pixel Image Crop Template Processor
- Watermarking Assets with the Watermark AssetProcessor
- Creating Presentations with the MS PowerPoint Asset Processor or the Office Open XML Presentation Asset Processor
- Creating ZIP Archives with the ZIP AssetProcessor

Converting Image Assets

The Pixel Image Converter enables you to convert any cataloged pixel image into the different formats on the fly, e.g. JPEG, TIFF^^, BMP, GIF, ScitexCT, PNG, PCX, and PDF. It also lets you resize the image and convert it into another color space.

With Cumulus, the images can also be cropped, rotated or flipped. Sharpen and Blur filters can be applied for the image processing. The sequence of the conversion processes is cropping first, then resizing and after that applying a filter. Finally the image is saved in the specified color space and output format.

To convert image assets into another format:

1. Select the record(s) representing the image asset(s) to be converted.

2. Select **Asset > Convert To** menu command.

    The Browse for Folder dialog opens for choosing a destination for the converted asset.

3. Select the folder and click **Open** / **OK**.

    A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you. Available to you for converting are the Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.

4. Select **Pixel Image Converter** as Asset Converter.

    The Pixel Image Converter Parameters dialog opens.

5. Choose your settings. For details, see "Pixel Image Converter Parameters".

6. Click **OK.**

The selected image asset(s) will be converted and the resulting images will be stored in the selected destination.

Pixel Image Converter Parameters

For the conversion you can define parameters referring to:

Image Size

You can not only determine the image size (in pixel as well as inches, cm or percent). You can also have the image cropped before it is scaled to the dimension defined by width and height.

- **Alternate Source Resolution**
  If you want to use the image with a resolution different from the stored original, activate the **User Alternate Source Resolution** option.

- **Crop Area**
  Cropping refers to cutting down an image by cutting away unwanted parts at the edges. You specify left, top, right, bottom margins to be cropped off the source image.
  The cropping function can be used to trim the edges of an image. Enter the size of the edges to be removed. Define the measurement under **Units**.

  NOTE: If you use an alternate source resolution, be aware that this resolution is the basis for any cropping in inches or cm measurements.

- **Scale Dimension**
  The values for width, height and resolution determine the size of the converted image. The image size can be specified in pixel dimensions or print dimensions. And you can decide to have the image converted either to an individual size or to a fixed size, the maximum of which is defined by a bounding box. The result depends on the selections set for the conversion:

- Work at
  If you want to specify the size in inches or cm and have the software calculating the pixel dimension automatically depending on the set resolution, select **Document Size**. If this option is activated, the entered values determine the print dimensions.
  If you want to specify the pixel dimension (not caring about print size), select **Image Size**.
  Note that the final output size depends on the output device's settings (e.g. dpi of printer).

TIP: *Changing Pixel Dimensions*
Working at Image Size is useful when preparing images for online distribution. Keep in mind that changing pixel dimensions affects not only the size of an image on-screen but also its image quality and its printed characteristics – either its printed dimensions or its image resolution.

- Constrain Proportions
  To maintain the current proportions of width to height, activate this option. (This option is not available if you have selected multiple records for converting or if you are defining a Cumulus Action.)

TIP: *Percent*
To keep the proportions if you have selected multiple records or if you are defining a Cumulus Action we recommend you to specify height and width in percent.

- Use Size as Bounding Box
  If this option is activated, the size defines the bounding box into which the images has to fit. The image will be resized proportionally to fit the size of the bounding box. No dimension of the converted image will exceed the size of the box. When using this option, the proportions of the images are always con-

strained and that's why the **Constrain Proportions** option is not available. If you want images that are smaller than the size of the bounding box to be enlarged to this size, activate the **Enlarge Smaller Images** option.

TIP: *Square*
To define the size for a box you want to fit for portrait and landscape images, make it a square. Then the longest edge of an image (height or width) will be resized to the entered value and the shorter edge will be resized according to the proportions of the image.

You can choose different units of measurement. To enter values as percentages of the current dimensions, choose **Percent** as the unit of measurement.

Image Processing

With the conversion the image can be processed. You can have a filter run, rotate and flip the image. Select the desired processing options.

- Filter
  To have a filter run with the conversion, select a filter type and the radius range for the filter (small, medium, large.) The radius determines how far the filter considers surrounding pixels that affect the filter action. The following filters are available:
  - Average Blur filter
    Softens an image. It smooths transitions by averaging the color values of surrounding pixels. Eliminates noise where significant color transitions occur in an image.
  - Median Filter
    Reduces noise in an image by blending the brightness of pixels. The filter adapts the brightness of pixels to the median brightness value of the surrounding pixels.

- Gaussian filter
  Works similarly to the Blur filter but uses a weighted average of the color values of the surrounding pixels. The weighting is generated using the Gaussian bell-shaped curve that is generated.

TIP: *Blur & Gaussian Filter*
The Blur as well as the Gaussian filter decreases high-frequency details and can produce a hazy effect.

- Sharpen filter
  Increases the visual sharpness of images by increasing the contrast at edges.

TIP: *Sharpen Filter*
Applying the Sharpen filter is recommended when scaling up images to keep their visual sharpness as high as possible.

- Unsharp Mask Filter
  Makes images appear sharper by increasing the contrast of small brightness changes.
- Add Noise Filter
  Applies random pixels to an image, simulating distortion or noise. You can also use the Add Noise filter to give a more realistic look to heavily retouched areas.

- **Rotation**
  You may rotate the image by selecting image rotation degrees.
  0no rotation
  90to rotate the image clockwise by a quarter-turn
  180to rotate the image by a half-turn
  270 to rotate the image counterclockwise by a quarter-turn.

- Flip
  – activate **horizontal** to flip the image along the vertical axis.
  – activate **vertical** to flip the image along the horizontal axis.

Output Format

For the output you can define the following parameters:

- Color Space
  Select the desired color space for the converted image. The available color spaces depend on the selected file format (e.g. GIF, PNG, PCX, and BMP do not support CMYK.)

  ### NOTE: ICC Profile Embedded
  The ICC profile of an original image will be embedded in the converted asset if the color space is not changed and the output file format supports ICC profiles.

- File Format
  Select the file format for the converted image. Depending on the selected file format, the available further parameters for the output format may differ.

- Compression
  Select a compression scheme that is supported for the selected file format. (This version of the Pixel Image Converter provides a compression scheme for TIFF only.)

- Quality (JPEG)
  For JPEG and PDF files only, select the desired quality.

- Keep Transparency
  Activate this option to keep the transparency information of the original file if the color space of the converted image is different from the original color space. (Only

for output formats that support transparency information, such as GIF, TIFF, or PNG.)

- **Store IPTC Information**
  Activate this option to store IPTC metadata within TIFF and JPEG images.

- **Store XMP Information**
  Activate this option to store XMP metadata within TIFF, JPEG, PNG, and PDF files.

The selected asset(s) will be converted and stored under the name of the original asset in the selected destination. The Pixel Image Converter will automatically add the correct File Type and Creator / file extension to the file name. The name will be extended by a number if a file with that name already exits at the selected destination.

Cropping Image Assets

The Pixel Image Crop Processor enables you to crop any cataloged pixel image on the fly, e.g. JPEG, TIFF, BMP, GIF, PNG, etc. It also lets you resize the final output of the cropped section. The resulting image is saved as a new file.

To crop an image assets:

1. Select the record representing the image asset to be cropped.
2. Select **Asset > Convert To** menu command.

    The Browse for Folder dialog opens for choosing a destination for the output of the cropping process.
3. Select a folder and click **Open** / **OK**.

    A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you, i.e. all Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.
4. Select **Pixel Image Crop Processor** as Asset Converter.

    The **Pixel Image Cropping Parameters** dialog opens.
5. Choose your settings. For details, see "Pixel Image Cropping Parameters".
6. Click **OK**.

A preview of the selected image asset is displayed allowing for final adjustments. Depending on the Pixel Image Cropping parameter settings, you can use your mouse to:

- modify size and position of the cropping area, *OR*
- modify the position of the cropping area, *OR*
- freely draw a cropping area

If activated in Pixel Image Cropping parameter settings, you can specify the output size, i.e. the dimensions of the resulting image by entering appropriate values for width and height (in pixels).

The resulting image is finally stored in the initially selected destination.

Pixel Image Cropping Parameters

For the cropping you can define parameters referring to:

Cropping Area

You can either set the aspect ratio of the cropping area, or its size in pixels, or you can allow the user to set the size (and implicitly, the aspect ratio) by using a mouse to draw a rectangle on the image preview.

- **Enforce aspect ratio**
  The aspect ratio of the cropping area is set to the specified value. However, the cropping user can still change the size and position of the cropping area on the image preview.
- **Enforce crop size**
  The size of the cropping area is set to the specified values for width an height. However, the cropping user can still change the position of the cropping area on the image preview.
- **User defined**
  The cropping user can determine size, aspect ratio, and position of the cropping area by drawing a rectangle on the image preview.

Output Size of Cropped Area

The final size of the output of the cropping process can be set to your needs, e.g. to enlarge or reduce the dimensions of the resulting image. To avoid distortion in the resulting image, make sure that the chosen values for width and height match with the chosen aspect ratio value.

- **Same as cropped area**
  The resulting image has the same width an height as the cropped area.
- **Set manually**
  The cropping user can enter values for the width an height of the resulting image on the image preview.
- **Enforce output size**
  The resulting image is always resized to the width and height values specified here.

Additional Options

For special purposes only!

- **Store coordinates of cropping area in subtable**
  Select this option and enter an name for the saved coordinate in the **Crop name** field if you want the values available. This will allow other applications to access these values and to repeat a cropping process with precisely the same result on a given asset.

  The coordinates are only saved after a cropping has been performed for the first time. If you thereafter perform a cropping with different coordinates, the saved values will be overwritten, unless you have specified a new crop name.

Cropping Image Assets with Templates

The Pixel Image Crop Template Processor enables you to crop any cataloged pixel image, e.g. JPEG, TIFF, BMP, GIF, PNG, etc., by means of pre-configured crop templates.

NOTE: To use this function, a user must have the appropriate Crop Template Permissions.

To crop an image assets using a template:

1. Select the record representing the image asset to be cropped.
2. Select **Asset > Convert To** menu command.

    The Browse for Folder dialog opens for choosing a destination for the output of the cropping process.
3. Select a folder and click ⬤ **Open** / ▨ **OK**.

    A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you, i.e. all Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.
4. Select **Pixel Image Crop Template Processor** as Asset Converter.

    The **Pixel Image Crop Template Parameters** dialog opens.
5. Choose a template from the drop-down list.
6. Click **OK**.

What happens next depends on the settings of selected template:

- Either the crop is performed and the resulting image is downloaded immediately to the selected destination folder, *OR*
- a preview of the selected image asset is displayed allowing for final adjustments. Depending on the selected template, you may be able to:
  - modify size and position of the cropping area, *OR*
  - modify the position of the cropping area, *OR*
  - freely draw a cropping area,
  - specify output size of the resulting image by entering appropriate values for width and height (in pixels).

When you confirm our settings with **OK**, the crop is performed and the resulting image is downloaded to the selected destination folder.

Watermarking Assets

With the ever increasing number of digital assets, digital watermarking has become an important topic. Watermarking helps you to protect your intellectual properties. Protect your images by adding watermarks.

Digital watermarking is a technology for embedding information into digital assets. In general, information for protecting copyrights is embedded as a watermark. A watermarked image can prove its origin, thereby protecting copyright. A watermark also discourages the making of illegal copies.

BACKGROUND INFO: Aspects of Protection

Watermarking can serve many different purposes from tamper proofing to authentication. Three major aspects in the protection of digital assets have been pointed out, each of them with different requirements: first copyright protection, protecting ownership and usage rights; secondly tamper-proofing, aiming at checking document integrity; and thirdly authentication, the purpose of which is to check the authenticity of a document. While robust watermarks are typically used for copyright protection, fragile or semi-fragile watermarks are proposed to ensure tamper proofing and authentication.

For embedding watermarks, Cumulus provides the Watermark AssetProcessor. It enables you to embed visible watermarks into following pixel image formats: JPEG, TIFF, BMP, GIF, PNG, and PCX. It creates a copy of a cataloged asset with the digital watermark embedded.

Watermarking Parameters

You can provide both an image and text for your watermark. The position of the text can be set in the properties. You can provide just the image or just the text. Or a combination of the two.

Visible Image

As a watermark image you can use most common pixel image formats, e.g. JPEG, PNG, and TIF. If an animated image file is supplied, the first frame will be used as the watermark image. You can either type in or browse to find the watermark image file.

You define the opacity of the watermark from 0 to 100. If you set the opacity to 0, the watermark image will be totally transparent and you will not be able to see it. If you set it to 50, the watermark will be semi-transparent. The watermark will be completely opaque (solid) if the opacity level is set to 100.

Under **Image Position**, you define the area where the watermark image should be placed. The position of the watermark image within the resulting image is defined by anchor points.

You can control the size of the watermark image by scaling it. When scaling, proportions are constrained, and the images will be scaled to provide the maximum overlay. Small watermark images will be enlarged and large ones will be made smaller. You can also define to have only small images enlarged. Following scaling options are available:

- **At long edge** – The watermark image is scaled at its long edge. The long edge will be scaled to fit the source image and with proportions constrained the short edge will be scaled accordingly.

- **At short edge** – The watermark image is scaled at its short edge. The short edge will be scaled to fit the source image and with proportions constrained the long edge will be scaled accordingly.
- **Fit to image size** – The watermark image is scaled to fit the size of the image, depending on the image orientation (portrait or landscape).
- **Scale up only** – A watermark image that is smaller than the source image is enlarged to provide the maximum overlay. Proportions are constrained.

NOTE: If you do not activate the scale option, watermark images larger than the source image will be cropped.

The **Previously selected image** field will display an image only if the watermarking parameters are defined for an Asset Action. Then the watermarking image will be provided by the Cumulus Server and the field displays a preview of the image that was transferred by the Cumulus Server.

Visible Text

The visible text can be entered by you and/or taken from a Cumulusrecord field. Using a record field enables you to have individual watermarks when batch processing images.

To include a record value as text, select the desired field from the **Record field** dropdown list and click **Append**. The corresponding placeholder entry will be inserted at the end of the **Content** field.

You are allowed to enter multiple lines of text in the **Content** field. Enter **\n** for carriage return. You can also type special characters (like ©, ®, etc.). They will be rendered properly in the processed images.

You can control the position of the text. You can specify the Horizontal Position (Left, Center, and Right) and Vertical Position (Top, Middle, and Bottom) of the text.

You define the opacity of the watermark from 0 to 100. If you set the opacity to 0, the watermark will be totally transparent and you will not be able to see it. If you set it to 50, the watermark will be semi-transparent. The watermark will be completely opaque (solid) if the opacity level is set to 100.

You can choose the font, style, size and color of the text. To have the text fit best to the image size independently of the font size setting, activate the **Fit text to image size** option.

Under **Text Position**, you define the area where the watermark text should be placed. The position of the text within the resulting image is defined by anchor points.

Employing Custom Record Fields

The drop-down list for selecting a record field displays the Cumulus standard fields only. If you want to include a custom field, you must enter the GUID (Globally Unique Identifier) of the field into the **Content** field of the Watermark AsssetProcessor Parameter dialog.

To find out the GUID open the Properties of the field (Cumulus / Edit > Preferences > Catalog Settings) and on the General tab double-click the field name of the field **Field Name**.

This copies the GUID to the clipboard and you can paste it. A Cumulus GUID is composed of exactly 38 characters and looks like this:
{af4b2e12-5f6a-11d2-8f20-0000c0e166dc}

Embedding Watermarks into Image Assets

You embed watermarks into image assets by employing the Convert menu command or by including the Watermark AssetProcessor in a Cumulus Asset Action. (For information on how to include an Asset Processor in an Asset Action, see "Cumulus Asset Actions".)

To watermark image assets via the Convert menu command:

1. Select the record(s) representing the image asset(s) to be watermarked.
2. Select **Asset > Convert To** menu command.

   The Browse for Folder dialog opens for choosing a destination folder for the watermarked asset(s).
3. Select the folder and click **Open** / **OK**.

   A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you. Available to you for converting are the Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.
4. Select **Watermark AssetProcessor** as Asset Converter.

   The parameter dialog opens.
5. Make your settings. For details, see "Watermarking Parameters".
6. Click **OK**.

The selected image asset(s) will be converted and the resulting images will be stored in the selected destination.

Creating Presentations

Within Cumulus you can create PowerPoint presentations from cataloged PowerPoint assets (individual slides or entire presentations), image assets and previews of other asset formats.

Cumulus offers two Asset Processor modules for creating presentations. Both enable the user to create PowerPoint presentations from selected PowerPoint assets and image assets within Cumulus. They differ in the format of the presentation they create:

- The MS PowerPoint Asset Processor creates presentations in PowerPoint 97-2003 format (*.ppt). It requires a Microsoft PowerPoint installation on the computer where you want to make use of it (e.g. Cumulus Client.)
- The Office Open XML Presentation Asset Processor creates presentations in Office PowerPoint 2007 format (*.pptx and *.ppsx).

Note that these modules are optional and may not be available with your Cumulus configuration.

When creating a new presentation with Cumulus, both Asset Processors offer a range of parameters to be defined. (For details, see "Office Open XML Presentation Processor Parameters", and "MS PowerPoint Asset Processor Parameters".)

If your selection of assets includes presentations, you can define to exclude them, to include the entire presentations or just the first slides.

If your selection of assets includes images, each image is placed on a separate slide. You can define the area where they will be placed and determine where they should be aligned. The images can be scaled down or up to fit this area. If you do not activate a scale option, only large images will be scaled down to fit on the slide, according to the determined alignment. You can also have the images processed before they are

included in the presentation. If you enable this option, the Parameters button lets you select the processing parameters. For details on the available parameters, see "Converting Image Assets".

SPECIAL TECH INFO: Using Previews

You can use any asset format to be included as an image in a presentation if a Cumulus Filter module is available that provides a preview.

You can create presentations by employing the Convert menu command or by including the Asset Processor in a Cumulus Asset Action. (For information on how to include an Asset Processor in an Asset Action, see "Cumulus Asset Actions".) The following section describe how to create presentations with the Convert menu command.

Creating Presentations in Office PowerPoint 2007 Format

To create an Office PowerPoint 2007 format presentation (*.pptx or *.ppsx) from selected assets within Cumulus:

1. Put the records of the assets you want to include into the order you want them to appear in the new presentation.

2. Select the assets to be included in the new presentation

3. Select **Asset > Convert To**.

   The Browse for Folder dialog opens for choosing a destination folder for the presentation asset(s).

4. Select the folder and click Open / OK.

   A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you. Available to you for converting are the Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.

5. Select **Office Open XML Presentation Asset Processor** and click **OK**. The dialog for the parameters opens.

6. Enter a file name for the new presentation.

   NOTE: If you enter the file name of an existing presentation, the new slides will be appended to the existing presentation.

7. Make your settings. For details, see "Office Open XML Presentation Processor Parameters" .

8. Click **OK.**

NOTE: If your selection of assets includes presentations or slides in PowerPoint 97-2003 format, a Microsoft PowerPoint 2007 installation is required to convert such assets before they are embedded. It must be installed on the computer where you want to make use of the processor (e.g. Cumulus Client, Internet Client Pro or Web Publisher Pro.)

Office Open XML Presentation Processor Parameters

The Office Open XML Presentation Asset Processor offers a range of parameters to be defined. The parameters are grouped by tabs:

- File Options Tab – parameters referring to the entire new presentation
- Slide Handling Tab – parameters defining the slides created from presentation assets
- Image Handling Tab – parameters defining the slides created from image assets

File Options Tab

Define how the created presentation is composed. Decide on the name, the format and whether images are embedded or linked.

File name – Enter the name for the presentation to be created or enhanced. If you enter an existing presentation, the new slides will be appended to the existing presentation

NOTE: The Asset Processors will not replace an existing presentation. They will append the new slides to the existing presentation. However, if included in an Asset Action, the Asset Processor will not append slides, as the Delivery module of the Action will save a new presentation (name of the existing one extended by a number.)

Format

Define the format of the presentation to be created:

- **Presentation (*.pptx)** – Creates an Office PowerPoint 2007 presentation, which is an XML-enabled file format.
- **Show (*.ppsx)** – Creates an Office PowerPoint 2007 presentation that always opens in Slide Show view rather than in Normal view.

Media Handling

The options for embedding or linking the images determine how the image is embedded in the presentation.

- **Embed media** – Media such as images will be saved with the presentation.
- **Link media** – Media such as images will be linked to the presentation only.

If you decide on linking the images, following options are available:

- **Save presentation and link media in same folder** – Images will be saved in separate files in the same folder where the presentation will be saved.
- **Save linked media images, placed in folder next to presentation** – Images will be saved in separate files in a subfolder of the folder where the presentation will be saved.
  – **Folder name** – Enter a name for the subfolder where the images should be saved – either an existing folder or a new one. Entering a new name will create a folder.
  – **Append name of presentation** – The name of the presentation will be added to the name of the folder (existing or new).
- **Make presentation usable on any computer** – The created presentation is prepared to work on other computers. The path information for the linked images are changed from absolute to relative paths. This enables the presentation to find the linked images relative to its location.

– **Create ZIP archive containing presentation and linked media** –
The presentation and its linked media are compressed to a ZIP archive.

Slide Handling Tab

Define how to handle presentation assets (entire presentations or single slides).

Presentations

If your selection contains presentations, decide on how to handle entire presentations.

- **Embed entire presentations** – All slides of the presentations will be included in the new presentation.
- **Embed first slide only** – Only the first slide of a presentation will be included in the new presentation.
- **Ignore** – Any selected presentations are ignored and will not be included in the new presentation.

Master and Layout

Define master and layout for the slides included in the new presentation.

- **Keep slides as they are (no changes)** – Each slide selected to comprise the new presentation keeps its original master and layout.
- **Use from previous slide** – Slides added will adopt master and layout from the last slide of the existing presentation.
  Example: If you are adding slides to enhance an existing presentation, the last slide of the existing presentation will determine Master and Layout of the slides added.
- **Use from other presentation** – Enter the name or use the **Browse** button. If you want to use the same presentation master and layout as employed for slides cre-

ated from images (Image Handling tab), the **Same as Image Slide** button makes this easy for you. It inserts the name of this presentation into the **File** field.

Image Handling Tab

Define how image assets are processed before they are placed on separate slides, where they are placed, how they are scaled, and the master and layout for the slide.

Image Processing

Images can be processed before they are used for the presentation to be created. The Cumulus Pixel Image Converter is employed for the preprocessing, so you can have a filter run, rotate and crop the image. If you activate the **Perform Image Processing before insertion** option and click the **Parameters** button, you can set the parameters available for preprocessing. (For details, see "Pixel Image Converter Parameters" .)

Image Placement

Define the area where the images should be placed. The size of the area is defined by margins set corresponding to the slide size. The position of an image within this area is defined by anchor points.
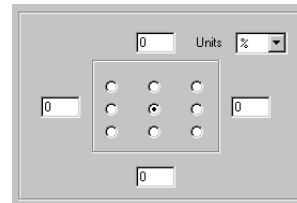
To define the area for the images on the slide, you determine the margins from the top, bottom, left and right edges of a slide. You can choose from different measurement units to determine the margins.

You can scale the images placed in the area up or down so that they fit within the area.

- **Scale down larger images** – The images that are larger than the area are made smaller. Proportions are constrained.
- **Scale up smaller images** – The images that are smaller than the area are enlarged. Proportions are constrained.

Master and Layout

Define master and layout for slides created from image assets.

- **Use from previous slide** – Image slides added will adopt master and layout from the last slide of the presentation.
  Example: If you selected **Slide 1**, **Image 2**, **Slide 3**, and **Image 4** (in this sequence) to comprise a new presentation and decided on the **Keep slides as they are** option for Master and Layout under Slide Handling, the slide for **Image 2** will look like **Slide 1** and the slide for **Image 4** will look like **Slide 3**.
- **Use from other presentation** – Enter the name or use the **Browse** button. If you want to use the same presentation master and layout as employed for the other slides (Slide Handling tab), the **Same as Slides** button makes this easy for you. It inserts the name of this presentation into the **File** field.

Creating Presentations in PowerPoint 97-2003 Format

The layout of a new presentation is determined by the first asset of the selection for the new presentation. If the first one is not a PowerPoint asset, the layout is determined by the standard layout of PowerPoint (depending on the settings of the PowerPoint installation).

To create a PowerPoint 97-2003 format presentation (*.ppt) from selected assets within Cumulus:

1. Put the records of the assets you want to include into the order you want them to appear in the new presentation.

   NOTE: Remember that the first asset of the selection determines the layout.

2. Select the assets to be included in the new presentation

3. Select **Asset > Convert To**.

   The Browse for Folder dialog opens for choosing a destination folder for the presentation asset(s).

4. Select the folder and click **Open** / **OK**.

   A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you. Available to you for converting are the Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.

5. Select **MS PowerPoint Asset Processor**. The dialog for the parameters opens. (See "MS PowerPoint Asset Processor Parameters," below, for details.)

6. Enter a file name for the new presentation.

> **NOTE:** If you enter an existing presentation, the new slides will be appended to the existing presentation.

7. Make your settings. For details, see <u>"MS PowerPoint Asset Processor Parameters"</u>.

8. Click **OK**.

MS PowerPoint Asset Processor Parameters

The MS PowerPoint Asset Processor offers a range of parameters to be defined.

Destination File: Enter the name for the presentation to be created.

NOTE: If you enter the name of an existing presentation, the Asset Processors will not replace an existing presentation. It will append the new slides to the existing presentation. However, if included in an Asset Action, it will not append slides as the Delivery module of the Action will save a new presentation (name of the existing one extended by a number.)

Embedding PowerPoint Assets

Presentations – If your selection contains presentations, you can decide whether such presentations are to be included in the new presentation – either the entire asset or on the first slide. Activate the desired options. Remember: The layout of a new presentation is determined by the first asset of the selection for the new presentation. If the first one is not a PowerPoint asset, the layout is determined by the standard layout of PowerPoint (depending on the settings of the PowerPoint installation).

Image Asset Processing

The options for embedding or linking the images determine how the image is embedded in the presentation.

- **Embed images** – Images will be saved with the presentation.
- **Link images placed next to presentation** – Images will be saved in separate files in the same folder where the presentation will be saved, and the images will be linked to the presentation only.

- **Link images, placed in folder next to presentation** – Images will be saved in separate files in a subfolder of the folder where the presentation will be saved, and the images will be linked to the presentation only.
  – **Folder name** – Enter a name for the subfolder where the images should be saved – either an existing folder or a new one. Entering a new name will create a new folder.

NOTE: The options for embedding or linking images are disabled if the PowerPoint Asset Processor is used within an asset action. Embedding and linking will not work in this case. PowerPoint always uses the full path to linked / embedded images, but the steps of an asset action are executed in a temporary folder which subsequently is deleted. This would lead to invalid file paths in the PowerPoint presentation.

The next step is to define the area where the images should be placed. The size of the area is defined by margins set corresponding to the slide size. To define the area for the images on the slide you determine the margins from the top, bottom, left and right edges of a slide. You can choose from different measurement units to determine the margins. The position of an image within this area is defined by anchor points.
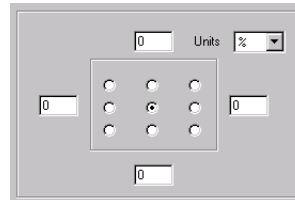
You can scale the images placed in the area up or down so that they fit within the area.

- **Scale down larger images** – The images that are larger than the area are made smaller. Proportions are constrained.

- **Scale up smaller images** – The images that are smaller than the area are enlarged. Proportions are constrained.

- **Image Preprocessing**
  Images can be processed before they are used for the presentation to be created. The Cumulus Pixel Image Converter is employed for the preprocessing, so you can have a filter run, rotate and crop the image. If you activate the **Image Processing** option and click the **Parameters** button, you can set the parameters available for preprocessing. (For details, see "Pixel Image Converter Parameters" .)

Creating ZIP Archives

The ZIP AssetProcessor compresses assets into Zip archives.

To compress cataloged assets into Zip archives:

1. Select the record(s) representing the asset(s) to be compressed.

2. Select **Asset > Convert To** menu command.

   The Browse for Folder dialog opens for choosing a destination for the ZIP asset.

3. Select the folder and click **Open** / **OK**.

   A dialog opens for choosing the converter. The dialog lists the Asset Processors available to you. Available to you for converting are the Asset Processors that are activated in the Asset Handling Set which is chosen for Asset Access in your User Settings.

4. Select **ZIP AssetProcessor** as Asset Converter.

   The ZIP AssetProcessor Parameter dialog opens.

5. Select the parameters for the conversion:

   • Under **Archive Name** you have to choose a name for your ZIP asset. The ZIP AssetProcessor will automatically add the extension ".zip" to the file name. On OS X this means that the name can be up to 27 characters in length without the extension.

   NOTE: If you choose an existing ZIP asset as archive name, the ZIP AssetProcessor will update the already contained assets and append new assets.

- Under **Use Character Encoding** you can define the character encoding used to save the file name(s) in the ZIP file. The default is your local system encoding – the encoding of the computer you are working with (this encoding would be used by WinZip and StuffIt also). The character encoding chosen should account for the language and the operating system of the computer where the ZIP is to be unpacked. Find some common encoding recommendations listed below.
  – Windows and West European languages: WinLatin1
  – Windows and East European languages: WinLatin2
  – Windows and 2 byte character encoding (e.g. Japanese): WinJapanese
  – OS X: UTF8
  – Mac OS 9 and West European languages: MacRoman
  – Mac OS 9 and 2 byte character encoding (e.g. Japanese): MacJapanese
  – Mac OS 9 and Russian: MacRussian
  – UNIX: Ask the person you will provide the ZIP archive with, which encoding is needed.

- Under **Macintosh Resource Support** you can define how to support Macintosh resources.
  – Activating the **Store as MacBinary Format** option determines the assets to be stored including the Mac OS resource fork, data fork and finder information (e.g. File Type/Creator). This option should only be activated, if the file will definitely be extracted under OS X, as the MacBinary format often cannot be extracted properly under Windows or UNIX.
  – Activating the **Store as OS X archive compatible** option saves the files in the same structure as in an archive created with the Finder of OS X (10.3 or later).

NOTE: If you have activated the **Macintosh Resource Support** with the option **Store as OS X archive compatible**, the character encoding is always UTF-8.

6. Click **OK.**

The selected asset(s) will be compressed and the ZIP asset stored in the selected destination.

WebAlbum

Cumulus WebAlbum enables Cumulus to output selected images' records as a Web-ready album. This album is based on static HTML pages, complete with thumbnails, scaled versions of images and links to the original assets. You can use different skins for the layout and functionality of your album, such as those provided by Canto or other providers (e.g. by JAlbum), or those you develop yourself. WebAlbum takes the selected records and converts their assets to files suitable for display on the Web. This includes the automatic creation of copies of the assets in the Web-ready JPEG image file format. You have full control of album design through the use of skins. WebAlbum will create thumbnails of your images and display them in index pages in HTML. Web-Album can also produce slide shows of your images for easy navigation.

An album created with Cumulus WebAlbum can be uploaded on any common Web server (no special system requirements) and can be viewed with any standard Web browser. You can also use WebAlbum to create local albums on your hard disk or on CD-ROM.

Creating an Album

When you create an album, WebAlbum uses the records you selected and:

- generates thumbnails in JPEG format (e.g. used for index pages) – always
- generates scaled images in JPEG format (e.g. used for slide pages) – if a corresponding option is activated
- copies the original assets to a defined output folder for the upload – if a corresponding option is activated

Furthermore WebAlbum generates:

- index page(s) – always
- slide pages – if a corresponding option is activated. Depending on the activated option, slides contain selected record fields' information and scaled images or original assets.

NOTE: Do not to use the WebAlbum when connected as the Cumulus Administrator.

To create an album:

1. Select the records of those images you want your album to consist of.

   NOTE: You need the Transfer Assets permission for the catalogs that contain the selected records.

2. Select **Asset > Create WebAlbum**.

A dialog for configuring your album opens. Now you can either configure a new layout for your album or use a saved one by clicking the 🌐 (Open) button.

3. Configure the album.

Three sections provide access to the configuration options:

- **The General Section**

  - **Title**: Enter a title for your album. Where this title is displayed depends on the selected skin.

  - **Output Location**: Define the folder to hold the output of your configured album. This should be an empty folder when you start creating a new album.

  - **Output Options**:
    Make Slides – Enable this option, if you want your album to include slides (scaled images and contents of the selected record fields). If the selected skin supports these functions, next/previous buttons are provided to display the slides.
    Upload via FTP – Enable this option if you want your album to be uploaded onto the Web directly after creation.

    NOTE: This option can only be enabled if the settings on the FTP tab were tested and did not show any errors.

  - **Link Options**: Decide on one of the options (for further information on these options, see the section "Provided Skins and Link/Output Options".)
    Link to Originals – Clicking on a thumbnail will display the original asset.
    Link to Originals through Scaled Images – Clicking on a thumbnail will display the slide including the scaled image and clicking on this image will display the original.

NOTE: Albums that include links to the original are quite large in size.

Link to Scaled Images Only – Clicking on a thumbnail will display the scaled image without any further link to the original.

- **Image Size & Quality**
Thumbnails – Select or enter the size for the thumbnails (left field) and select the compression quality (right field).
Images – Select or enter the size for the scaled images (left field) and select the compression quality (right field).

NOTE: Images will maintain aspect ratio and constrain their proportions.

- **Page Layout** (valid only if the skin interprets these values)
Columns – Enter the number of columns for the index page(s).
Rows – Enter the number of rows for the index page(s).
- **Image Order**: Select the record field you want used for alphabetical sorting of the thumbnails.
Reverse Sorting Order – If this options is enabled the sorting order is Z to A or 9 to 0
- **Skin**
Name – Select the skin you want to use for this album. The selected skin defines the overall appearance of your album: layout and functionality.
Style – Select a style (e.g. color theme and look) for the above selected skin.
Automatically load Skin Settings – Enable this option, if you want the selected skin's layout hints to be loaded automatically (valid only if there are any hints provided with the selected skin).

- **The Fields Section**

  Use the **Add** button to add the fields of the contents you want to include with the slides.
  Use the arrow buttons to place the fields in order.

- **The FTP Section**

  - FTP Settings
    FTP Server – Enter the name of the FTP server you want to upload the album to.
    Port – If it is not the standard FTP port number 21, enter the required port number of the FTP server you want to upload the album to.
    User Name – Enter the user name of the FTP account.
    Password – Enter the password of the FTP account.
    Path – Enter the directory on the FTP server you want to upload the album to. Enter at least a slash (**/**) but be aware that an existing index.html will be overwritten.
    Passive Mode – Enable this option if you expect any trouble when connecting through a firewall.
    Overwrite Existing Files – If this option is enabled, existing files will be overwritten when uploading a new album. If not enabled, existing files will not be overwritten with the new version.

  To test your FTP settings you can click the **Test Settings** button. Only in cases where the settings do not include any errors, you can enable the **Upload via FTP** option on the **General** tab.

4. Click **Start** to create your album.

   If you have changed any setting of the album layout or if it is a new album layout, you are asked whether you want to save your changes. If it is a new album layout you want to save, you are asked to enter a name for it.

If the folder you defined under **Output Location** contains any files, you are asked whether this folder should be cleared. We recommend selecting **Yes**. If you select **Yes**, all files and subfolders in the output folder will be deleted before the new output files are created. If you select **No**, HTML files with the same names as the newly created ones will be overwritten and new copies of the assets will be added. If you select **Cancel**, the creation of your new album will be canceled.

The output files of your album are created in the folder you defined under **Output Location**. Start the **index.html** page in that folder to see (and test) your album.

You can save your album layout configuration by clicking the 🖫 (Save) button. If you want to save it under another name, click the 📝 (Save As) button.

NOTE: You may select records of any file formats to create an album – not only images. However, in this case you should not include slides but use links that point directly to the originals.

Provided Skins and Link/Output Options

The album design is controlled by skins. Canto provides different skins for Cumulus WebAlbum. The skin named "Canto" supports the following output depending on the selected link and output options:

Link to Originals

Link Option "Link to Originals through Scaled Images" (Output Option "Make Slides" ignored)
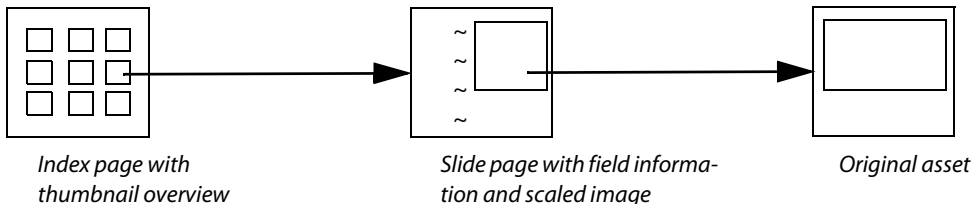
Index page with thumbnail overview

Slide page with field information and scaled image

Original asset

Link Option "Link to Originals" (Output Option "Make Slides" activated)
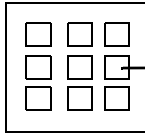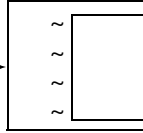
Index page with thumbnail overview   *Slide page with field information and original asset*

Link Option "Link to Originals" (Output Option "Make Slides" not activated)
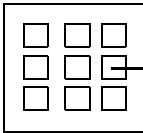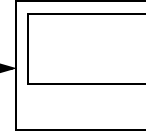
Index page with thumbnail overview   *Original asset*

Link to Scaled Images Only

Link Option: "Link to Scaled Images Only" (Output Option "Make Slides" activated)
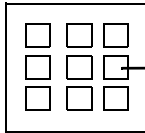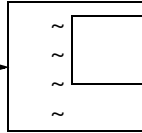
Index page with thumbnail overview   *Slide page with field information and scaled image*

Link Option "Link to Scaled Images Only" (Output Option "Make Slides" not activated)
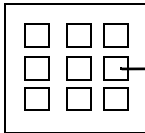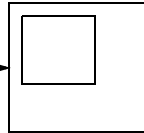
Index page with thumbnail overview   *Scaled image*

Preferences

Within the Preferences dialog of your Cumulus application, you can define the startup settings for WebAlbum. WebAlbum can either be started with a new and empty album layout or with the last album layout you used.

To set WebAlbum to open the last album layout used when starting:

1. Select Cumulus / Edit > **Preferences**. The Preferences dialog window opens.
2. Select **User Settings** and click **WebAlbum** on the General tab.
3. Enable the checkbox.
4. Click **Apply** to save your changes and select the next preference you want to edit. OR
   Click **OK** to save your changes and close the Preferences window.

Customize

You can easily customize your album by using different skins. You can either develop your own skins or use skins created by other providers.

A skin consists of a folder that contains subfolders for images included in the skin itself (the **res** folder) and cascading style sheets (the **styles** folder) as well as files that define special pages, e.g. the index pages and the slide pages. The **About** text file will inform you if the skin contains any extraordinary functions or definitions.

The skins provided with Canto can be found in the **skins** folder inside the **webalbum** folder. The **webalbum** folder is located in the **ejp** folder in your Canto installation folder.

It is easy to customize the fonts (type, size and color) and the background colors of a skin by editing the cascading style sheet (.css). If you want to develop your own skins, you have to know how to do it on your own. Canto cannot give you any support for developing skins.

TIP: Cumulus WebAlbum and JAlbum

You may use JAlbum skins with Cumulus WebAlbum. If you want to use JAlbum skins, you have to replace **</ja:** and **<ja:** with **</wa:** and **<wa:** in the **index.htt** and **slide.htt** files. Then test the skin. The following skins seem to work with Cumulus WebAlbum: Mamba, Film, XP, and CameraGeek.
You may look at the JAlbum skin repository site, the site that is intended to act as a central area where makers of skins for JAlbum can share their skins with others: **http://jrepository.engblom.org**
However, note that Cumulus WebAlbum does not support all JAlbum skin possibilities.

Configuring Web URL

Cumulus Web Links need Cumulus Sites to work. If your version of Cumulus does not include Cumulus Sites, there is no use in configuring Cumulus Web Links. Since Cumulus 10, you can make use of the Media Delivery Cloud (MDC) and Media Delivery on Premise (MDO) options to provide links to assets in Cumulus

If your Cumulus installation includes Cumulus Sites, records – and potentially thumbnails, previews and assets – can be accessed via Web Links (URLs). For this purpose, Cumulus provides different kinds of URLs that can be sent via email, or embedded in web pages, and that can be opened in any web browser, of course.

PRECONDITIONS: The Web Link feature only works if at least one Base URL has been defined by your Cumulus Administrator in the Cumulus Server Settings, if the respective catalog is marked to be published on the internet, and if the catalog contains specific fields for thumbnail, preview, and asset URLs.

Cumulus provides the following kinds of URLs

- **Record URL for Display in Web Clients** – opens Cumulus Sites displaying the selected record only
- **Thumbnail URL** – links to the thumbnail of the respective asset
- **Preview URL** – links to a preview of the respective asset
- **Asset URL** – links to the respective asset

While record URLs are always available, thumbnail, preview and asset URLs can be enabled / disabled (switched on and off) independently for every record.

To switch web URLs on and off:

1. Mark the record(s) for which you want to configure web links.
2. Select **Asset > Configure Web URL**.
3. The **Configure Web URL** window is displayed.
4. For each record, activate the check boxes for the URLs you want to enable, or deactivate the check boxes for the URLs you want to disable, respectively.
5. Confirm your settings with **Apply**. The URLs are enabled (or disabled, respectively); the window remains open for further actions.

   OR

   Confirm your settings with **OK.** The URLs are enabled (or disabled, respectively); the window is closed.

To copy or open an URL:

1. Mark the record(s) for which you want to copy or open an URL.

   Select **Asset > Configure Web URL**.
2. The **Configure Web URL** window is displayed.
3. If your Cumulus Administrator has defined more than one Base URL, check the **Base URL** list to make sure that the appropriate Base URL is selected.
4. From the **URL Kind** list, select the URL kind you want to copy or open.
5. Click **Copy URLs** to copy the corresponding URL(s) to the clipboard.

6. Click **Open URL** to open the corresponding URL for a selected record in your Web browser (**Open URL** is disabled, if more than one record is selected in the **Configure Web URL** window!).

TIP: Using Metadata Template

If Web URLs must be configured for lots of records, e.g. for whole catalogs, it is more convenient to use a Metadata Template.

Importing and Exporting

Cumulus can export and import records, categories and collections. Collections can only be imported and exported in Cumulus exchange file formats whereas records and categories can also be exported to and imported from XML files. Exported catalog metadata in XML files can be used by other programs as well as on other platforms. Paired with the metadata import options Cumulus offers, you have a complete metadata "round-tripping" solution to make integrations with your other systems easy.

Cumulus supports XSL Transformations (XSLT). XSLT is a programming language for transforming XML documents into other XML documents. XSLT was designed to be used with XSL, which is a stylesheet language for XML. Apart from the XSL Metadata Processor, the Cumulus export function XSLT can be used for example to place images and metadata in InDesign documents.

Importing and exporting data with Cumulus is easy, but there are a few things to be aware of in order to avoid unexpected results.

Cumulus Exchange File Formats

XML is the recommended export format.

For special purposes Cumulus can also export and import records, categories and collections in special Cumulus exchange file formats. These files can be used on any supported Cumulus platform. But note that records and categories do not support the Cumulus 8 Table fields. Canto recommends you use these formats only for special purposes concerning Cumulus versions prior to 8. The Cumulus exchange file formats are:

- **Categories** – Cumulus exports categories in a Cumulus Category Exchange File. The file name extension is **.cce**
- **Records** – Cumulus exports records in a Cumulus Record Exchange File. The file name extension is **.cre**
- **Collections** – Cumulus exports collections in a Cumulus Collection Exchange File. The file name extension is **.cfe**

Exporting data in these formats can be used for transferring data between catalogs for archiving category listings. These archive files can be imported into any other catalog when you need them. (You could do the same thing with records, but it's probably more convenient just to keep copies of the records in catalogs.)

Character Encoding for Export

When exporting information in Cumulus exchange file formats, you can employ different character encoding. Universal Encoding (UTF-8: Unicode characters coded as 8-Bit Transformation Form) makes sure that special characters are transferred correctly across platforms. Choose this format o*nly* if you want to use the exported file on another operating system.

Maintaining Category Assignments

The most important thing to know when you are exporting records to be imported into another catalog, is whether the new catalog already has the categories to which the records are assigned. If it does not, the categories assigned to the imported records will be created. But categories of the type "Folder" lose their type (assignment to the Source category tree). They are created as normal categories. If you want to keep the type of these categories, you must first export and import the categories.

Remember that it may be easier just to drag and drop records from one catalog to another, if both the source and destination catalogs are available to you. If they are not, or you are moving thousands of records at a time, then the export/import route is the way to go.

NOTE: When exporting records from one catalog and exporting them into a different catalog, the category assignments from the old catalog are always maintained and missing categories will be created. With drag & drop, however, you can choose if category assignments are maintained or ignored. If you choose to ignore them, missing categories will be ignored, too.

Exporting and Importing Records and Categories

The exporting and importing process is pretty much the same, regardless of the data type.

Exporting

Exporting goes like this:

1. Find and select the items you wish to export. (See "Find Assets", if needed, for a refresher on how to find records.)

2. Select **File > Export** and then the appropriate export option:

   - **Selected Records** – Exports the currently selected records. (This menu item is disabled if no records are selected.)

   - **All Records** – Exports all records of the active collection. To export all records of the catalog(s) included in the collection, you must perform **Find > Find All Records** first.

   - **Selected Categories** – Exports the currently selected categories in the active collection. (This menu item is disabled if no categories are selected.)

   - **All Categories** – Exports all categories of the Category pane.

3. Select the export format. Note that the XML format is recommended for most purposes. This format enables Cumulus to export from multiple catalogs and supports data from Cumulus Table fields.

   - When exporting records into an XML file, a check box offers the option to have the export file compressed (*.zxml) . Another check box offers to enable XSL

transformation by applying an XSLT stylesheet which describes the rules for the transformation.

- When exporting selected categories, a check box offers the option to export the subcategories as well.

4. Click the ⬚ button for browsing for the location where the export file should be saved.

5. Select the location, name the export file and click **Save**. Note that Cumulus will add the correct file extension.

6. Click **Next.** If you are exporting into XML, you can select the fields that contain the values to be included in the export file.

7. Make your selections and click **Start**. Messages inform you of the export process.

8. When you get the message that the process is finished, click **Finish** to close the dialog.

Importing

Importing is just as easy:

1. Select **File > Import**.

2. If you have multiple catalogs open in one window, select the catalog to which you want to import the data.

3. Click the ⬚ button for browsing to the location where the file to be imported resides.

4. Select the file and click **OK**.

5. Select the appropriate file format. Note that the XML format will also work for zipped XML files (*.zxml).

   If your Cumulus configuration supports Permissions Templates, you can select one to be applied to the imported records/categories.

   ### NOTE: Importing Categories
   If a category in the import file has the same name as an existing category at the same hierarchy level, the category is not imported.

6. Click **Next** to start the import. Messages inform you of the import process.

7. When you get the message that the process is complete, click **Finish** to close the dialog.

Importing and Exporting Collections

Collections stored with previous Cumulus versions on the computer running the Client application can be imported (**File > Import > Collections**.) To store collections at any location other than the Cumulus Server, you can use the export function (**File > Export > Collections**.)

For sending a collection via email to another Cumulus user, a special export function is provided (**File > Export > Mail Collection To**.) However, don't forget: Since a collection is always connected to at least one catalog, the recipient must have access to the respective catalog(s) to make use of the mailed collection.

To make use of a collection you received, you use the import function.

IMPORTANT! If the Remember Password option is activated in your Connect to Server dialog, any collection you export or mail contains your login information. Opening such an exported or mailed collection will connect to the Cumulus Server with your login and password. This means that the user who opens the collection works as you and has your permissions.
If the Remember Password option is not activated, the Connect to Server dialog will appear when an exported or mailed collection is opened.

Importing from Text/CSV Files

The Cumulus Importer utility enables the import of metadata (e.g., from other data-base systems) into Cumulus catalogs via text files (separated by delimiters.) The data can be imported into record or category fields, into string list fields as values, or into the category tree, which enables the Importer to create hierarchical categories. The details specified for an import process can be saved as an Import Configuration Set.

There are different types of import destinations available with the Cumulus Importer:

* **Import of Categories into the Category Tree**
  You can import data from an import file as categories to a Cumulus catalog. You specify the field of the import file which data is to be imported as categories. And you specify the hierarchy level where they shall be inserted.

* **Import of Metadata into Record Fields**
  You can import data from an import file into record fields of a Cumulus catalog. You define relations between a record field and a field of the import file. Further-more, you can create new records that are not related to assets for entries in the import file that do not correspond to records already existing in the current cata-log.

* **Import of Metadata into Category Fields (Enterprise only)**
  You can import data from an import file into category fields of a Cumulus catalog. You define relations between a category field and the field of the import file. The procedure is identical to the procedure for importing information into record fields. Furthermore, you can create new categories for entries in the import file that do not correspond to already existing categories in the current catalog.

* **Import of Values to String List Fields**
  You can import data from an import file as values into the properties of a string list

field, even different values for different languages in multi-lingual string list fields. Values can be imported to any category or record field of the type String List.

Delimiters

A lot of database systems use the tabulator as the field delimiter (even Cumulus while exporting data from a catalog). If your import text file uses another character as field separator, you can specify the appropriate delimiter. Also, the delimiter for category levels can be set to any character.

Escaping Delimiter Characters

If the delimiter character is used as a normal character within the content of a field, you must enclose the respective field in double quotes in order to escape the contained delimiter character. All characters enclosed in double quotes, including the delimiter character, are interpreted as a text block. For example, your CSV file uses the colon as a delimiter and contains a field which has the colon in its name, such as `Author: Title`. To import this field properly, it must be escaped as follows: `"Author: Title"`. Without the quotes, the importer would generate 2 fields, Author and Title.

Make sure to properly match any opening quotes with corresponding closing quotes. As long as the importer doesn't find matching closing quotes, it won't recognize a delimiter character, which will cause the import to fail.

If double quotes are used as normal characters within the content of a field, you must escape any of these double quotes with a second double quote. For example, your CSV file uses the colon as a delimiter and contains a fields `Author: "Title"`. To import this field properly, it must be escaped as follows: `"Author: ""Title"""`.

Simple Import Mode

If the delimiter character is not used anywhere in the field content of the import file, you can add an exclamation mark (`!`) to the specified delimiter, thus switching to a

simple importing mode that treats any character other than the delimiter character as normal characters, including any double quotes. For example, enter `\t!` into the **Other** field if the tab is used as delimiter, or enter `,!` if the comma is used.

Definition of Additional Information

For the import you can define additional information that is imported prior to the text that comes from the import file. The additional information may increase the readability of information in a field.

EXAMPLE: Additional Text

It might be helpful to define additional text that is inserted in front of the information from the import file. For example, if you want to import the price of a product into the notes field and your import file contains the figures only, you can define additional information like **Price Euro:** that is added to the text before importing it into the Cumulus catalog. After the import the notes field looks like this: **Price Euro: 99**

Running an Import Process from a Text File

IMPORTANT! Before you start importing information into a Cumulus catalog using the Cumulus Importer utility, make sure that a safety copy of the catalog exists. There is no UNDO function for the import available. You can only roll back to the initial version of the catalog if there is safety copy available that you can open instead of the changed catalog.

To set up an Import Configuration Set and run an import process:

1. Open the Cumulus catalog, to which you want to import the information.

2. Select **File > Import > From Text/CSV File**. The **Select Import Configuration** window is displayed.

3. Choose whether you want to create a new set or load an existing one.
   To select an existing one, open the drop-down list of available sets.

4. Click **Next**.

5. If you have decided to load an existing set, continue with step 7

   If you are creating a new set, the **Select Import Destination** window is displayed.

   For information on the different types see above.

6. Select the destination and click **Next**. The **Select Import File** window is displayed.

7. Specify the import file, the delimiter character used, the encoding type and the region:

- **File**
  Choose the file you want to import the data from. Use the ⬚ button to browse for the file.

- **Delimiter**
  A lot of database systems use the tabulator as the field delimiter (even Cumulus while exporting data from a catalog). If your import file uses another character as separator, you can choose or enter another delimiter.

- **Character Encoding**
  Select the character encoding of the import file.

- **Region**
  Select the region used for date/time values and numbers in the import file if it is different from the application's region setting. Otherwise, date/time values and numbers may not be imported properly.

The results of your settings are displayed in the **Data Preview** list which provides two columns:

- **Import Field Identifier**
  Lists the field identifiers from the chosen import file as interpreted using the defined delimiter.

- **Import Field Value**
  Displays what the values of a field will look like. Use the arrow buttons to page through the data.

8. If this is how you want to import the data, click **Next**.

The next steps depend on the selected destination type. Each destination type requires different specifications. See below for further information (Import to Category Tree, Import to Records/Categories, Import to String List Fields).

In any case you, have to add entries for the fields to be imported. Use the **Add** button to do so. Use the **Remove** button to remove entries for fields.

If no more configurations are required, a **Start** button is displayed.

NOTE: Now you can save your Import Configuration set for the data import in an import scheme file by clicking the **Save as** button. This set holds information about the field assignments, the name of the import file and the appropriate delimiters.

9. Click **Start**. The data will be imported.

Import to Category Tree

To import data as categories to the Category Tree of a Cumulus catalog, you must specify the import field which holds the data to be imported as categories and the hierarchy level where you want the categories to be inserted.

- **Delimiter for Category Hierarchy**
  By default, Cumulus uses a colon as separator for indicating the levels in the category hierarchy. If your import file uses a different character, enter the appropriate delimiter.

- **Skip First Line**
  Often the first line of the import file does not contain information that you want to import (e.g. column headings). Activating this option prevents the import of the data of the first line.

- **Import Field Pattern Preview**
  Displays how the data will be imported.

- **Parent Category**
  Displays the category to which the data from the import field will go as subcategories. See below on how to define the parent categories.

- **Import Field Pattern**
  Lists the fields from which the values should be imported as categories. You can insert additional information by clicking in the field's entry in this column (see Definition of Additional Information).
  To import data from more than one field, use a right/alternate mouse click in a field's entry in this column to get a list for selecting additional fields.

To add field entries, click **Add**. This displays a dialog that lets you:

- Determine a parent category. You can import the categories as subcategories of a specific category. Determine this category either by entering the category hierarchy data for the parent category, or by using the currently selected category in the category pane. When entering the category hierarchy data you must use the displayed delimiter.
- Select the field that contains the values to be imported as categories

To add the selected field to the selection of Import Fields, click **OK**. This brings you back to the main dialog.

Import to Records/Categories

To import data into a record field of the Cumulus catalog, you must define a relation between the import text file and the Cumulus catalog by specifying one or more relations. In most cases, it will be the Asset Name to determine the record and in addition to that multiple relations that determine from which import field the data should be imported to which Cumulus field.)

NOTE: You can assign fields of the import file to the Cumulus record field **Categories**. Then the affected Cumulus records will be assigned to these categories.

To import information into category fields of the Cumulus catalog, you must define a relation between a category field and the field of the import file. The procedure is identical to the procedure necessary when importing information into record fields.

- **Skip First Line**
  Often the first line of the import file does not contain information that you want to import (e.g., column headings). Activating this option prevents the import of the data of the first line.
- **Create new records/categories for lines that do not correspond to existing records/categories**.
  Activating this option initiates the creation of a new record (without a related asset) or a new category for each line in the import file that does not correspond to an already existing record/category.
- **Import Field Pattern Preview**
  Displays how the data will be imported.

- **Import Field Pattern**
  Lists the fields from which the values should be imported. You can insert additional information by clicking in the field's entry in this column (see Definition of Additional Information).
  To import data from more than one field, use a right/alternate mouse click in the field's entry in this column to get a list for selecting additional fields.

- **Relation**
  If you want to import data into a record or category field of the Cumulus catalog, you have to specify relations between the field of the import file and the Cumulus field.
  Two different relation types can be specified
  = (equals) – The Cumulus Importer will only import the data if the value of the Cumulus field is equal to the value of the Import Field. This relation type is used to perform the search for the appropriate records.
  -> (insert) – The Cumulus Importer will import the data of the Import field specified in the left hand column to the Cumulus field specified in the right hand column.

  NOTE: If you import data without identifying corresponding records by a **= (equals)** relation, the Cumulus Importer utility will create new records that are not assigned to assets. You may do so if, for example, you want to import metadata for assets that are not cataloged yet. Corresponding assets can be assigned to the records later.

- **Cumulus Field**
  Lists the Cumulus fields into which the data of the import fields shall be imported. Whenever a new Import Field entry is added, this column shows the first of the available Cumulus fields (record or category field – depending on the destination

type you have chosen for the Import Configuration set.) Click this entry to select the desired Cumulus Field.

- **Fill Mode**
  Displays how the field will be filled. For String fields, you can define whether the imported value shall replace the existing value, or shall be added to the existing value (before or after.) Click the field's entry to select the desired mode.

Only if you are importing data to the Categories field of records (to assign records to categories), you must determine the delimiter that is used to separate the category levels.

To add field entries, click the **Add** button. This displays a dialog that lets you select the field that contains the metadata to be imported.

To add the selected field to the selection of Import Fields, click **OK**. This brings you back to the main dialog.

NOTE: Importing multiple values into Multi-Select String List fields
The CSV import also supports multiple string list field values. The respective values in the CSV file must be separated with commas.

Import to String List Fields

To import data as values of a string list field of the Cumulus catalog, you must specify the assignments between the import fields and the Cumulus string list fields (target fields).

The Cumulus Importer is able to fill the fields with different languages.

- **Skip First Line**
  Often the first line of the import file contains information that you don't want to import (e.g., column headings). Activating this option prevents the import of the data of the first line.

- **Import Field Pattern Preview**
  Displays how the data will be imported.

- **Import Field Pattern**
  Lists the fields from which the values shall be imported. You can insert additional information by clicking in a field's entry in this column (see Definition of Additional Information).
  If you want to import data from more than one field, use a right/alternate mouse click in a field's entry to get a list for selecting additional fields.

- **Relation**
  Two different relation types are available
  -> **(insert)** – The Cumulus Importer creates a new string list entry in the target field specified in the right hand column and writes the values (several languages) of the Import field to this new entry.
  = **(equals)** – This relation is used to control the import process and must be used only once in any import set.
  The Cumulus Importer checks whether the value of the import field equals the value of an existing list entry (in the specified language) of the target field.

  - If yes, the found existing string list entry is processed and the values specified in the other rows of the import set are written to the specified languages of the target field list entries. – Note that in these rows, the Relation must be set to "->"!

  - If no, the "=" relation is treated as insert ("->"), and a new string list entry is created in the target field.

- **Cumulus Field**
  The target fields into which the data shall be imported. Whenever a new row for an Import Field entry is added, this column shows the first of the available Cumulus fields. Click this entry to select the desired target field.

- **Language**
  The language-specific values of the target field that shall be replaced with the values from the import field.

To add more field entries, click the **Add** button. A dialog is displayed that lets you select a field containing the values to be imported.

To add the selected field to the selection of Import Fields, click **OK**. This brings you back to the main dialog.

Workflow Enhancements

Cumulus provides several possibilities to enhance your workflow. Upon them:

• Labeling

• Rating

The next section describes how to use color labels and star ratings to quickly organize, sort, and filter your files. For a description on how to use the work-in-progress management feature user comments in Preview view or window, see "User Comments".

Labeling

The record field type **Label** enables users to label records by assigning colors. Each Cumulus catalog provides a standard Label field but the user can add more fields of this type. For any field of this type the user can define a color range. The Label Editor tab of this field type's properties window lets you determine the label colors. Additional colors can be defined by a color picker value.

Label fields can be displayed in all views. For certain views you can select the colors of a specific label field to be the background of the entire record or of the record's name.

Of course a label field itself can also be included in a view. To set up views that display labeling: **Cumulus /** Edit **> Preferences > Record View Sets**.

The labeling color for a record can be set in the Information window via list selection or by a menu item via the Asset menu.

The menu item **Assign Label** will be available only if the effects of assigning the label can be immediately seen by the user. This means that it is available only if at least one label field is included in the catalog AND if at least one label field is included in the current view or set as background for records (entire record or record name) in the current view.

The menu item will assign the label set as background of the current view. If no label is set as background or for views where a label cannot be set as background, the menu item will assign the label from the first field of type Label from the current view. (The order refers to the field list of the view settings in the Preferences dialog.)

In the Information window, the field will be displayed as a drop-down list. The current color is displayed and the available colors are included in the hidden list. To select a

color, open the list and select the desired label color. To remove a label, open the list and select the **no value** entry.

When printing labeled records, the label marks are printed as displayed (if the Label field is included in the fields to be printed.)

NOTE: Multiple Labeling Systems!
Each catalog can have its individual labeling system. However, be careful using multiple labeling systems. If you work with several catalogs in one collection, you might not like to have different colors caused by individual labeling systems for the different catalogs. Label fields with the same name included in multiple catalogs but with their colors defined differently might cause confusion. The records will always show the label colors set for the catalog they derive from. But if you have multiple records selected that come from different catalogs with different labeling systems the Assign Label menu item is of course disabled.

You can search for labeled records and save such searches as search queries.

NOTE: Changing Label Color
Each label's value is defined by the label color. So, if you change a label color, make sure any saved queries that refer to the label are updated to use the new color value.

Rating

The rating system enables you (and your co-workers) to rate assets from 1 to 5. Rating values are searchable, so when you want to find your best assets, it's easy to do so. Each Cumulus catalog provides a standard Rating field (field name and type: Rating) but more fields of this type can be added. For example you can have one separate field for each member of your team.

Ratings are displayed by star icons. A rating field can be displayed in Details View, Thumbnail View, Info View and in the Information window. The rating value for a record can be set in the Information window via clicking or by a menu item via the Metadata menu. The menu item employs the first field of type Rating from the current view. (The order refers to the field list of the view settings in the Preferences dialog.)

In the Information window, clicking on a star in the rating row sets the rating value immediately to the selected value. Clicking close left of the first star removes the value.

When printing rated records, the rating marks are printed as displayed (if the Rating field is included in the fields to be printed).

Workflow Automation with Cumulus

Cumulus provides various workflow support functions. Many of them are based on Action types. Workflow can be automated by:

- User-defined actions: Cumulus Asset Actions
- Event-based actions: Cumulus Trigger Actions
- Time-based actions: Cumulus Scheduler Actions

In addition to that, Cumulus offers status-based workflows. Such workflows are configured via the Workflow Manager of the Cumulus Web Server Console and applied to catalogs. If open catalogs contain at least one of these workflows, a Workflow menu is displayed. For more information, see "The Workflow Menu" and "Configuring Workflows".

Cumulus Asset Actions

Cumulus Asset Actions simplify your daily workflow needs. An Asset Action refers to a combination of certain functions and can be saved under a chosen name. Whenever you wish to perform this combination of functions, all you have to do is select the corresponding Action and it will be done. You can perform an Asset Action either on selected records or when mailing assets. To perform an Asset Action on records selected in the Record pane, you employ the menu item **Asset > Perform Asset Action**. To perform an Asset Action on records in the Collection Basket pane, you employ the Collection Basket's toolbar. (For details, see "Outputting the Collection Basket's Contents".

These Asset Actions can be defined in your User Settings in the Preferences dialog – for a description, see "Cumulus Asset Actions". With Workgroup or Enterprise, you need the appropriate permissions for Asset Actions.

To perform an Asset Action on records in the Record pane:

1. Select one or more records.

2. Select **Asset > Perform Asset Action**. A submenu opens that lists the available Actions.

3. Select the desired Asset Action.

   Depending on how the action is defined dialogs for the included modules may show up. Make your selection and click the appropriate buttons. The Actions will be performed on the selected records.

Progress information is displayed on those actions that take a certain amount of time.

If the selected Asset Action failed to be performed on certain assets, theses assets are listed as soon as the Asset Action is completed, together with the respective error messages.

Clicking **Reveal in collection** displays these assets in a collection of its own for further processing.

Clicking **Ignore** closes the window without any further action.

Cumulus Trigger

A Trigger is a stored procedure that is activated automatically when a specified event occurs. Typically, there are three event types that activate Triggers: delete, insert or update (see below). Triggers can be used to perform many tasks, such as auditing catalogs, records and categories. Cumulus Triggers complement the capabilities of the Cumulus Scheduler. The Scheduler might cause an event that activates a Cumulus Trigger.

Triggers can be set for catalogs, records and categories.

Once set, a Cumulus Trigger can be temporarily disabled (deactivated) and enabled (activated) again. This can be very useful when testing a configuration, or when searching for errors.

Cumulus Triggers are defined by:

* Events — The event that will activate the Trigger.
* Trigger Actions — The function that will be performed when the Trigger is activated.

Trigger events for a catalog can either affect the catalog itself (updated Catalog Settings), or all records or categories of the catalog.

Event types that can be chosen for *all* records or *all* categories of a catalog are:

* Item Deleted — A record or category of the catalog was deleted.
* Item Inserted — A record was added or a category created.
* Item Updated — The value of a record field or a category field has changed. (Whether this refers to any field or to a specific field can be chosen as well. So the change of the value of a specified record or category field can activate a trigger.)

Similar event types can be chosen for *selected* records or categories. Event types set for a selected category or record are:

- Item Deleted — The selected record or category was deleted.
- Item Updated — The value of a record field or a category field has changed. (Whether this refers to any field or to a specific field can be chosen as well. This means that the change of a value of a specified record or category field can activate a trigger.)

The Trigger Actions available depend on the Cumulus Server you are connected to. Available actions are stored in a special folder. The following preconfigured trigger actions are included:

- Apply Metadata Template: a specified metadata template is applied when the action is triggered by any event
- Apply Permissions Template: a specified permission template is applied when the action is triggered by any event
- Mail Notifier: an email is sent to one or more specified recipients when the action is triggered by any event.
- Rename Asset: the asset is renamed when the action is triggered by any event.
- Run Asset Action: a specified asset action is performed when the action is triggered by any event.
- Start Workflow: a specified workflow is started when the action is triggered by an Item Updated event, and a specific condition defined by a query is met.

  Note that such a query must be created manually. It is not possible to use a previously saved query! The most convenient way to create a query is to compose it in the Cumulus Desktop Client's **Find** window in **Advanced Mode**, then copy it into the **Query to match** field of the **Configure Module** window.

BACKGROUND INFO: More Trigger Actions

The Trigger Actions are based on modules which are implemented as ESPs. If you want to have more Trigger Actions available, contact Canto Professional Services or your Canto partner on how to develop an ESP that 'shows up' as a Trigger Action.

PRECONDITIONS: Triggers can be created, edited or enabled/disabled only by users who are allowed to do so. To edit or create triggers, the user needs – depending on the kind of trigger – one or all of the following permissions:

• **Manage Catalog Triggers**
• **Manage Record Triggers**
• **Manage Category Triggers**

These permissions are set for the user in the User Manager (**Permissions > Application Permissions**.) With Enterprise, these permissions can also be set as Record or Category permissions for selected records or categories. Remember that Record or Category permissions for selected records or categories expand the record or category permissions a user has for the catalog in general.

The **Trigger Administrator** permission (set under **Permissions > Administrator Permissions**) allows a user to manage all triggers for a catalog. A user with this permission gets an additional option displayed in the Properties dialog for a record, category or catalog, **Show All Triggers**. If this option is enabled, all triggers are displayed to the user as well as an additional column displaying the name of the user who 'owns' the trigger (i.e., the user who created it.)

Setting Up Triggers for Records and Categories

To set up triggers for selected records/categories:

1. Select one or more records/categories.
2. Open the context menu for these records/categories (with ⊞ the right mouse button / ⬤ **Control** key + mouse) and select **Properties**. The Properties dialog window opens.
3. Click the **Triggers** tab.

   The Triggers tab displays the triggers you have set up.

   NOTE: Show All Triggers
   If you have the **Trigger Administrator** permissions, the **Show All Triggers** option is available to you. If this option is enabled, the Triggers tab displays all triggers defined for the catalog where the record/category resides.

4. Click **Add**. Add Trigger dialog appears. It lists the available event types.
5. Select the type of event that activates the trigger.
6. The next steps depend on the selected type of event.
   - If you select **Item deleted**, the trigger is activated when the selected record or category is deleted. Click **Next**. Continue with step 7.
   - If you select **Field Value Changed**, the trigger is activated when the value of a field of the selected record or category has changed. To define this field, click **Next**. This opens a dialog that allows you to selecting a specific field.
   - If you want changes in any field to activate the trigger, click **Next** and continue with step 7.

- If you want only a certain field to activate the Trigger, activate the **Wait for changes in a specific field** option. This lets you select a specific field. Select the field.

  NOTE: Triggers can be based on specific field values. Then the Trigger will react when the field value is changed to a predefined value. To make use of this feature and define such a value, activate the option **Wait for Specific Condition** and then click **Configure**. This opens a dialog that lets you define the value which you want the Trigger to react to.

  Set up your condition and click **OK** to save the condition. Click **Next**.

7. A window for selecting the Trigger Action is opened.

   Select the action you want performed when the event for this trigger occurs.

8. The next steps depend on the selected Trigger Action.

   - If the selected action can be configured, click **Next**. This opens a dialog to configure the action. (For details on how to configure the **Mail Notifier** action, see "Configuring Trigger Actions" .)
   - If no more configurations are required, a **Close** button is displayed**.**

9. Click **Close**. The Trigger is registered with your Cumulus installation and activated.

NOTE: Cumulus Triggers can be temporarily disabled, and enabled again, via the **Deactivate / Activate** button, e.g. for testing a configuration or searching for errors.

Setting Up Triggers for Catalogs

To set up triggers for a catalog:

1. In the category pane select the category that represents the catalog. (**TIP**: Categories that represent catalogs are displayed in bold.)

2. Open the context menu for these records/categories (with ⊞ the right mouse button / **Control** key + mouse) and select **Properties**. The Properties dialog window opens.

3. Click the **Triggers** tab.

   The Triggers tab displays the triggers you have set up.

   NOTE: Show All Triggers
   If you have the **Trigger Administrator** permissions, the **Show All Triggers** option is available for you. If this option is enabled, the Triggers tab displays all triggers defined for the catalog.

4. Click **Add**. The **Add Trigger** dialog opens and prompts you to select the source for events to be selected.

5. Select the source, either **Catalog Events** (events performed on the catalog itself, e.g. updated Catalog Settings), or **Record Events** or **Category Events** (events on all records or all categories of the catalog, e.g. inserted, deleted or updated records/categories).

6. The Add Trigger dialog lists the event types available for the selected source and prompts you to select one.. either:

   • **Item deleted** (step 7), *OR*

- **Item added** (step 8), *OR*
- **Field Value Changed** (step 9)

7. **Item deleted** activates the Trigger when a record or category is deleted from the catalog. Click **Next** and continue with step 10.

8. **Item added** activates the Trigger when a record or category is added to the catalog. Click **Next** to configure this event:

   - Select **In Any Field** if the Trigger shall be activated for every new item. Click **Next** and continue with step 10.
   - Select **Wait For Value in a Specific Field** if the Trigger shall be activated for new items, but only if a specific field has a value, then select the respective field. If desired, additionally activate the option **Wait for Specific Condition** and click **Configure** to define a field value that must be met for the trigger to be fired. Click **Next** and continue with step 10.

9. **Field Value Changed** activates the Trigger when the value of a record field or category field is changed. Click **Next** to define this field.

   - Select **In Any Field** if the Trigger shall be activated by changes in any field. Click **Next** and continue with step 10.
   - Select **Wait For Changes in a Specific Field** if the Trigger shall be activated only by changes in a specific field, then select the respective field. If desired, additionally activate the option **Wait for Specific Condition** and click **Configure** to define a field value that must be met for the trigger to be fired. Click **Next** and continue with step 10.

10. A dialog for selecting the Trigger Action – the action that is to follow the event – is opened.

    Select the action you want performed when the event for this Trigger occurs.

11. The next steps depend on the selected action.

- If the selected action can be configured, click **Next**. This opens a dialog to con-figure the action. (For details on how to configure the **Mail Notifier** action, see "Configuring Trigger Actions" .)

- If no more configurations are required, a **Close** button is displayed**.**

12. Click **Close**. The trigger is registered with your Cumulus installation and acti-vated.

NOTE: Cumulus Triggers can be temporarily disabled, and enabled again, via the **Deactivate / Activate** button, e.g. for testing a configuration or searching for errors.

Configuring Trigger Actions

The Trigger Actions available depend on the Cumulus Server you are connected to. An action available by default is **Mail Notifier** which will send you an email when the action is triggered. If you select the **Mail Notifier** as Trigger Action when setting up a trigger, the following configuration dialog is displayed:

You can select the language of the message sent (the text is included in the **Mail Notifier** ESP.) If you have the Browse for Users permission, you can determine whether other Cumulus users get an email as well. If you want other users to get emails, click the **Add User** button to select them.

You can search for the login names of available users. Enter the search value (a matching string) and click the **Find** button. The result of this search is listed below. Select the user(s) you want and click **OK**. The users are added.

TIP: for the User Administrator:

The Browse for Users permission is set under **File > Admin > Server Console > User Manager > [User] > Server Permissions > User Administrator Permissions**.

Cumulus Scheduler

The Cumulus Scheduler enables you to define and schedule tasks to be automatically performed by Cumulus. It will save you time and increase your productivity by automating frequent tasks. The Scheduler enables you to run time consuming functions during off-peak hours, and also enables you to automate routine tasks. In combination with the Cumulus Trigger feature, the Cumulus Scheduler makes a powerful tool to automate business processes and save wasted resources.

The Cumulus Scheduler consists of the Scheduler Manager and the Scheduler Server Application. The Scheduler Manager lets you set up tasks that are to be performed by the Scheduler Server Application.

The Scheduler Manager utility is included in the Cumulus Server Console. For more information on the Cumulus Scheduler, see "Scheduler Manager".

Managing Related Assets

Cumulus can manage related assets and provides a user interface that displays these relations and also enables the user to determine relations between assets.

Relation Types

Relations can be different, there are hierarchical and flat relations. In a hierarchical relation one is special, it might be the master or the preferred one, it might be the source... By default, following types of hierarchical relations between assets are supported by Cumulus:

1. Contain/Contained – An asset contains other assets: e.g. a Zip archive, a PowerPoint presentation that contains slides, an InDesign or PDF document that contains pages.
2. References/Referenced – An asset includes references to other assets: e.g. a PowerPoint presentation or an InDesgin document that includes references to the images on the slides/pages.
3. Variants – Assets derive from the same source asset: e.g. the PDF of a Word document, an image stored in different file formats or renditions of an image (for example cropped or with a filter employed.)

NOTE: Whether variants and alternates are available with the current catalog depends on the catalog's settings defined by your Catalog Administrator.

4. Alternates – Assets that you want to group concerning a certain topic and for which you have a preferred one that you want to represent the others. (For example, you have a series of images on the same topic and the preferred one is the one you decided to use for your current project.)

In addition to these relations, a CumulusCatalog Administrator can add other hierarchical relations to a catalog – so called custom relations.

And in addition to hierarchical relations, you might want to determine groups of 'equal' assets. Assets that you want to group concerning a certain topic, theme or task but to which you don't want to designate a preferred member. Cumulus offers support for this demand: assign the assets to the same category. However, this well-known way of defining groups is included in the Cumulus management for related assets (referred to as relation type 5).

Another type of relation between assets is the versions managed by a Version Control System (e.g. Cumulus Vault). Support for this type of relation is not yet included in the Managing Related Assets concept of Cumulus. Use the Version History window to have the versions displayed. (See "Managing Versions", for details.)
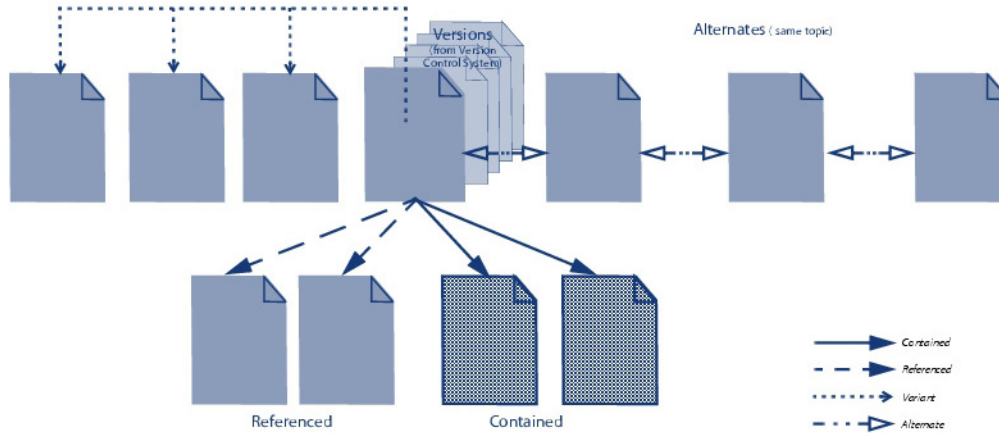
Different Relations between Assets

How does Cumulus Know about Relations between Assets?

1. Contain – The Cumulus Asset Storage modules detect if an asset contains other assets when the asset is cataloged.

2. References – The Cumulus AXR (Asset Cross References) function detects if an asset includes references to other assets when the asset is cataloged.

3. Variants – The user can determine that an asset derives from a source asset or Cumulus can ascertain that automatically if the deriving asset was created using a Cumulus function.(For a description on how to determine such a relation, see "Assigning Variants".)

4. Alternates – The user can create groups of alternate assets. An asset is determined as an alternate by assigning it to the'preferred alternate'. (For a description on how to determine such a relation, see "Assigning Alternates".)

The information on an asset's relations is stored in the asset's record.

SPECIAL TECH INFO: Record Fields for Storing

The information on an asset's relations is stored in the record fields **Related Master Assets** and **Related Sub Assets**. The field **Related Sub Assets** stores the information which assets are contained, referenced, deriving, or alternates. Whereas the field **Related Master Assets** stores the information in which other assets the asset is contained in, referenced by, derives from, or which asset is its preferred alternate.

Example of Several Relations Between Assets

Power-Point Presen-tation

Output 1

Output 2

Slide PDF

Slide   Slide   Slide   Slide   Slide

Image

Image

Contained
Referenced
Variant
Alternate
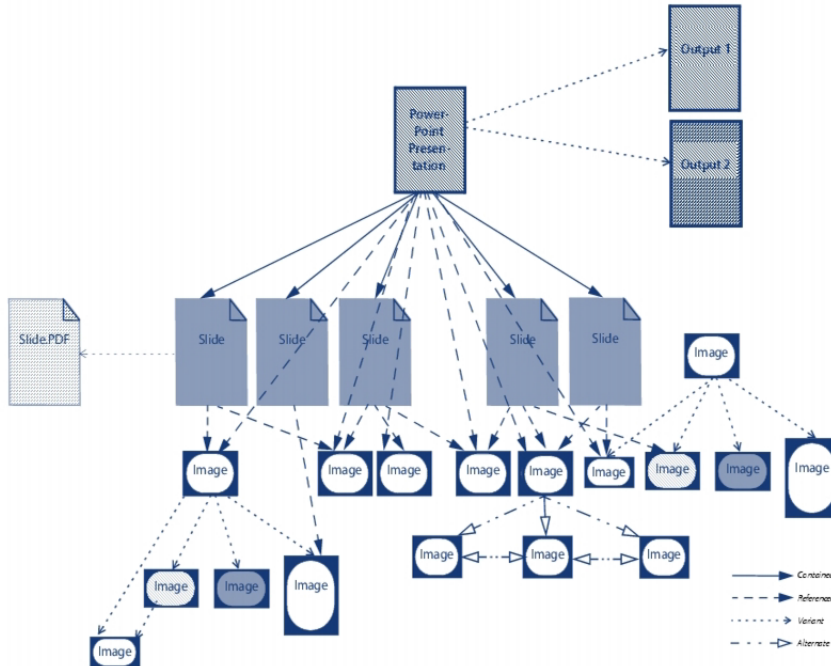
Each asset can have various relations.

This example shows a PowerPoint presentation and its relations as well as the relations of assets related to the presentation.

The presentation
- *contains slides (pages)*
- *references images*
- *is source for variants*

Let's try to find out about the different relations between the assets that are related to the presentation:
- *All slides are contained.*
- *Most slides reference images.*
- *One slide is also source of a variant.*
- *Most images are referenced.*
- *Some images are sources of variants.*
- *A lot of images are variants.*
- *One image is a variant and also the source of another variant. And that's why there is one image that has a variant source as well as a top level variant source.*
- *Last but not least:*
  One image is a preferred alternate in a group of four alternates.

Supporting AssetStores

Following AssetStores can create records for "contained" items:

Asset Store	Items	Asset Store	Items
Apple iWork Picture	Images	Office Open XML Pictures and Media	Images, media
Apple Keynote Slides	Slides (pages)	Open Document	Images
HELIOS XPV	Pages; QXP Pages (but D&D not possible)	PDF**	Pages
InDesign	Pages (but D&D not possible)	PDF Image**	Images
Mac Binary	Assets	QXP	Pages, layouts
MS PowerPoint	Slides (pages)	QXP Server**	Pages, layouts (but D&D not possible)
MS PowerPoint Picture	Images	Video**	Shots
Office Open XML Pages and Slides	Pages, sheets, slides	ZIP	Assets
** with Options only (not included in any standard edition/solution)			

How does Cumulus Display Relations between Assets?

In a split view: an additional pane can be opened up below the Record pane. The additional pane displays the records that are related to the record selected in the main Record pane. How the assets of the additional pane are related to the selected record is determined by the display option that is set for the additional pane.

So, having related assets displayed is as easy as: select a record, open up a sub-pane and select what you want to see in it.

You can select multiple assets in the upper pane and you can open up multiple sub-panes. Each sub-pane will display those assets that are related to the selection in its upper pane. How they are related is determined by the selected display option.If the selection in the upper pane changes, the content of the sub-pane is synchronized. It changes simultaneously.

To open up a new sub-pane: Click the ⊞ button of the current sub-pane. To close a sub-pane: Click the ✕ button of the pane. To refresh the display of a sub-pane: Click the ⟳ button of the pane.

TIP: Resizing Panes

You can resize the panes by pressing the ⊞ ALT / 🍎 Option key and dragging the split bar. (Just clicking the split bar will resize the main pane and the sub-pane of the dragged split bar only.)

Collapsing: Pressing the ⊞ ALT / 🍎 Option key and double-clicking in a pane's statusbar will collapse the pane so that the statusbar only is displayed and the pane above will fill the area. (Just double-clicking lets the pane above remain its size and the main pane will be enlarged.) A double-click on the statusbar of the main pane (topmost pane) will collapse *all* panes below.

Expanding: Pressing thethe ⊞ ALT / 🍎 Option key and double-clicking in a col-lapsed pane's statusbar will expand the pane again – using space from the above pane. (If you just click it – without the ⊞ ALT / 🍎 Option key – the pane will be expanded using space from the main window.) A double-click on the statusbar of the collapsed main pane will expand *all* panes below.

Minimizing: Double-clicking a pane's split bar minimizes the pane or resizes it again.

For each pane you can choose the view, the sorting direction and an option for the content to be displayed. How the displayed assets are related to the asset selected in the upper pane is chosen from a menu that offers the following options by default:

RELATION TYPE	Display options are:
0	Selected Asset
1	Contained Pages/Slides Contained Assets Container Asset
2	All Referenced Assets Referencing Documents Referencing Pages/Slides
3	All Variants Variant Source Top Level Variant Source
4	– All Alternates – Preferred Alternates
5	– Assets Assigned to the Same Categories – Assets Assigned to at least One Same Category

The list options can be renamed, configured and assigned to specific users. The list options are configured via Sub-Pane Filter definitions. So you can customize it in wording and include search strategies for individual tasks. Sub-Pane are created and edited in the Preference dialog window (⬤ **Cumulus /**🍎 **Edit > Preferences > Sub-Pane Filters**.) For details on how to set up a Sub-Pane Filter, see "Sub-Pane Filters". The

availability of Sub-Pane Filters for users is defined with the User Manager in the each user's properties.

You can get information on the different relations of an asset in the Info view or Asset Info window. If the fields **Related Sub Assets** and **Related Master Assets** are added to the corresponding view settings (and given more than 1 line), for each type of relation a tab is provided that displays the names of the related assets.

What Else do You Need to Know?

In the split view, Cumulus can only display related assets that are cataloged to the same catalog as the one selected. That's why it is recommended that you use a simple collection and not a multi-catalog collection when your work includes the relation aspect.

Display of Master Assets Only

You don't want to see any contained or referenced assets in the main pane? You want to see only the preferred alternate and not the others? Cumulus can help you. It provides a special display option for the main Record pane. You can have records of 'master assets' displayed only. What are 'master assets'?

A 'master asset' is defined by:

- not contained in any other
- not a variant of
- preferred alternate or no alternate of

The main Record pane provides the button that lets the main pane display records of master assets only. If you activate this button, your current collection will be filtered and only the master assets of the collection are displayed. Further search results will

only display master assets. If you deactivate the button, your collection remains in its 'filtered' version but further search results will display all matching assets again – whether they are master assets or not.

SPECIAL TECH INFO: 🔳 Master Only button

The button can be activated only if the **Related Master Assets** field is indexed for Contain Search. Reason: The search that is started by this button checks the contents of the **Related Master Assets** field.

NOTE for Migration: The field **Related Master Assets** must be included in the catalog(s) and indexed for Contain-Searching.

Assigning Relations Manually

You can manually assign variants to an asset or group alternates of assets. In addition to that you may have other relations that your Catalog Administrator has created – so called custom relations.

Assigning Alternates

You can manually group alternates of assets. When you group them as alternates you have to determine one as the preferred alternate.

Select the records of the assets you want to become alternates and select **Metadata > Assign Relation > Alternates**. Then a message prompts you to select the preferred alternate. Select the record you want to be the preferred alternate (master) and click **OK**.

To delete such relations you must delete the corresponding entries in the **Related Sub Assets** and **Related Master Assets** fields from the **Alternates** tab in the Information window or view.

To get the alternates of an asset listed, use the split view and an according list option (Sub-Pane Filter). For more information, see "How does Cumulus Display Relations between Assets?".

Assigning Variants

You can manually assign variants to an asset. The asset you assign them to is called the source of the variant.

Select the records of the assets you want to assign as variants to a source asset and select **Metadata > Assign Relation > Variants**. Then a message prompts you to select

the source. Select the record you want to be the one assigned as the source of the variants (master) and click **OK**.

To delete such relations you must delete the corresponding entries in the **Related Sub Assets** and **Related Master Assets** fields from the **Variants** tab in the Information window or view.

To get the variants of an asset listed, use the split view and an according list option (Sub-Pane Filter). For more information, see "How does Cumulus Display Relations between Assets?" .

Assigning Custom Relations

You can manually assign custom relations to assets. Custom relations are defined by your Catalog Administrator for the current catalog.

Select the records of the assets you want to become related and select **Metadata > Assign Relation** and then the desired relation type. A message prompts you to select the master asset. Select the record you want to be the master and click **OK**.

To delete such relations you must delete the corresponding entries in the **Related Sub Assets** and **Related Master Assets** fields from the tab in the Information window or view that is named as the relation type.

To get the alternates of an asset listed, use the split view and an according list option (Sub-Pane Filter). For more information, see "How does Cumulus Display Relations between Assets?" .

For more information watch the video tutorials Using Asset Relations and Configuring Asset Relations.

AXR

AXR (Asset Cross References) is the automatic detection of usage and cross-references of assets within Cumulus. Cumulus is able to detect links and placed assets in compound documents such as Adobe InDesign, EPS and Illustrator (version 8, 9) as well as Microsoft Word and PowerPoint documents.

AXR requires that the filter employed for cataloging must support AXR (e.g. Compound Document, EPS and InDesign filters). AXR works for assets that are managed by the same catalog only.

With a standard Workgroup installation the referenced assets must be cataloged before Cumulus can detect them in a compound document. The existence of the field **Related Sub Assets** is required for the information in the field **Related Master Assets**.

TIP: Re-cataloging

If the field **Related Sub Assets** was not one of the record fields of the catalog when cataloging, you can employ the menu item **Update Record** from the File menu to re-catalog the assets.

With Enterprise or a corresponding add-product you make use of the AXR cataloging option. (For details, see below.)

Automatic Cataloging of Referenced Assets

However, there are differences between AXR with a standard Workgroup installation and with an Enterprise or an enhanced Workgroup installation. With Enterprise or Workgroup enhanced with the corresponding add-on product, AXR provides the option that referenced assets can be cataloged automatically when detected by AXR. To have referenced assets that are not included in a catalog, cataloged automatically is defined in the Asset Handling Set. If you use an Asset Handling Set with the option **Also Catalog Referenced Assets not yet Cataloged** activated when cataloging an asset that contains references, the referenced assets will be cataloged automatically with the same cataloging process.

TIP: **Add Only** in combination with AXR **Also Catalog Referenced …** activated!

If you use the **Add Only** option and activate the **Also Catalog Referenced Assets not yet Cataloged** option, you should also have the **Skip Duplicates** option activated. Otherwise Cumulus will catalog the referenced assets twice, if the referenced assets come later in the sequence of the selected assets than the asset that contains the references.

Automatic Tagging of Assets

Automatic Tagging brings the power of artificial intelligence (AI) to Cumulus. With this optional Cumulus feature, external image recognition services can be configured to analyze your assets. As a result, the services provide a number of tags denoting the contents of the images. These tags will be added to the metadata of the assets – that is, written into the catalog fields that have been specified for this purpose. The tags can be used e.g. as keywords (as categories under the $Keywords tab), or as descriptions, or captions, etc. Enriching your assets with automatically generated tags makes exploiting your stock more effective and ensures that you find the proper assets for any purpose more easy and in even less time.

The Automatic Tagging feature can be evoked manually via a menu command, or via a dedicated Scheduler task.

PRECONDITIONS: Automatic Tagging is an optional Cumulus feature. A license must be purchased, and activated via the Remote Admin module of the Cumulus (Web) Server Console. Additionally, a valid account with one of the supported Automatic Tagging providers must exist.

For details on how to set up Automatic Tagging support in Cumulus and the prerequisites that must be met, see Automatic Tagging Setup.

Manually starting the Automatic Tagging

To manually start the Automatic Tagging:

1. Select the records of the asset you want to tag automatically.
2. Select **Metadata > Run Automatic Tagging**. A confirmation dialog is displayed. Click **Yes** to continue.

The Automatic Tagging process may take some time. When it is finished, the tags for each of the selected assets are written into the field(s) that are configured to contain them.

Using the Scheduler to start the Automatic Tagging

If you want to start the Automatic Tagging feature on a regular schedule with the Cumulus Scheduler, an appropriate Scheduler task must be configured (see Scheduler Task).

The Cumulus Scheduler reads the content of a specific catalog field, **Automatic Tagging Request.** If the value of this field is **Analyze**, the Scheduler evokes the Automatic Tagging process. When this process is finished, the value of the Automatic Tagging Request field is changed to **Review**, thus indicating that it might be wise to review the results received from the Automatic Tagging service.

To use the Scheduler for Automatic Tagging assets the assets must be prepared

1. Make sure to set the value of the **Automatic Tagging Request** field to **Analyze**, for all assets you want to automatically tag. This can be done by directly editing the assets' metadata as well as by applying a Metadata Template, either while cataloging assets, or anytime later (see Using a Metadata Template).

Automatic Tagging Log

Messages from the Automatic Tagging server (if any) are written into the **Automatic Tagging Log** catalog field for each asset that has been selected for Automatic Tagging. Which messages are written into this field depends on the Log Level configured via the Automatic Tagging module of the Web Server Console. Whether the **Automatic Tagging Log** is visible to you depends on the configuration of the used Record View Set.

Cumulus

This chapter covers Cumulus functions that help you with special tasks. It includes descriptions on how to work with the revision control system Cumulus Vault and the URL AssetStore, how to work with Microsoft Office and Adobe InDesign documents within Cumulus, and how Cumulus supports you working with images by maintaining raw image formats of digital cameras.

The last section of this chapter describes how to assign individual permissions for records and categories.

The topics of this chapter include:

- [Using Vault](#)
- [Using URL AssetStore](#)
- [Working with Images](#)
- [Working with the Video Cloud](#)
- [Using the Media Delivery Cloud](#)
- [Working with Office Documents](#)

Specialized Usage

- Working with InDesign Documents
- Assigning Individual Permissions for Records and Categories

Using Vault

Cumulus® Vault is a revision control system that gives your workgroup added data security and up-to-the-minute information on the status of each asset. As its name suggests, Vault enhances the security of your team's assets – controlling who accesses them, how and when. It also gives you more ways working with your assets in Cumulus, providing version retention and tracking, at-a-glance version information, and integration into the existing Cumulus environment.

Cumulus Vault can control and monitor access to all assets. Think of it as the Cumulus librarian. Users check assets out for editing and check them back in again when they're through. Vault allows only one user at a time to check out an asset. This prevents it from being edited by multiple persons simultaneously, possibly resulting in conflicting – and confusing – versions of the asset. If another user attempts to check the asset out, Vault informs the would-be editor which user is working on the file.

When a user checks an asset back in, Vault saves the updated file as a new version without overwriting previous versions. It keeps all back revisions, making it possible to track changes to an asset during the production cycle – a concept referred to as a version control system. It also provides information on all versions: Who made the changes? When? With Vault, these questions are easy to answer, making last week's edits just as accessible as today's.

Organization

This chapter is one of two descriptions that cover Cumulus Vault:

* This description, which covers using it to track and control access to assets, and integrating it into your Cumulus environment.
* A description, which covers how to set up the Vault Server and how to configure catalogs to work with Cumulus Vault. This description is included in the Administrator Guide.

This chapter covers everything you need to know about working with Vault in the following sections:

* Working with Vault – Gives you the basics on placing assets under Vault's control, checking them in and out, and managing asset versions.
* Integration – Describes the effects Cumulus Vault has on existing Cumulus functions, and how you can integrate these new options into your existing workflow. (

Working with Vault

This section covers the basics of working with Cumulus Vault. It describes how to place your assets under Vault's control, and then how to work with Vault to check these assets in and out. It goes on to explain how you can view and manage the versions resulting from these check in/check out procedures. Once you've mastered these functions, you'll be ready to take advantage of the capabilities offered by Cumulus Vault.

Assets Controlled by Vault

Whether or not cataloged assets are controlled by Cumulus Vault depends first of all on whether the catalog that manages them is set up to work with Vault. If your Cumulus Administrator sets up a catalog to work with Vault, assets can be placed under Vault's control when they are added (i.e., cataloged) to that catalog. During the cataloging process, Cumulus hands the assets over to the location that Vault controls.

Your Cumulus Catalog Administrator sets up a catalog to work with Vault in one of the following ways:

- **Always** – whenever users catalog assets to that catalog, they are handed over to Vault. In this case, all you need to do is catalog the assets. (See the Cumulus Client User Guide for information on cataloging assets.)

- **As Set in Asset Handling Set**– users decide before cataloging assets whether or not the assets should be handed over to Vault. (See "Cataloging to Vault as Defined for the Employed Asset Handling Set," below, for details.)

- **Always and Exclusive** – whenever users catalog assets to that catalog, they are handed over to Vault and their asset storage location is Vault exclusively. In this case, all you need to do is catalog the assets.
  For your information: A catalog that is set to the **Always and Exclusive** option has a forced 1-to-1 relation with Vault: every record in the catalog represents an asset stored in Vault and each asset in the Vault folder assigned to this catalog is represented by a record in this catalog. This is the guiding principle for all functions performed. For example, this means that assets managed by this catalog cannot be moved and that deleting the records which are representing them will always delete the assets as well.

NOTE: Catalog Housing Records from a Vault Exclusive Catalog!
If you have another catalog housing records that derive from a catalog set to **Always and Exclusive**, the permissions you have on these records (and their assets) are the permissions you are given for the catalog the records derive from. For example: you have all permissions for catalog A but if catalog A houses records from catalog B which is a Vault exclusive catalog, then the permissions for records may differ if you don't have the same permissions for both catalogs.

If you don't know which of your workgroup's catalogs are set up to work with Vault and how, ask your Cumulus Administrator. You should also ask your Cumulus Administrator which Asset Handling Sets were adjusted for the use with Vault. The Asset Handling Sets you use with Vault must have the Asset Storage module Vault AssetStore activated. And if a catalog is set to let each user decide whether cataloged assets should be placed under Vault's control or not, the Copy to Central Asset Location option must also be activated. If working with assets stored in Vault, you should take care that the Asset Handling Sets defined in your User Settings for cataloging and asset access are adjusted for the use with Vault. Asset Handling Sets also include the Vault settings for version handling. For details on how to set up Asset Handling Sets for version handling, see "Defining Asset Version Handling".

If you've already cataloged assets to a catalog before it was placed under Vault's control, and now want to hand them over to Vault, you can do that, too. You don't have to re-catalog them, but can simply move them to the location which Vault stands guard over. To find out how, see "Adding Already Cataloged Assets to Vault" below.

Cataloging to Vault as Defined for the Employed Asset Handling Set

For each catalog, the Cumulus Administrator has the option of letting Clients specify which assets should be cataloged to Vault. In this case, Clients can specify whether or not the assets will be placed under Vault's control by selecting a corresponding Asset Handling Set. If you select an Asset Handling Set that has the **Copy Asset to Central Location** Option activated, the assets will be placed under Vault's control. If this option in *not* activated, the assets will *not* be placed under Vault's control.

To view the settings for cataloging of an Asset Handling Set:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Asset Handling Sets**.
3. Under **Set**, select the set you want to view.
4. Click **Cataloging**.
5. Check whether **Copy Asset to Central Location** under Central Asset Location is activated.

   If activated, Cumulus will add the assets to the catalog and copy them to the Vault location when this Asset Handling Set is used for cataloging (and if the catalog is set up for Vault).

   However, you should also check that the Asset Storage module Vault AssetStore is activated (click **Modules** and then **Asset Storage**).

Adding Already Cataloged Assets to Vault

Just because your Cumulus Administrator has set up a catalog to work with Vault, it doesn't necessarily mean that all of that catalog's assets are controlled by Vault. For example, assets may have already been cataloged to the catalog before it was set up to work with Vault.

In this case, users have the option of placing already cataloged assets under Vault's control. The assets don't have to be re-cataloged, but can simply be moved to the location guarded by Vault.

To add already cataloged assets to Vault:

1. Open the catalog whose assets you would like to add to Vault.
2. Select the record(s) representing the asset(s) you would like to hand over to Vault.
3. Select **Asset > Move To**.

   The **Select AssetStore Module** dialog appears.
4. Select **Vault AssetStore** and click **OK**.

   The **Select Remote Module** dialog appears.
5. In the **Computer** field, select the computer running the Vault Server and click **OK**.

   Cumulus moves the selected assets to Vault, where they are now subject to access and version control.

Checking Assets In and Out

These two steps form the basis of the Cumulus Vault concept. They ensure that only one person can edit an asset at a time, and also provide the version information associated with each asset. If you check an asset out but don't need to check it back in as a new version, you can undo the check out (see "Undoing a Check Out").

Checking Assets Out

When you check an asset out, Cumulus places a copy of the latest version in a location you specify and locks the associated record in the Cumulus catalog for other users. You can then edit the copy you checked out, and later check it back in as a new version.

There are two things that you will be prompted to tell Cumulus when checking assets out:

- Which Asset Storage Module should be used to manage the access to the asset's destination location. The destination location is typically the file system – such as the Windows or macOS file system – to which the checked-out asset will be copied. The destination is *not* Cumulus Vault.
- Where exactly in the destination location the copy of the asset should be placed, i.e., the specific folder on your hard disk or network.

If another user has already checked the asset out, you will not be able to check it out to yourself. In this case, Cumulus Vault informs you who has the asset and when it was checked out. If you would like to see whether or not assets are checked out without having to attempt a check out yourself, you can add the respective fields to your Collection and/or Asset Information view. For details, see "Viewing Asset Status".

To check assets out:

1. Select the record(s) representing the asset(s) you would like to check out.

2. Select **Asset > Check Out**.

   If you have defined a Check out Location in the Application Preferences (**Cumulus/Edit > Preferences > User Settings > General > Application**), Cumulus makes a copy of the latest version and inserts it in the defined location. The asset is checked out and you can start editing it.

   If you have no defined Check out Location, continue as follows.

   The Select Asset Storage Module dialog appears. This is a list of available Asset Storage Modules. One is Cumulus Vault, and others include the file system you are currently using (such as the Windows or macOS File System, among others).

3. Select the Module for the *destination* location and click **OK**.

   NOTE: The destination is *not* Cumulus Vault. If you check the asset out to Vault, you will not be able to edit it!

   A window appears for you to select the target folder on the file system you selected.

4. Choose the desired folder and click **OK**.

   Cumulus makes a copy of the latest version and inserts it where specified.

If you want to edit the asset now, open it with the application that created it and start editing.

TIP: Edith With & View With

Cumulus offers you a convenient way of combining check out and launching the application for editing the asset. The procedure is the same as described above, except that you select **Edit With** instead of **Check Out** from the **Asset** menu. Cumulus recognizes that the asset is controlled by Vault and automatically triggers a check out procedure. Once you've completed the check out steps, Cumulus launches the editing application and opens the checked-out asset in it. If you only want to view the asset without checking it out, use **View With** from the **Asset** menu.

Checking Assets In

When you have finished working with an asset and check it back in, Cumulus lets you enter comments on the new version (what sort of changes you made, etc.). It then moves the updated asset back to the Vault as a new version, and unlocks and updates the associated record in the catalog. Since a check in procedure moves the new version into the Vault, that version is removed from the location you checked it out to.

To check an asset in:

1. Select the record(s) representing the asset(s) you would like to check in.
2. Select **Asset > Check In**.

   The Version Comment dialog appears. The asset's name and your user name are entered automatically.

You may enter your comments in the **Comments** field. If you want this comment to be used for further selected assets to be checked in, activate the **Use for All Remaining Items** option.

If the **Keep Checked Out** option is activated, the changed asset is copied to Vault as a new version but also left checked out. So you can continue working on the asset.

3. Click **OK**.

Cumulus moves the new version to Vault and updates the associated record in the catalog.

Checking an asset in moves the latest version to Vault. It doesn't overwrite the previous versions, however, which are retained so that they can be viewed, tracked or used again. (See "Managing Versions," below, for details.)

TIP: Drag & Drop

Cumulus gives you a quick and easy alternative to checking assets in via menu command: simply dragging and dropping the asset from your desktop into the associated catalog. Cumulus recognizes the checked-out asset and automatically triggers a check in procedure.

Undoing a Check Out

If you check an asset out and then realize that, for whatever reason, no changes are necessary, you can return it to Vault without checking it in as a new version. You simply need to undo the check out.

When you undo a check out, Cumulus deletes the asset from the location you checked it out to and unlocks the record in the catalog, but does not move the asset back to Vault or update the record.

To undo the check out of an asset:

1. Select the record representing the asset you previously checked out.
2. Select **Asset > Undo Check Out**.

Managing Versions

With your workgroup constantly checking assets out, editing them, and checking them back in, it would seem easy to lose track of the many different versions. To avoid such confusion and to guarantee a hassle-free workflow, Cumulus provides the ability to manage different versions of assets – but only if you employ versioning (for details on how to set up versioning, see the Administrator Guide).

Via the **Show History** function, you can get information on the versions of an asset, e.g. which version is the latest, who has edited the asset and when, and the comments that the users made on their versions. Furthermore, you can:

- Edit the information included with each version
- Delete any versions you no longer need—thus saving storage space
- Designate an older version of an asset as the current version
- View (and compare) versions in full screen preview

Viewing an Asset's Version History

To view the version history of an asset and to manage the respective versions:

1. Select the record representing the asset whose version history you want to view.
2. Select **Asset > Show History**. The **Version History** window opens.

The columns in the **Versions** list display the following information:

- **Version** – the number of the version. The higher the number, the later the version.

- **Date** – the date and time at which the version was checked in.
- **User** – the user who checked that version in.
- **Comment** – any comments the users who were checking in made.

Since the **Comment** column is limited in space, the full text of a comment is provided in an area below the table.

Actions that can be performed on versions:

Click **Delete** to delete the selected version(s). Since every version of an asset is a file in itself, it's often a good idea to free up disk space by deleting any versions you no longer need. Keep in mind that deleting the latest version makes the next-latest version the current version. If this is the case, Cumulus Server re-catalogs the "new" current version and updates the record representing it. Deleting all versions of an asset deletes the asset itself.

NOTE: You need to have permissions to delete records from a catalog in order to use this function. To find out if you have this permission, ask your Cumulus Administrator.

Click **Make Current** to designate the selected version of an asset as the current version. The version number will increment, even though the asset is not physically changed by the designation.

NOTE: The function is implemented as virtual rollback', which doesn't erase any previous version of an asset.

Click **Preview** to open the selected version(s) in Fullscreen Preview (for details see "Fullscreen Preview")

NOTE: If the Fullscreen Preview is evoked from the **Show History** window, navigation to other than the selected versions and the display of the Info Window are disabled!

Click **Edit Comment** to edit the comment of a version. The **Version Comment** window opens. Make your changes and click **OK** to save your changes and get back to the Version History window.

Click **Done** to close the Version History window.

Integration

Cumulus Vault doesn't just store and protect your assets—it also adds a new dimension to the way you manage your assets. This chapter explains the effects that working with Vault has on your asset management with Cumulus. It also gives you tips for taking advantage of these effects so that you can optimally integrate Cumulus Vault into your existing workflow.

Asset Version Handling

Cumulus Vault expands the functionality of your base Cumulus installation. By retaining and tracking assets in multiple versions, it adds a new dimension to your asset management solution.

This new dimension comes into play when you would like to preview, mail, copy and delete assets controlled by Vault. Since these assets may exist in multiple versions, you may have to make a choice between the different versions available.

Cumulus makes it easy for you to make this choice. It even enables you to pre-set your decision to best suit the way you work. If you want to preview, mail, copy or print an asset controlled by Vault, you can have Cumulus always get the latest version – without asking you any further questions. Or if you're more interested in a previous version, you can have Cumulus provide you with a list of all versions that are available – complete with check-in times, users and comments – to make sure you get the right one.

You have a similar option when deleting assets. You can have Cumulus prompt you to select the version you would like to delete, or, if you're trying to free up a lot of storage space at once, have Cumulus delete *all* versions without any further questions.

The sections that follow explain how to define these version settings and then use them when working with your assets.

Defining Asset Version Handling

When you use standard Cumulus commands to access assets controlled by Vault, the assets you access may exist in multiple versions. Which version you use is up to you –

but Cumulus provides the information to make the decision easy for you. You can even pre-set how you want these versions handled to best suit the way you work.

How asset versions should be handled is defined on the Cataloging tab of the Asset Handling Set you use to access the asset. (For the different options, see "Cataloging Tab" .)

Deleting Assets Controlled by Vault

One option for deleting asset versions from Vault is to use the Version History dialog (see "Managing Versions"). To delete a record and its asset including all asset versions, use the **Delete** command in the **Edit** menu.

NOTE: You need to have permission to delete records from this catalog in order to use this function. To find out if you have this permission, ask your Cumulus Administrator.

Previewing, Mailing or Printing Assets Controlled by Vault

To preview a version of an asset controlled by Vault:

1. Select the record whose asset version you would like to preview, mail or print.
2. Select **Asset > Preview** or **Mail To** or **Print**.

   If your version setting is **Always Get Latest Version**, Cumulus opens the preview window with the latest version of the selected asset or mails or prints the latest version of the selected asset.

If your version setting is **Ask for Version to Get**, Cumulus prompts you to choose the version you would like to preview/mail/print. Select the desired version and click **OK** to preview/mail/print it.

Outside the Revision Control

While Cumulus Vault gives your workgroup a secure way to manage your asset versions, it may be more security than you need in every instance. For example, your workgroup could use an existing asset for a new project, but it's currently locked up in the catalog of another project. Or, you may want to give samples of your latest work to a client. Since the client won't be updating the assets and checking them back in, you wouldn't want to check the assets out.

Cumulus gives you a couple of options for accessing assets outside of Vault's control system: you can either get a copy of an asset version controlled by Vault, or you can move an asset out of Vault's control entirely.

There are a couple of important things to keep in mind, however, if you decide to copy or move an asset directly out of Vault:

- Asset versions copied or moved out of Vault in this manner are *not* checked out, meaning they *cannot* be checked back in! If you want to update the asset and return it to Vault, you will have to re-catalog it, possibly resulting in multiple records representing different versions of the same asset.
- Moving an asset version out of Vault *deletes* all versions from Vault. Make sure you want to take this asset out of the revision control system before proceeding.

These functions give you extra flexibility when working with your Vault assets, but they also have the potential to undermine Vault's access and version control. Make sure that you want to work outside of this control system before you proceed to copy or move.

Copying an Asset Controlled by Vault

One way to get an asset out of Vault without checking it out is to copy it to another location (such as your hard disk). In this procedure, Cumulus simply makes a copy of the asset and inserts it wherever you specify. The asset is not checked out, and the associated record in the catalog is not locked for other users.

To get a copy of an asset controlled by Vault:

1. Select the record whose asset version you would like to copy.
2. Select **Asset > Copy To**.

    If your version setting is **Always Get Latest Version**, Cumulus gets the latest version of the asset for you to copy.

    If your version setting is **Ask for Version to Get**, Cumulus prompts you to select the version to copy.

    A list of available Asset Storage Modules appears.
3. Select the Module for the *destination* location (*not* Vault) and click **OK**.
4. Choose the desired location and click **OK**.

    Cumulus copies the latest/selected version to the location you specified.

Dragging and Dropping Assets Controlled by Vault

One way to get an asset out of Vault without checking it out is to copy it to another location using the Copy To menu command. An other way is drag and drop. To copy

any asset you can drag and drop a record into another drag and drop-supporting application. Dragging a record copies the asset into the target document. Dragging a record into the Windows Explorer or the macOS Finder copies the asset into the selected folder. When dragging and dropping an asset controlled by Vault it works the same, Cumulus simply makes a copy of the asset and inserts it wherever you specify. The asset is not checked out, and the associated record in the catalog is not locked for other users. And when dragging the record of a Vault asset, Cumulus always gets the latest version of the asset for you to copy.

When dragging the record of a Vault asset into a target document of another drag and drop-supporting application, be aware that most applications need a path to the "dropped" file which Vault does not provide. In this case you should copy the Vault asset to your file system first and then place this copy into the application.

When dragging the record of a Vault asset into a drag and drop-supporting application that opens the asset, a temporary file will be created. Be aware that for Vault assets this is *not* the same function as the **Edit With** menu command where Cumulus recognizes that the asset is controlled by Vault and automatically triggers a check out procedure.

Moving an Asset out of Vault's Control

Moving an asset out of Vault's control destroys revision tracking and retention for the asset. The latest version will be moved out of the Vault location (to your hard drive, for example), and *all* versions will be deleted from that location. If you move it to a place that Clients cannot access, it will no longer be available to others in your workgroup.

Cumulus does provide you with some protection in this case, however. When you move an asset from Vault, Cumulus updates the asset reference in the catalog to

"point to" the new location, i.e., the location you specified. Other users will still be able to see where the asset is located, even if they may not be able to access it. Remember, completing the following procedure deletes *all* versions of the asset from Vault. If this is not what you are trying to do, you may want to consider simply getting a copy of the asset (see "Copying an Asset Controlled by Vault," this page).

To move an asset out of Vault's control:

1. Select the record whose asset you would like to move.
2. Select **Asset > Move To**.

    A list of available Asset Storage Modules appears.
3. Select the Module for the *destination* location and click **OK**.
4. Choose the desired location and click **OK**.

    Cumulus moves the latest version to the location you specified. It then deletes *all* versions of the asset from Vault.

Viewing Asset Status

You can set up your catalogs to give you an at-a-glance view of whether or not assets are currently checked out and by whom, as well as who has previously edited the various versions. You do this by adding the fields that contain this information to one of the views.

The following sections describe which fields provide what information. For information on adding fields to a view, see "Adding a Field to a Record View".

Viewing Asset Availability

You can immediately see whether or not an asset is checked out – as well as by whom and when – by using a Review Set that includes the fields that contain this information. These fields are:

- **Check out Date** – contains the date and time the asset was last checked out. If the asset is not currently checked out, this field is empty.
- **Check out User** – contains the name of the user who checked the asset out. If the asset is not currently checked out, this field is empty.

Viewing Revision History

One way to view an asset's revision history is from the Version History window, as described under "Viewing an Asset's Version History". You can also customize the view of a Record View Set to give you this information directly. If you add the field **Version**

History to either one of these views, you will be able to see right away how many versions exist as well as who edited each one.

Using URL AssetStore

This chapter covers the basics of working with Cumulus URL AssetStore Module. It describes how to catalog assets from FTP or HTTP servers and how to work with them in Cumulus. Although the records of URL-cataloged assets behave just like any record which has been cataloged through the supported file systems – working with the assets themselves from within Cumulus is slightly different.

This chapter also describes how to copy or move cataloged assets to FTP servers and how to set up the Central Asset Location for a catalog on an FTP server.

Cataloging Assets from FTP or HTTP Servers

If you want to catalog from FTP or HTTP servers or to work with URL-cataloged assets, you must use an Asset Handling Set that has the Asset Storage Module supporting URL activated. If you want an Asset Handling Set to neither work with URL-cataloged assets nor to catalog from FTP or HTTP servers, you may want to deactivate the URL AssetStore Module. For details on how to activate or deactivate an Asset Storage module for an Asset Handling Set, see "(De)activating Asset Handling Modules".

There are two ways to catalog assets from FTP or HTTP servers: via menu item and with drag and drop. Let's start with the menu item method. And remember: You need a fully licensed version of the URL AssetStore Module to catalog from FTP or HTTP servers.

NOTE: TAG Files!
Cumulus can create TAG files on an FTP server while cataloging, if the Metadata module **Cumulus Metadata Support** is activated for the employed Asset Handling Set and the user, who catalogs, is allowed to save files on this FTP server.

Cataloging Assets via Menu Command

You can catalog employing any valid URL pointing to a file and starting with **ftp://** or **http://**. But you may not use *localhost* as IP address. You may even catalog a folder but only if it is on an FTP server.

NOTE: User Authentication
Some FTP or HTTP servers require user authentication. In this case, the host address must be prefixed with a user name and password like "user:password@host". For example, the complete URL then looks like "ftp://smith:secret@server.com/path/file".

To catalog assets from FTP or HTTP servers via menu command:

1. Open the catalog to which you want to add the assets.

2. Select **File > Add Assets To Catalog.**

    If you are prompted to select an Asset Handling Set for this cataloging process, make sure, you select an Asset Handling Set that has the URL AssetStore activated.

    If multiple Asset Storage Modules are activated in the employed Asset Handling Set a dialog appears. This lists the available Asset Storage Modules. One is the **URL AssetStore,** and others include the file system you are currently using (such as the Windows or macOS File System, among others).

3. Select the **URL AssetStore** and click **OK**.

    A window appears which asks for an URL.

4. Enter the URL for the asset file (or folder – on FTP only) you want to catalog.

A window appears that shows the status of the cataloging process.

After a moment, a thumbnail for the asset appears, indicating that the cataloging process was successful and a record has been created for the asset.

NOTE: If you catalog many or huge files, you can save time by deactivating the display of the cataloging progress. Before you start cataloging, disable the **Show Progress Bar** (General section of an Asset Handling Set definition, under While Cataloging).

Cataloging Assets via Drag and Drop

To catalog assets from FTP or HTTP servers via drag and drop:

1. Open the catalog to which you want to add the assets.
2. Launch your Web browser application.
3. Navigate to the asset, FTP folder or Web page which you want to catalog.
4. Select the link for the asset or FTP folder and drag it into the Cumulus Collection window.

   The progress information window appears and records are created for each of the assets.
   If you are prompted to select an Asset Handling Set for this cataloging process, make sure you select an Asset Handling Set that has the URL AssetStore activated.

Working with URL-cataloged Assets

Certain functions in Cumulus work slightly different for assets stored on FTP or HTTP servers. The following sections describe only these slightly different functions. All of these functions are options of the Asset menu. If you open, print or mail an URL-cataloged asset, Cumulus first makes a copy of the asset.

To work with assets stored on FTP or HTTP servers you need to employ an Asset Handling Set with URL Support activated.

NOTE: If assets were cataloged from FTP or HTTP servers requiring a user authentication, the Cumulus application knows about this protection. When you access such an asset, Cumulus will ask you to enter user name and password. During the same session Cumulus remembers the entered name and password and will not ask you again if you access an asset from this FTP or HTTP server.

Opening Assets

You can open an asset stored on an FTP or HTTP server with either the application that created the asset, or another application of your choice. Applications you choose are added to the menu. You can add up to four. The fifth addition replaces the first, and so on. You cannot manually delete any of the added applications.

To open an URL-cataloged asset from another application:

1. Select the record whose asset you would like to open.
2. Select **Asset > Edit With** and select the desired application from the submenu.

A dialog appears from which you can select a location for the copy of the asset.

3. Choose the desired location and click **OK**.

   Cumulus copies the asset to the specified location and opens it with the chosen application.

Printing Assets

You can print an asset stored on an FTP or HTTP server with either the application that created the asset, or another application of your choice. Applications you choose are added to the menu. You can add up to four. The fifth addition replaces the first, and so on. You cannot manually delete any of the added applications.

To print an URL-cataloged asset from another application:

1. Select the record whose asset you would like to print.
2. Select **Asset > Print With** and select the desired application from the submenu.

   A dialog appears from which you can select a location for the copy of the asset.
3. Choose the desired location and click **OK**.

   Cumulus copies the asset to the specified location and prints it with the chosen application.

Mailing Assets

As with other assets you can also attach an asset stored on an FTP or HTTP server to an outgoing email message.

To mail an URL-cataloged asset:

1. Select the record whose asset you would like to send as an email attachment.
2. Select **Asset > Mail To**.

   A dialog appears from which you can select a location for the copy of the asset.
3. Choose the desired location and click **OK**.

   Cumulus copies the asset to the specified location and asks you to select an email application / launches your default email application and attaches the selected asset(s) to an outgoing message.

Storing Assets on FTP Servers

The URL AssetStore Module also enables you to upload cataloged assets to FTP servers by using the Cumulus menu commands. It also allows you to employ FTP servers as the Central Asset Locations for catalogs.

Moving an Asset to an FTP Location

To move an asset to an FTP location:

1. Select the record whose asset you would like to move.
2. Select **Asset > Move To**.

   The Select Asset Storage Module dialog opens which lists all available Asset Storage Modules.
3. Select the **URL AssetStore** and click **OK**. A window for entering an URL opens.
4. Enter a valid FTP-URL and click **OK**.

   Cumulus moves the asset to the selected location and updates the reference of the selected record.

Copying an Asset to an FTP Location

To copy an asset to an FTP location:

1. Select the record whose asset you would like to copy.

2. Select **Asset > Copy To**.

    The Select Asset Storage Module dialog opens which lists all available Asset Storage Modules.

3. Select the **URL AssetStore** and click **OK**. A window for entering a URL opens.

4. Enter a valid FTP-URL and click **OK**.

    Cumulus copies the asset to the selected location.

Central Asset Location on FTP Server

Each individual catalog can be configured, so that Cumulus saves a copy of each cataloged asset to a specific location (called Central Asset Location'). This option allows for the quickest possible way to locate and track a catalog's assets. The URL AssetStore Module enables you to employ an FTP server as a Central Asset Location for a catalog.

NOTE: Only the Cumulus Administrator is allowed to change the properties of a catalog which define the Central Asset Location.

To set a URL as Central Asset Location:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select Cumulus / Edit > Preferences.
3. Click Catalog Settings.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under Catalogs.
4. Click General. This tab includes the options on central asset location.

   Three situations are possible. The following describes the actions necessary for each situation.

   • When the Central Asset Location Option is active and only its settings need to be changed, you can continue with step 5 below.

   • When a Central Asset Location is defined but not active, enable the desired option and continue with step 5 below.

- When configuring a Central Asset Location for the first time, enable the desired option. The Select Asset Storage Module dialog opens and you can skip step 5.

5. Click **Browse** to choose the location.

   The Select Asset Storage Module dialog opens which lists all available Asset Storage Modules.

6. Select the **URL AssetStore** and click **OK**. A window for entering an URL opens.

7. Enter a valid URL of an existing FTP directory and click **OK**.

8. Click **Apply** to save your changes.

Working with Images

Cumulus provides special functions for users who work with images:

- The Cumulus Image Editor makes self-service image processing easy for anyone.
- The Information Window lets you easily view and edit IPTC metadata.
- The Digital Camera Raw Filter enables Cumulus to capture information when cataloging raw image formats and to preview raw image formats.

These special functions are described in the following sections. For a description on how to convert cataloged images, see "Converting Image Assets", and to learn how Cumulus supports Open Prepress Interface, see "OPI System Support".

Editing Images

The Cumulus Image Editor makes self-service image processing easy for anyone. Get the quick edits you need of your cataloged images. Cumulus offers image cropping as well as calibration tools that can enhance the color, sharpness and brightness of your images.

Image Editor

The features of the Image Editor apply to any asset that can be previewed in Cumulus. Start the Image Editor by selecting **Asset > Image Editor**.

Use the slider of the Navigator to zoom in and out the selected image. Clicking on the icons at the edges of the slider also zooms in and out. Double-clicking the navigation image optimizes the display size of the image for the window size of the Image Editor. The statusbar at the bottom of the window displays the zoom factor, the size of the image, its color space and color mode. The various tools for image editing are offered on the toolbar. Click the icons to activate a tool and see its options.

To save the image modifications performed with any of the tools described in the following sections, click the **Save** icon (![save icon]) in the Image Editor toolbar. Then you may define the file format and color space (and compression rate or image quality, if applicable for the chosen file format) for the edited image. The following options for saving a file are offered:

- **Save as new version of asset** (only available if asset versioning is enabled for the respective catalog, either via Vault or via File System Versioning).
- **Save as new asset** – creates a new asset and, if desired, assigns it as variant to the original asset
- **Overwrite asset** – replaces the original asset with the modified file
- **Export to file system** – saves the modified file to any place on your file system

IMPORTANT! Embedded digital photo metadata (IPTC, XMP or EXIF) that may have existed in the original file, will not be saved with the edited image.

The following sections describe how each of the Image Editor tools work.

Cropping

The Crop tool is used to reduce the visible area of an image.

To begin cropping, click the image and draw a box around the desired area. Before accepting the crop, you can adjust the edges of the selection. Simply place the cursor over one of the four side handles and drag to the desired location. While adjusting the cropped area, you can review the coordinates of the crop in the fields on the right.

You can also enter the desired size of the area to be cropped. This is useful for cropping an image for specific print or screen sizes, such as 4x6 or 640x480. If you enter a size, a box according to the dimensions is displayed and can be dragged over the image. To add sizes click the ... button.

You can adjust the unit of dimension by selecting pixels, inches or centimeters in the **Unit** list.

Select the resolution for the cropped area from the **Resolution** list.

Click **Crop** to accept the crop.

Click **Cancel** to exit the Crop tool.

Rotating

The Rotate tool is used to adjust the angle of an image. You can rotate by 90 degrees clockwise and counter clockwise, and by 180 degrees. You can flip the image horizontally (along the vertical axis) and vertically (along the horizontal axis.)

Click the button for the desired rotation.

TIP: Transform JPEG Original Command

If you want to rotate JPEG images, you might prefer to use the **Transform JPEG Original** command in the **Asset** menu.

Adjusting Brightness and Contrast, Gamma and Colors

This tool offers to adjust the tonal range of your images through brightness and contrast, the gamma value and colors.

Select the desired adjustment from the pull down menu. Depending on the selected adjustment., you are offered different options.

To see the result of your modifications in real time, activate the **Live Preview** option.

Click **Apply** to accept the adjustments.

Click **Cancel** to exit the tool.

Brightness and Contrast

It can help to correct blurry images and bring out fine details in tone. Dragging the sliders to the left decreases the levels of brightness and contrast; dragging them to the right increases the levels.

When **Preserve Color** option is activated, you can change brightness and contrast without losing color. (Only the brightness information of the image is affected by the modification, the color shades are left unchanged.)

Gamma

The gamma value of an image affects the way how its colors are perceived.

Dragging the slider to the left decreases gamma value; dragging it to the right increases the value.

Color

The options offered depend on the color space of the asset.

Dragging the sliders to the left decreases the levels; dragging them to the right increases the levels.

Resizing

The Resize tool is used to change the size of an image. To resize an image, define the new width and height in the corresponding fields. To maintain the current proportions of width to height, activate the **Keep Proportions** option.

The original resolution of images is not affected by resizing with Cumulus.

Click **Apply** to accept the resizing.

Click **Cancel** to exit the tool.

Applying Filters

Select a filter type from the pull down menu. Depending on the filter type you can define the strength and the radius range for the filter (1-100.) The radius determines how far the filter considers surrounding pixels that affect the filter action. Select the radius according to the image resolution.

The following filters are available:

- Average Blur Filter
  Softens an image. It smoothes transitions by averaging the color values of sur-

rounding pixels. Eliminates noise where significant color transitions occur in an image.

- Median Filter
  Reduces noise in an image by blending the brightness of pixels. The filter adapts the brightness of pixels to the median brightness value of the surrounding pixels.

- Gauss Filter
  Works similarly to the Average Blur filter but uses a weighted average of the color values of the surrounding pixels. The weighting is determined using the Gaussian bell-shaped curve that is generated.

  TIP: *The Average Blur as well as the Gaussian filter decrease high-frequency details and can produce a hazy effect.*

- Sharp Filter
  Increases the visual sharpness of images by increasing the contrast at edges.

  TIP: *Applying the Sharp filter is recommended when scaling up images to keep their visual sharpness as high as possible.*

- Unsharp Mask Filter
  Makes images appear sharper by increasing the contrast of small brightness changes.

- Add Noise Filter
  Applies random pixels to an image, simulating distortion or noise. You can also use the Add Noise filter to give a more realistic look to heavily retouched areas.

To see the result of your modifications, you can activate the **Live Preview** option. To avoid time consuming live preview recalculations, you should activate this option after you changed the filter parameter values.

Click **Apply** to have the filter applied.

Click **Cancel** to exit the tool.

Working with Raw Images

Cumulus supports raw image formats of a wide array of digital cameras. You can find and organize raw image formats efficiently. Cumulus can extract metadata of raw image formats and store it in Cumulus catalogs. Additionally, EXIF information (camera settings, date, aperture and shutter speed etc.), and depending on the camera model, annotations and GPS are also captured when cataloging. Even Canon thumbnail files (THM) are supported. Converting assets stored in raw image format to JPEG and TIFF images on-the-fly is a breeze with Cumulus.

The Digital Camera Raw Filter enables Cumulus to capture information when cataloging raw image formats and to preview raw image formats. The captured information will be stored in Cumulus record fields.

The Digital Camera Raw Filter can capture metadata from the different raw image formats defined by leading camera manufacturers, namely, Canon, Fuji, Kodak, Minolta, Nikon, Olympus, Sigma, Sinar and Sony. Check Canto's website for a detailed list of which cameras are supported.

Most cameras supporting Canon CRW files create additional thumbnail files (THM files). The Canon Raw Metadata Support enables Cumulus to capture metadata from these files and to manage these files. For more information, see "Canon DC Raw Image & Thumbnail File".

Cataloging Raw Image Formats

When cataloging raw image formats, your catalogs and Asset Handling Sets have to be prepared for this. The catalogs in which you want to manage your raw images must provide the corresponding record fields to store the special raw image information and the Asset Handling Sets you want to employ must have the Digital Camera Raw Filter activated. Its format entries must be in a certain sequence to achieve best results.

Captured Information

When cataloging, the Digital Camera Raw Filter can capture the following information from your raw images:

Information

Digital Camera Raw Filter: Altitude, Annotation, Aperture, Aperture (String), Author, Camera ID, Camera Manufacturer, Camera Model, Captured Date, Color Mode, Color Space, Contrast, Custom Rendered, Date Time Digitized, Date Time Original, Digital Zoom Ratio, Embedded Metadata Standards, EXIF Version, Exposure Bias, Exposure Mode, Exposure Program, Exposure Time, Exposure Time (String), File Format, File Format Identifier, Flash Mode, FlashPix Version, F Number, F Number (String), Focal Length [mm], Focal Length 35mm Film [mm], Gain Control, Horizontal Resolution, ICC Profile Name, Image Height, Image Identifier, Image Orientation, Image Source, Image Width, ISO Speed, Latitude, Lens Info, Light Source, Longitude, Max Aperture, Max Aperture (String), Meter Mode, Saturation, Scene Capture Type, Scene Type, Sensing Method, Serial Number, Sharpness, Shutter Time [s], Software, Sound File, Subject Distance, Subject Distance Range, Thumbnail, User Comment, Vertical Resolution, …

Of course the filter can only capture the information contained in the cataloged images. The captured information will be stored in Cumulus record fields. The corresponding record fields have to be included in the catalog to which you want to add the raw images.

Some of the fields above may not be available in the catalog to which you want to add the raw images. To include them in a catalog, you have to add the corresponding fields to the Record Fields in the Catalog Settings dialog before cataloging your documents or updating your records. (For details on how to add record field to a catalog, see "Adding Fields".) Note that only the Cumulus Administrator or a user who has the appropriate permissions is allowed to change the settings of a catalog and add record fields.

Format Entry Order

The Digital Camera Raw Filter is the only Cumulus filter that can read raw images. However, the entry numbers of the formats supported by this filter are important. When cataloging, Cumulus starts searching for matching formats at the lowest entry number. It employs the formats according to their entry numbers (lowest entry number first). If you want the Digital Camera Raw Filter to be employed for assets, check the order of the format entries in the Asset Handling Set you use for cataloging.

In order to ensure the Digital Camera Raw Filter works ideally for cataloging assets, you have to move the entries for the formats supported by it up in the list, so that they are at least before the first format supported by the TIFF Filter. The **Sinar DC Raw Image Format** should have a lower entry number than the first format supported by the Photoshop Filter.

Defining Filter Properties

The Digital Camera Raw Filter allows you to define properties for the different formats supported by this filter.

- Canon DC Raw Image (extension: crw, Mac File Type: CCDR)
- Fuji DC Raw Image (extension: raf, Mac File Type: RAF *)

- Kodak DC Raw Image (extension: dcr, Mac File Type: KDCR)
- Minolta DC Raw Image (extension: mrw, Mac File Type: MRW *)
- Nikon DC Raw Image (extension: nef, Mac File Type: NEF *)
- Olympus DC Raw Image (extension: orf, Mac File Type: ORF *)
- Sigma DC Raw Image (extension: x3f, Mac File Type: FOVb)
- Sinar DC Raw Image (extension: sti, Mac File Type: TIFF)
- Sony DC Raw Image (extension: srf, Mac File Type: SRF *)

   * Mac File Types with 3 characters only end with a space

These properties are important for cataloging and previewing. For cataloging they are important only if you have activated the option **Entire Asset** under **Create Thumbnail from** on the Thumbnail tab of the Asset Handling Set employed for cataloging. Then the values set for the color settings and the color interpolation are used for creating the thumbnail.

For the previewing of each of the formats, you can define the source for a preview (thumbnail or entire image). If the source for the thumbnail to be created or the preview to be shown is the entire asset, the color settings and the color interpolation can be set.

Canon DC Raw Image & Thumbnail File

Most cameras supporting Canon CRW files create additional thumbnail files. Along with a 160 x 120 JPEG thumbnail of the original image in the associated CRW file, these files contain the EXIF information and optionally IPTC information. They always have the same name as the original CRW file, but with a THM file extension.

Cumulus supports these THM files. If the Canon Raw Metadata Support is activated in the Asset Handling Set employed for the CRW image, the THM files are treated as follows:

* If an image of this format is cataloged, the associated THM file will not be cataloged but the information it contains will be captured by Cumulus and stored in the record for the image.

  NOTE: If the Canon Raw Metadata Support is activated when cataloging, you get a list displayed that informs you of the THM files that have not been cataloged.

* If you employ Cumulus to manage the cataloged image (copy, move, email or delete), the associated THM file will be processed as well. Only when you employ the special copy function to select a category and then copying the associated assets by dragging this category on your desktop, the THM files will not be copied as well.

* If you rename the assets employing the Cumulus Rename To function, the THM files will not be renamed as well.

The Canon Raw Metadata Support is activated by default. If you want to deactivate it for certain Asset Handling Sets, see "(De)activating Asset Handling Modules".

Using the Similarity Search

With Cumulus you can search for assets – especially image assets – which are visually similar to other assets. Similarity is detected by comparing specific hash values of different assets. Such a hash value is generated for an asset every time when the thumbnail is changed (or created), i.e. during cataloging and check-in, or caused by an update of the record.

For details on how to search for similar assets with the Cumulus Web Client, see the Web Client help, to be accessed from within the Web Client, or via help.canto.com.

Prerequisites

Some prerequisites must be met in order to make use of the similarity search feature.

Permissions

No special permissions are required for Cumulus users who want to use the similarity search feature.

Catalog-related Prerequisites

The similarity search feature requires the Similarity Hash field to be available in a catalog. Once this field is contained in the catalog, the respective hash value is computed automatically when assets are added to the catalog, or when the thumbnail is changed for whatever reason.

For details on how to add fields to a catalog, see Adding Fields.

NOTE: Similarity Hash values for asset that have been already in a catalog before this field was added, are not computed automatically! To get the Similarity Hash values for such legacy assets, you must first perform an **Update Formula Fields** operation at the Cumulus Desktop Client.

Working with the Video Cloud

For better availability, worldwide distribution and public streaming, Videos in Cumulus can additionally be published to a Video Cloud, as offered by various providers. The "original" video files and all their metadata remain safe in Cumulus (stored in a Vault, or on a file server), but the delivery of the video to websites – including Cumulus Portals and the Web Client – is performed by the Video Cloud.

There are two ways to enhance Cumulus with the capabilities of a Video Cloud:

- either by means of the Cumulus Video Cloud,
- or by means of Cumulus Video Connectors and a contract with one of the Video Cloud providers supported by Cumulus.

From a user's point of view, however, the actual usage of the Video Cloud feature remains the same for any chosen solution.

For details on how to set up Video Cloud support in Cumulus and the prerequisites that must be met, see Video Cloud Setup.

Required Permissions

Cumulus users who want to use the Video Cloud feature (i.e. uploading and publishing videos, making use of video links and embed codes) must have special Video Cloud Catalog Permissions.

Cumulus provides three Video Cloud specific Catalog Permissions.

- **Video Cloud Consumer** – can view and make use of video links and embed codes
- **Video Cloud Contributor** – can (additionally) alter the embed code with different player skins, can make use of derivatives, can view some video-related statistics data, and can control the availability period (from - to)

- **Video Cloud Administrator** – can (additionally) manage video files in the Video Cloud (upload to/remove from Video Cloud, publish/un-publish), can access the Video Cloud module of the Web Server Console, and can see the upload queue.

How it works

In order to make a video publicly available in the Video Cloud, it must first be uploaded and published.

Video Cloud related functions (upload/remove, publish/un-publish, setting publish-from and publish-to dates) can be performed via the Desktop Client or the Web Client, but not via Portals. Cumulus Portals only serves for displaying metadata and previews of videos.

To upload video files to the Video Cloud, and to publish uploaded video files, users need the Video Cloud permission "Video Cloud Administrator".

NOTE: Some Video Cloud providers (e.g. Wistia) don't support publishing/un-publishing videos as distinct from uploading/removing videos. With such providers, an uploaded video is implicitly published, and un-publishing such a video leads to its immediate removal from the provider's site.

Upload/Publish

To initiate the upload of a video:

1. Select the video.

2. Select the menu **Assets > Video Cloud > Upload** on the Desktop Client,
    OR
    select **Upload to Video Cloud** from the toolbox of the Web Client.

This changes the value of the record field **Video Cloud Request** to **Upload to Video Cloud**. On its next run, the Cumulus Scheduler finds this value and initiates the upload to the Video Cloud. This is indicated in the **Video Cloud State** record field, which changes to **Uploading**, then to **Uploaded** once the upload is finished.

Derivatives from uploaded files for various resolutions/devices/bandwidths are created automatically by the Video Cloud. For users with appropriate permissions (Video Cloud Contributor, at least), download links to these derivatives are provided in the Desktop Client (**Video Cloud Data** window) and the Web Client (**Video Cloud** tab).

NOTE: Links to generated derivatives may only be valid for a certain period of time.

Uploaded videos must additionally be published in order to become available for the public.

NOTE: With some Video Cloud providers (e.g. Wistia), an uploaded video is published implicitly!

To publish an uploaded video:

1. Select the video.

2. Select the menu **Assets > Video Cloud > Publish** on the Desktop Client
OR
select **Publish at Video Cloud** from the toolbox of the Web Client.

This changes the value of the **Video Cloud Request** record field to **Publish to Video Cloud**. On its next run, the Scheduler finds this value and switches the state of the file in the Video Cloud to published. This is indicated in the **Video Cloud State** record field, which changes to **Publishing**, then to **Published** once the publishing process is finished.

NOTE: Uploading, publishing and the creation of derivatives are time consuming processes that can take anything from several minutes up to several hours. However, the exact duration can not be predicted. Limiting factors are the size of the video file, the available bandwidth, the load at the video server, among others.

When a Video is Published...

As soon as a video is published, its video link and embed code are available. They are displayed in the **Video Cloud Data** window (Desktop Client) and the **Video Cloud** tab (Web Client), respectively. This window / tab displays video-related data that is delivered from the Video Cloud, but is not part of the video's metadata as stored in Cumulus. (For details see Video Cloud Data.)

Cumulus users with any Video Cloud permission can make use of video links and embed codes, e.g. by sending them via email or incorporating them into a web page.

However, links and embed codes will only work if and as long as the respective videos are published.

Once the video is published, the previews that are displayed in Cumulus Web Client and Portals are no longer delivered by Cumulus, but will be streamed by the Video Cloud instead. Thus, the availability of your videos is significantly enhanced, and the load on the Cumulus Server is reduced.

Published videos will be available to everyone who encounters a respective link, e.g. on web page that contains the proper embed code, until they are un-published or deleted from the Video Cloud.

Un-publishing/Deleting Videos

Un-publishing videos from the Video Cloud – i.e. making them unavailable for public use – works just the other way round. However, it is not required to first un-publish, then delete a video – even published videos can simply be deleted from the Video Cloud.

To un-publish or remove videos from the Video Cloud, users need the Video Cloud permission "Video Cloud Administrator".

To un-publish a video from the Video Cloud:

1. Select the video

2. Select the menu **Assets > Video Cloud > Unpublish** on the Desktop Client
   OR
   select **Unpublish at Video Cloud** from the toolbox of the Web Client.

With the next run of the Cumulus Scheduler, the video will no longer be available from the Video Cloud.

Additionally, a video in the Video Cloud can be un-published at a specific date and time by specifying appropriate values in the **Video valid to** metadata field (see Restricting the Availability of Videos in the Video Cloud).

Videos that have been unpublished remain in the Video Cloud and can be published again, if desired, until they are explicitly removed from the Video Cloud.

Videos can be removed from the Video Cloud anytime, whether they are published or not.

NOTE: With some Video Cloud providers (e.g. Wistia), un-publishing a video removes it immediately from the Video Cloud!

To remove a video from the Video Cloud:

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1. Select the video.

2. Select the menu **Assets > Video Cloud > Remove** on the Desktop Client
   OR
   select **Remove from Video Cloud** from the Toolbox of the Web Client.

Removing a video from the Video Cloud does not affect its status or availability in Cumulus!

Restricting the Availability of Videos in the Video Cloud

By default, publishing a video makes it available within several minutes and for an unlimited period of time.

The availability period of a video can be precisely controlled by specifying a **Video valid from** and/or **Video valid to** date. Such dates can be specified in advance (before the video is published) as well as while the video is already published

- In advance: dates that are specified in the **Video valid from** and/or **Video valid to** record fields are taken into account by the Video Cloud during the publishing process, and the availability period is set accordingly.
- Later: any modification of the values in the **Video valid from** and **Video valid to** record fields of a published video fires a Cumulus trigger action which in turn sets or modifies the respective values in the Video Cloud. Any date entered into the **Video valid to** field while the video is in the status "published" will initiate the un-publishing of the video on the given date.

NOTE: Some Video Cloud provider (e.g. Wistia) don't support the possibility of limiting the availability period of a published video. As soon an a video is uploaded to such a provider, it will be available until it is removed from the provider's site.

File Versioning and the Usage of the Video Cloud

If a video file that has been uploaded or published to the Cumulus Video Cloud or to the Video Cloud of an external provider gets a new version in Cumulus, the uploaded or published version can be updated automatically as well.

This requires a Cumulus trigger action which is fired if the value of the **Video Cloud Asset Modification Date** record field of an uploaded or published video is modified, and in turn sets the value of the record field **Video Cloud Request** to **Upload to Video Cloud** or to **Publish to Video Cloud**, depending on the value of the of the **Video Cloud State** field. On its next run, the Cumulus Scheduler finds this value and initiates the update of the video in the Video Cloud.

NOTE: Automatic update of uploaded/published videos only works with the Cumulus Video Cloud, and with certain external video providers (currently, only movingimage and Kaltura are supported)!
With all other external Video Cloud providers, checking in a new version of an already uploaded/published video file will not affect the uploaded/published file! With these providers, an old version of a video file must be explicitly removed from the Video Cloud, then the new version must be uploaded/published. That's why a new version of a video in the Video Cloud always comes with a completely new embed code and video link.

NOTE: With both the Cumulus Video Cloud, and with moving image as external Video Cloud provider, the start frame of the video as displayed in the player is NOT updated. If this is required, the video must be manually removed from the Video Cloud and subsequently the new version must be uploaded/published. But then, the new version also gets a new embed code and video link!

Video Cloud Data

For videos that are published to the Video Cloud, additional data is provided by the Video Cloud. This data is not available or stored with the metadata of the file in Cumulus, but can be accessed via the Web Client or the Desktop Client.

- On the Web Client, this data is displayed in the **Video Cloud** tab which is added to a video's details view as soon as the video is uploaded to the Video Cloud.
- On the Desktop Client, this data is displayed in the **Video Cloud Data** Window. To open this window, select a video file, then choose **Asset > Video Cloud > Show Video Cloud Data**.

The given information is split into 4 sections. Some settings can be changed. What's actually displayed may vary depending on the configured Video Cloud.

NOTE: The contents of the Video Cloud tab and Video Cloud Data window, respectively, is not updated automatically! To initiate a refresh on the Web Client, perform a page reload, or switch to a different tab and back. On the Desktop Client, use the refresh icon in the upper left corner, or close and reopen the window.

- **Embed Code** – Used to directly embed the video into whatever web page - no further contact with Portals or any other Cumulus instance is required. The video is streamed to player as delivered from the Video Cloud. This player comes with a default player skin and a default resolution ("responsive", that is, the resolution adapts to the size and the abilities of the device and browser used by the viewer). However, users may be able to select form different player skins available at the Video Cloud, and to select a custom resolution value, to be used instead of the default ones.

- **Player Skin** – To be used with the embed code; drop-down list to select a player skin from the skins provided by the Video Cloud.

  NOTE: A player skin must be specified in the metadata of each video. If not, streaming of the videos from the Video Cloud will not work in Cumulus Portals or Cumulus Web Client.

- **Size** – To be used with the embed code; drop-down list to select a value for the size of the player from the sizes provided by Video Cloud, or to define a player size of your own.

- **Embed Code** – The code that you can insert into the source code of any web page in order to have the video displayed there. – Note that any modification to the **Size** or **Player Skin** values alters the embed code!

- **Video Link** – Used to call a landing page, which is delivered by Portals. This landing page contains a player with a default player skin and size, as delivered from the Video Cloud.

  - **Base URL** – The base URL to your Cumulus Portals instance constitutes the first part of the video link. If there are multiple Portals instances at your disposition, you must select the appropriate one from the drop-down list.

  - **Video Link** – The link that you can insert into the source code of a web page, or send via email etc.

- **Derivatives** – Links to the various derivatives of the original video, rendered by the Video Cloud for a bunch of different devices, resolutions etc. These links can be used in web pages or emails, etc, in order to provide download links for the video.

NOTE: As long as not all derivatives are generated at the Video Cloud, the title of this section is **Processing...**
Note also, that the generation of derivatives can take up to several hours, and that links to such derivatives may only be valid for a certain period of time.

- **Statistics** – Basic statistics information on the usage of the video.
  - **Video Views** – Number of calls of this video from the Video Cloud.

NOTE: The information about player skins, derivatives and statistics is not displayed to users with the permission Video Cloud Consumer only!

Using the Media Delivery Cloud

In order to provide worldwide distribution and availability of enterprise media assets, Cumulus can be enhanced with the Media Delivery Cloud option. Cataloged assets can then be provided through a Content Delivery Network (CDN) based on Amazon Web Services.

The Media Delivery Cloud caches assets into Amazon's CloudFront CDN. Images can be managed centrally in Cumulus and delivered directly from the CDN to a variety of platforms including e-commerce, Web Content Management (WCM) systems, Enterprise Resource Management (ERP) systems, Product Information Systems and more.

All kinds of assets in Cumulus can be published to the Media Delivery Cloud – either as the "original" assets, or as so called master images for image assets, or as both. A master image is a PNG version of the original image and, in general, of smaller dimensions than the original. The size of master images can be configured via the Media Delivery Cloud configurator in the Web Server Console. Crop and resize operations can be performed to a master image, which results in different renditions of that image that will be generated on-the-fly, and cached in the CDN.

Prerequisites

Some prerequisites must be met in order to make use of the Media Delivery Cloud feature.

License

A Media Delivery Cloud license must be purchased, and activated via the Remote Admin module of the Cumulus (Web) Server Console.

Additionally, a fitting amazon S3 Customer ID (either of customer's existing account, or obtained from Canto) and an Endpoint URL (obtained from Canto) must be entered via the Media Delivery Cloud Setup module of the Web Server Console.

Permissions

No special permissions are required for Cumulus users who want to use the Media Delivery Cloud feature.

Catalog-related Prerequisites

Media Delivery Cloud Specific Record Fields

The Cumulus Media Delivery Cloud (MDC) feature can be used only with catalogs that contain some MDC specific fields. These fields are provided in the catalog template for Media Delivery Cloud and can be added to any existing catalog.

For details on how to add fields to a catalog, see Adding Fields.

Scheduler Task

Cumulus provides a Media Delivery Cloud Scheduler action that reads the content of certain Media Delivery Cloud related record fields and performs the following tasks:

- uploading original assets to MDC Service
- generating of master images and uploading them to MDC Service
- deleting any asset or master image at MDC Service
- extending the expiration date of any asset/image, shortly before the expiration date is reached.

A Scheduler task with this scheduler action must be set up, specifying the catalogs on which the action shall be performed, and its frequency in time.

For details on how to set up a Scheduler action, see Setting Up a Scheduler Task.

Trigger

Cumulus provides a Media Delivery Cloud trigger action that can

- un-publish an asset or master image from the Media Delivery Cloud
- change the value of the Media Delivery Cloud Request field to Publish original asset, or Publish master image, or Publish original asset and master image, depending on what has been published before.

Canto recommends to setup two triggers with the Media Delivery Cloud trigger action:

- One catalog-specific trigger that is fired when a record is deleted. This trigger would initiate the deletion of the respective asset or master image from the MDC service.

- One field specific trigger that is fired when the asset modification date of an asset is modified. This trigger changes the value of the Media Delivery Cloud Request field to Upload ..., which subsequently causes the scheduler to upload the modified asset (and/or generate and upload a new master image) on its next run.

For details on how to set up triggers, see Setting Up Triggers for Catalogs.

How it works

Publishing or un-publishing an asset in the Media Delivery Cloud is a matter of changing a value in the **Media Delivery Cloud Request** record field. Field values can be changed via the Desktop Client or the Web Client, but not via Portals.

Prerequisites:

You need to employ a Record View Set that contains the MDC-specific fields.

To initiate the publishing of an asset and/or master image:

1. Select the asset an open it in edit mode view (Web Client), or open its Information window (Desktop Client).
2. In the **MDC Request** field, select either **Publish original asset**, or **Publish master image**, or **Publish original asset and master image**.
3. Save your changes

On its next run, the Cumulus Scheduler reads the value in the **MDC Request** field and performs an appropriate action. The **MDC state** field value is updated accordingly.

Uploaded assets and master images are provide with an expiration date by default. As long as the Scheduler runs regularly, this expiration date will be extended automatically.

Un-publishing assets

Assets and/or master images can be un-published from the Media Delivery Cloud anytime if they are not longer needed.

To un-publish an asset from the Media Delivery Cloud:

1. Select the asset an open it in edit mode view (Web Client), or open its Information window (Desktop Client).
2. In the **MDC Request** field, select either **Unpublish original asset**, or **Unpublish master image**, or **Unpublish original asset and master image**.
3. Save your changes.

With the next run of the Cumulus Scheduler, the asset will be deleted from the Media Delivery Cloud.

File Versioning and the Usage of the Media Delivery Cloud

Checking in a new version of an asset file into Cumulus affects the asset creation date value. If triggers and scheduler tasks are set up properly, new versions of assets will be automatically uploaded to the Media Delivery Cloud on the next run of the scheduler.

If you do not want to automatically re-publish updated assets, you must not specify a field-specific trigger with the Media Delivery Cloud trigger action!

Working with Office Documents

Cumulus provides special support for documents of certain office systems. This special support is based on specific support modules.

Special support is provided for documents of the following office systems:

- Microsoft Office 2007/8 or later
- Microsoft Office 2003 or prior for Windows, 2004 or prior for macOS
- Apple iWork
- OpenOffice.org

When cataloging, Cumulus can capture all office document information such as author, dates and version, and even all text contained in the document.

If you have installed LibreOffice on the Client machine, Cumulus can properly create high quality previews and thumbnails from office documents. This includes RTF files, MS Office Open XML files and templates, MS Office files and templates, Open Document files and template, and Open Office files and templates. The client machine is any computer on which a Cumulus Client application is running, e.g. the Cumulus Desktop Client or a Cumulus Java Classes based application like Cumulus Web Solutions (for installations employing the Cumulus Web Client or the Cumulus Integration Platform).

TIP: Quality Problems? Check the LibreOffice Installation Path

If LibreOffice is installed and you still encounter issues with thumbnails and pre-views from office documents, check whether the path to LibreOffice is properly specified in the client.xml file, or inform your Cumulus administrator. For details on how to check the path, see "Appendix / Support for Office Formats: LibreOffice" in the most recent Cumulus Installation Guide.

If you have installed PowerPoint on the Client machine, the Cumulus PowerPoint Filter will create high quality previews and thumbnails for PowerPoint assets. You can also create new presentations out of your cataloged single slides directly in Cumulus. When you are working with Microsoft PowerPoint, Cumulus allows you to insert cataloged assets into presentations. For more details see "PowerPoint Support", and "The PowerPoint Add-In" .

Special modules for office documents are:

Asset Store Modules for Office Documents

Some of the special AssetStores for office documents enable Cumulus to create records for pages, sheets or slides of office documents. These records are created in addition to a record for the entire document. Other special AssetStores enable Cumulus to create one record for each picture embedded in an office document while cataloging. All these records are created in addition to a record for the entire document and in addition to separate records for pages or slides. The records will be assigned to the corresponding document as "related sub asset". A category for each document will automatically be created and the records are assigned to these categories. For further details on such AssetStores, see "Asset Storage Modules" .

NOTE: If none of the special AssetStores is activated for the Asset Handling Set used, Cumulus will just create one record for the entire asset.

Asset Processor Modules for Presentations

The MS PowerPoint Asset Processor and Office Open XML Presentation Processor enable the user to create PowerPoint presentations from selected PowerPoint assets (slides, presentations) and image assets within Cumulus. For further details on such Asset Processors, see "Asset Processor Modules" . (For more information on how to use the PowerPoint/Presentation Asset Processors, see "Creating Presentations" .)

Cumulus Office Document Filters

The office document filters can capture:

- Document description information (such as Title, Subject, Keywords, Headings ...)
- Document origin information (such as Author, Document Creation Date, Revision Information)
- Document text
- Custom document properties as defined by a user

NOTE: All office document filters support AXR (Asset Cross References).

Formats supported by Cumulus office document filters

File Format	Extension	Mac File Type	Cumulus Filter
Apple Pages	*pages*		*Apple iWork Filter*
Apple Keynote	*key*		*Apple iWork Filter*
Apple Keynote Slide			*Apple iWork Filter*
MS Office Binder Wizard	*obz*		*Compound Document Filter*
MS Office Binder Template	*obt*		*Compound Document Filter*
MS Access Project	*adp*		*Compound Document Filter*
MS Access Wizard	*mdz*		*Compound Document Filter*
MS PowerPoint Add-In	*ppa*	*PPPA*	*Compound Document Filter*
MS PowerPoint Wizard	*pwz*		*Compound Document Filter*
MS PowerPoint Template	*pot*	*PPOT*	*Compound Document Filter*
MS PowerPoint Show	*pps*	*PPSS*	*Compound Document Filter*
MS PowerPoint Slide	*ppt*	*SLD3*	*Compound Document Filter*
MS PowerPoint Presentation	*ppt*	*SLD8*	*Compound Document Filter*
MS Excel Add-In	*xla*	*XLA8*	*Compound Document Filter*
MS Excel Template	*xlt*	*sLS8*	*Compound Document Filter*
MS Excel Document	*xls*	*XLS8*	*Compound Document Filter*
MS Word Wizard	*wiz*		*Compound Document Filter*

File Format	Extension	Mac File Type	Cumulus Filter
MS Word Template	dot	W8TN	Compound Document Filter
MS Word Document	doc	W8BN	Compound Document Filter
MS Outlook Item	msg		Compound Document Filter
MS Outlook Item Template	oft		Compound Document Filter
Compound Document Format			Compound Document Filter
MS Picture It! Image	mix		Compound Document Filter
Text Document	docx/docm		Office Open XML Filter
Text Template	dotx/dotm		Office Open XML Filter
Spreadsheet Workbook	xlsx/xlsm/xlsb		Office Open XML Filter
Spreadsheet Workbook Template	xltx/xltm		Office Open XML Filter
Spreadsheet		XLSX	Office Open XML Filter
Presentation	pptx/pptm		Office Open XML Filter
Presentation Template	potx/potm		Office Open XML Filter
Presentation Show	ppsx		Office Open XML Filter
Presentation Slide		SLDX	Office Open XML Filter
XPS Document	xps		Office Open XML Filter
XPS Page		XPSP	Office Open XML Filter
Open Document Text	odt		Open Document Format Filter
Open Document Text Template	ott		Open Document Format Filter

File Format	Extension	Mac File Type	Cumulus Filter
Open Document Spreadsheet	ods		Open Document Format Filter
Open Document Spreadsheet Template	ots		Open Document Format Filter
Open Document Presentation	odp		Open Document Format Filter
Open Document Presentation Template	otp		Open Document Format Filter
Open Document Drawing	odg		Open Document Format Filter
Open Document Drawing Template	otg		Open Document Format Filter
Open Document Formula	odf		Open Document Format Filter
Open Document Master Document	odm		Open Document Format Filter
Open Document Database	odb		Open Document Format Filter
OpenOffice 1.0 Text	sxw		Open Document Format Filter
OpenOffice 1.0 Text Template	stw		Open Document Format Filter
OpenOffice 1.0 Spreadsheet	sxc		Open Document Format Filter
OpenOffice 1.0 Spreadsheet Template	stc		Open Document Format Filter
OpenOffice 1.0 Presentation	sxi		Open Document Format Filter
OpenOffice 1.0 Presentation Template	sti		Open Document Format Filter
OpenOffice 1.0 Drawing	sxd		Open Document Format Filter
OpenOffice 1.0 Drawing Template	std		Open Document Format Filter

File Format	Extension	Mac File Type	Cumulus Filter
OpenOffice 1.0 Formula	*sxm*		*Open Document Format Filter*
OpenOffice 1.0 Master Document	*sxg*		*Open Document Format Filter*
MS PowerPoint Template	*pot*	*PPOT*	*PowerPoint Filter*
MS PowerPoint Show	*pps*	*PPSS*	*PowerPoint Filter*
MS PowerPoint Presentation	*ppt*	*SLD8*	*PowerPoint Filter*
MS PowerPoint Slide	*ppt*	*SLD3*	*PowerPoint Filter*

Some office document filters have properties that you can change. The range of options depends on the filter.

Configuring

To have the fully functional range of Cumulus for office documents available, the Cumulus catalogs in which you want to store special additional information on cataloged documents have to be prepared.

Of course the office document filters can only capture the information contained in the cataloged documents. The captured information will be stored in Cumulus record fields. The corresponding record fields have to be included in the catalog to which you want to add the office documents.

Some of the fields 'fed' by the special office filters and support modules may not be active in the catalog to which you want to add the documents. To include them in a catalog, you have to add the corresponding fields to the Record Fields in the Catalog Settings dialog before cataloging your documents or updating your records. (For details on how to add record field to a catalog, see "Adding Fields".) Note that only the Cumulus Administrator or a user who has the appropriate permissions is allowed to change the settings of a catalog and add record fields.

Cataloging Outlook Messages

Cumulus lets you catalog mail messages stored in the Microsoft Office Outlook Message Format (file extension: msg) and all attachments or embedded images as separate assets along with it. The Compound Document Filter will capture mail addresses to the record fields **Email CC**, **Email From**, **Email To** and the text of the message to the **Document Text** record field.

The Outlook Message AssetStore enables Cumulus to create one record for each attachment or embedded image of a Microsoft Office Outlook message while cataloging – in addition to creating a record for the message. These records will be assigned to the corresponding message as "related sub assets". A category for each message will automatically be created and the images' and attachments' records are assigned to these categories. The record name of an attachment or an embedded image is the name of the image as saved with the message.

To have the full support for Outlook messages, you must use an Asset Handling Set that has the Outlook Message AssetStore activated for cataloging and the catalog must provide the corresponding record fields. (For details on how to add record fields to a catalog, see "Adding Fields". For a description on how to customize an Asset Handling Set see "Editing An Asset Handling Set".)

PowerPoint Support

This section covers the basics of working with the Cumulus PowerPoint support modules for Windows and Mac OS X. It describes how to catalog PowerPoint presentations including slides, how to work with cataloged slides in Cumulus and how to import cataloged graphic files and slides directly into Microsoft PowerPoint presentations.

For information on how to use the Presentation Asset Processors to create PowerPoint presentations from selected PowerPoint assets (slides, presentations), image assets and previews of other asset formats within Cumulus, see "Creating Presentations" .

Formats and Requirements

Cumulus offers different modules for supporting the different PowerPoint formats:

- The **MS PowerPoint AssetStore**, the **MS PowerPoint Picture AssetStore** and the **PowerPoint Filter** handle presentations in PowerPoint 97-2004 format (*.ppt). To have full support for files of this format, a Microsoft PowerPoint installation is required on the computer where you are working. Microsoft PowerPoint ⊞ 97/2000/XP/2003/2007/2010 or 2004/2008 is required.

- The **Office Open XML Pages and Slides AssetStore**, the **Office Open XML Pictures and Media AssetStore** and the **Office Open XML Filter** handle presentations in Office PowerPoint 2007/8 format (*.pptx and *.ppsx). If you are working with Office PowerPoint 2007/8 formats, a PowerPoint installation is not required – unless you want to generate high quality previews or thumbnails for slides.

The PowerPoint support AssetStore modules enable Cumulus to create records for slides as well as for images and objects embedded in a presentation. The PowerPoint support filter modules create high quality previews and thumbnails if the corresponding PowerPoint application is installed on the Client machine.

Most Cumulus PowerPoint support modules run on Windows and on Mac OS X. Under UNIX, only the Office Open XML Presentation Processor and the document filters (Compound Document and Office Open XML) are available.

The fact that some PowerPoint support components employ Microsoft PowerPoint in the background may sometimes result in slow performance of some functions.

Employing the PowerPoint Support Filter Modules

The PowerPoint support filter modules (PowerPoint Filter, Office Open XML Filter) deliver better thumbnail and preview quality for PowerPoint assets than the Compound Document Filter, but the Compound Document Filter is faster, does not require PowerPoint and works on all platforms. To employ the PowerPoint support filter modules for cataloging those formats it supports, you have to move the format entries up in the list at least before the corresponding entries of the Compound Document Filter.

BACKGROUND INFO: Sequence of Formats

When cataloging, Cumulus starts searching for matching formats. Cumulus employs the formats according to their entry numbers (lowest entry number first) in the Asset Formats list of the employed Asset Handling Set.

NOTE: for macOS only
For PowerPoint 2008 assets (*.pptx and *.ppsx) numbered thumbnails will be created for slides, no individual ones. Previewing a slide will display its thumbnail. These restrictions are due to the fact that Microsoft decided to remove the VBA/OLE technology from Office 2008 for OS X.

Cataloging the Slides of a Presentation

To catalog the slides of a PowerPoint presentation, you simply catalog the PowerPoint presentation file – using an Asset Handling Set that has the corresponding office AssetStore(s) activated. Then Cumulus will automatically catalog the presentation and all slides contained. A root category named **PowerPoint** is then automatically created as well as a subcategory with the same name as the presentation. All slides will be assigned to the presentation's category. If the slides contain embedded pictures or other media and the corresponding Picture or Pictures and Media AssetStore is activated, a record of embedded media will be created. A subcategory for each slide of the presentation file is automatically created and the media's records are assigned to these categories.

Records for the PowerPoint presentation file and each of its slides will be created, indicating that the cataloging process was successful.

NOTE: No Individual Thumbnail!

If no individual thumbnail was created for a slide's record – although PowerPoint is installed –, the reason could be that the slides contain one or several media that can't be opened by the PowerPoint application (e.g. linked images or embedded objects). If such an individual record could not be created, a default thumbnail is used. For PowerPoint 2007 assets (*.pptx and *.ppsx) the slide number is added to the thumbnail embedded in the presentation.

Working with Records of Slides

Certain functions in Cumulus work slightly differently for records of PowerPoint slides. The following sections describe only these specific functions.

- Showing Location
  If you select **Asset > Show Location** for the record of a cataloged slide, Cumulus opens the presentation in PowerPoint and displays the selected slide – if the corresponding PowerPoint application is installed on the computer running the Cumulus Client.

- Copying Slides or Creating New Presentations
  If you select **Asset > Copy To** for the record of a cataloged PowerPoint slide and select a folder as the destination, Cumulus creates a new presentation containing the selected slide. If you select an existing presentation as the destination, Cumulus adds the selected slide at the end of the presentation if the corresponding PowerPoint application is installed on the computer running the Cumulus Client.

- Deleting
  If you select **Edit > Delete** for the record of a cataloged PowerPoint slide and select the option **Delete Record and Asset**, the selected slide will be deleted from the catalog as well as from the presentation (with PowerPoint 97-2004 format (*.ppt) only.)

The PowerPoint Add-In

The Cumulus PowerPoint Add-In enhances your Microsoft PowerPoint application with additional functions. It enables you to import cataloged slides, pictures and media from Cumulus into Microsoft PowerPoint presentations. You may import all picture and media formats which PowerPoint supports.

These functions are accessible within the PowerPoint application. They are added as an icon to the toolbar and as options to the menus. Different ways are offered to import cataloged assets:

* via the **Insert** menu options
  Slides from Cumulus or **Picture > From Cumulus**
* via the toolbar:

NOTE: Drag and Drop without Add-In
– Microsoft PowerPoint 2008 supports drag & drop of cataloged pictures and media from Cumulus into the PowerPoint application. Click the ALT key and drag & drop the record into the PowerPoint presentation.
– Microsoft PowerPoint 2007 supports drag & drop of cataloged pictures and media from Cumulus into the PowerPoint application.

Integrating the PowerPoint Add-In

The installation and integration of the Cumulus PowerPoint Add-In is different for each operating system.

Under Windows

Under Windows the Cumulus PowerPoint Add-In is available for Microsoft Office 2010/2013/2016 (64-bit). It can be installed and integrated with the standard Cumulus Client installation process. If the **PowerPoint Add-In** option of the **Choose Install Set** dialog was activated during installation, the Cumulus menu entries and icons will be available in PowerPoint application.

But you can also install and integrate the add-in later. For this purpose Canto provides a script for installation. This script as well as one for uninstalling can be found in the corresponding language subfolder of the **PowerPoint** folder in the **Adapters** folder inside the Cumulus Client installation folder, e.g. **C:\Program Files\Canto\Cumulus Client\Adapters\PowerPoint\en**
Any script has to be executed with administrator permissions. Use right-click to invoke them.

Use the script **InstallAddin.cmd** to install the Cumulus PowerPoint Add-In. The Cumulus PowerPoint Add-In will be installed for all users on the machine and the Cumulus menu entries and icons will be available to any user of the PowerPoint application. To uninstall the add-in, use the **UninstallAddin.cmd** script.

NOTE: ⊞ Macro Security of Microsoft PowerPoint
For adding the Cumulus PowerPoint Add-In, the macro security level of your PowerPoint application must either be set to medium or low. To set the security level, you have to open your PowerPoint application and select **Tools > Macro > Security**.

Under macOS

To integrate the Cumulus PowerPoint Add-In with the PowerPoint application of MS Office:

1. Open your PowerPoint application.
2. Select **Tools > Add-Ins**. A dialog opens that lists all available Add-Ins for your PowerPoint installation.
3. Click the **Add** button. A standard dialog for selecting opens.
4. Navigate to the Adapters folder of your Cumulus Client installation folder. Open the **Adapters** folder, then the **PowerPoint** folder and finally the **en** folder. Select **Import from Cumulus** and click **Open**.

   The list with all available Add-Ins for your PowerPoint installation is displayed and now contains the entry **Import from Cumulus**. Make sure the **Import from Cumulus** checkbox is activated.

   If a warning appears that it is dangerous to install any macros, click **Enable Macros**.
5. Click **OK**.

Now your PowerPoint application is aware of the Cumulus PowerPoint Add-In and the menu entries and icons will be available accordingly.

Importing Cataloged Slides, Images or Objects

You can import cataloged slides, images and objects (media) from Cumulus into Microsoft PowerPoint presentations. You may import all image and object formats which PowerPoint supports.

When you import cataloged slides, they are always added at the end of the current presentation and the layout of the master slide is applied. When you import cataloged images or objects, they are inserted into the current slide. To import cataloged slides, images or objects:

1. Start your Cumulus application if it is not already running.

2. Select the record of the asset to be imported.

    NOTE: Cumulus must have access to the assets – wherever it is stored: on your hard disk, in Cumulus Vault, on an FTP server...

3. Open the PowerPoint presentation to which you want to add the cataloged asset.

4. If you are importing pictures or media:
    Select the slide in which you want to place the picture or media.

5. Click on ![icon] , OR
    select **Insert > Slides from Cumulus**, OR
    select **Insert > Picture > From Cumulus**
    (in 2007/8 MS Office System to be found on the Add Ins tab).

    NOTE: For Cumulus Vault Users Only!
    If the asset is stored in Cumulus Vault and the option **Ask for Version to Get** is activated Cumulus will prompt you to select the version.

You are asked whether images or objects should be embedded or linked.

Embedded images and objects will be stored with the presentation whereas linked ones require access to the files themselves to be displayed. (For more information on linked and embedded objects, see the background information below.

6. Click the desired button.

The asset will be inserted into the current slide.

NOTE: You may also select multiple assets to be imported. Cascading files will be inserted on top of each other in the same order as viewed in Cumulus (last on top.)

BACKGROUND INFO: Linked and Embedded Objects

The main differences between linked objects and embedded objects are where the data is stored and how it is updated after it is placed.

Linked: When an object is linked, information is updated if the source file was updated. Linked data is stored in the source file only. The presentation stores only the location of the source file and displays a representation of the linked data. Use linked objects if file size is a consideration. But be aware that you have to copy the linked objects separately if you copy the presentation to another storage media or computer.

Embedded: When an object is embedded, information in the presentation doesn't change if you modify the source file. Embedded objects become part of the presentation and, once inserted, are no longer part of the source file.

Working with InDesign Documents

Cumulus provides special support for InDesign documents. This support is based on specific modules which allow:

- multipage previews
- separate records for pages
- full text search in captured document text
- detection of contained and referenced assets

Cumulus' enhanced support for InDesign documents is provided for documents of versions up to InDesign CC.

When cataloging, Cumulus can capture general document information. If you have installed the Cumulus DocWatch Plug-in for Adobe InDesign on the machine where the InDesign documents are created and edited, Cumulus can also capture specific document information. (See "DocWatch Plug-ins for InDesign," below, for details.)

Special modules for InDesign documents are:

- DocWatch Plug-ins for InDesign
- InDesign AssetStore Module
- InDesign Filter

DocWatch Plug-ins for InDesign

The Cumulus DocWatch Plug-in for Adobe InDesign enables Cumulus to embed the metadata of an InDesign document into the XMP (EXtensible Metadata Platform) part of the document. The Cumulus InDesign Filter and InDesign AssetStore can make use of such metadata and capture information on InDesign documents when they are cat-

aloged or previewed. The InDesign AssetStore requires such metadata to extract pages in order to provide separate records for these pages.

The Cumulus DocWatch UI Plug-in for Adobe InDesign adds a new entry to InDesign's **Preferences** menu, **Cumulus DocWatch.** (See "DocWatch Properties," below, for details.)

Installing the DocWatch Plug-in

The Cumulus DocWatch Plug-in and the Cumulus DocWatch UI Plug-in for Adobe InDesign must be installed on each computer where the InDesign documents you want to catalog are created or edited.

- If you are using the Cumulus InDesign Client, the proper DocWatch Plug-in and the DocWatch UI Plug-in for your Adobe InDesign version are installed automatically with the InDesign Client installation.
- If the Cumulus InDesign Client is not installed on your system, you must add the DocWatch Plug-in and the DocWatch UI Plug-in manually to your InDesign installation.

DocWatch (and DocWatch UI) Plug-ins for various Adobe InDesign versions are provided with any Cumulus standard installation. You find them in the **Adapters** folder in your Cumulus Client installation folder.

To manually install the plug-in for Adobe InDesign:

1. (Windows:) Copy the **CumulusDocWatch** folder for your InDesign version to the **Plug-Ins** folder of the Adobe InDesign installation.
   OR
   (macOS:) Copy both the **CumulusDocWatch [xx].InDesignPlugin** and

CumulusDocWatchUI [xx].InDesignPlugin files for your InDesign version to the **Plug-Ins** folder of the Adobe InDesign installation

DocWatch Plug-in folders provided under Windows:

- InDesign 2020 x64
- InDesign CC 2019 x64
- InDesign CC 2018 x64
- InDesign CC 2017 x64
- InDesign CC 2015 x64
- InDesign CC 2014 x64
- InDesign CC x64
- InDesign CS6
- InDesign CS5.5
- InDesign CS5

DocWatch Plug-in files provided under macOS:

- For InDesign 2020:
  CumulusDocWatch 2020.InDesignPlugin and CumulusDocWatchUI 2020.InDesignPlugin
- For InDesign CC 2019:
  CumulusDocWatch CC2019.InDesignPlugin and CumulusDocWatchUI CC2019.InDesignPlugin
- For InDesign CC 2018:
  CumulusDocWatch CC2018.InDesignPlugin and CumulusDocWatchUI CC2018.InDesignPlugin

- For InDesign CC 2017:
  CumulusDocWatch CC2017.InDesignPlugin and CumulusDocWatchUI CC2017.InDesignPlugin
- For InDesign CC 2015:
  CumulusDocWatch CC2015.InDesignPlugin and CumulusDocWatchUI CC2015.InDesignPlugin
- For InDesign CC 2014:
  CumulusDocWatch CC2014.InDesignPlugin and CumulusDocWatchUI CC2014.InDesignPlugin
- For InDesign CC:
  CumulusDocWatch CC.InDesignPlugin and CumulusDocWatchUI CC.InDesign-Plugin
- For InDesign CS6:
  CumulusDocWatch CS6.InDesignPlugin and CumulusDocWatchUI CS6.InDesign-Plugin
- For InDesign CS5.5:
  CumulusDocWatch CS5.5.InDesignPlugin and CumulusDocWatchUI CS5.5.InDesignPlugin
- For InDesign CS5:
  CumulusDocWatch CS5.InDesignPlugin and CumulusDocWatchUI CS5.InDesign-Plugin

Captured Information

The Cumulus DocWatch Plug-in for Adobe InDesign extracts the following information from an InDesign document and saves them to the XMP section of the document:

- Document Text

- Font Names
- Image Height
- Image Width
- Number Of Pages
- Number Of Layers
- Preview/Thumbnail of the first page (InDesign version 2.0 or later)
- Preview/Thumbnail of all pages (InDesign version CS2 or later)
- Software
- Related Sub Assets (called 'Contained Assets' in versions prior to Cumulus 7)

DocWatch Properties

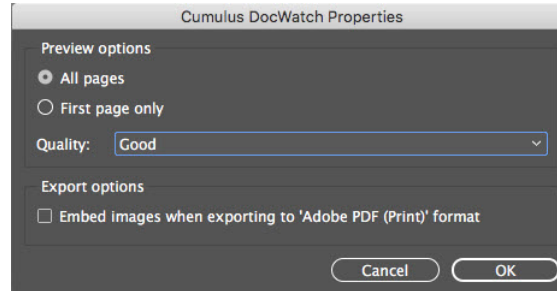By default, the DocWatch Plug-in extracts a preview of each page of an InDesign document. Especially for large documents, this may increase the amount of collected metadata significantly. In order to reduce the amount of collected metadata and thus improving the overall performance, this behavior can be configured. The DocWatch UI Plug-in adds a new entry to InDesign's **Preferences** menu, **Cumulus DocWatch.**

To adapt the behavior of the Cumulus DocWatch Plug-in:

1. In InDesign, select **Preferences > Cumulus DocWatch**.
    The **Cumulus DocWatch Properties** window is displayed.

    Cumulus DocWatch Properties

    Preview options
    ● All pages
    ○ First page only
    Quality: Good

    Export options
    ☐ Embed images when exporting to 'Adobe PDF (Print)' format

    Cancel   OK

2. Select whether there shall be a preview for each page of a document, or for the first page only.
3. Select the desired quality of the preview (the higher the quality, the higher the amount of data to be stored).
4. Confirm your settings with **OK**.

NOTE: Export options
In order to increase the quality of generated PDFs via the Cumulus InDesign Client, users of Cumulus 11.0.1 or 11.0.2 may want to activate the **Embed images when exporting to 'Adobe PDF (Print)' format** option (which is deactivated by default for performance reasons).
Starting with Cumulus 11.0.3, this option is obsolete, because PDFs are now always created with high quality images.

InDesign AssetStore Module

Based on the information stored in the XMP section, the InDesign AssetStores enables Cumulus to create one record for each page of the InDesign document during the cataloging process. All these records are created in addition to creating a record for the entire document. The records will be assigned to the corresponding document as "contained". A category for each document will automatically be created and the records are assigned to these categories.

NOTE: If InDesign AssetStore is not activated for the Asset Handling Set used, Cumulus will just create one record for the entire asset.

InDesign Filter

The Cumulus Filter for Adobe InDesign captures the following information from an InDesign document:

• File Format

• Horizontal Resolution

• Thumbnail

- Vertical Resolution

Based on the information stored in the XMP section, the InDesign Filter can also capture the following information:

- Document Text
- Font Names
- Image Height
- Image Width
- Number Of Pages
- Number Of Layers
- Thumbnail
- Software
- Related Sub Assets (with versions prior to Cumulus 7 called 'Contained Assets')

Defining Filter Properties

The Cumulus InDesign Filter allows you to define properties of assets cataloged with this filter. Under **Preferences > Asset Handling Sets > Asset Formats** tab, select the InDesign Filter entry and click on **Properties**. The Filter Setup dialog opens.

You can decide whether the thumbnail and preview for an asset should be created from page or spread. Note that thumbnail and preview creation is only possible for the entire document and not for individual pages. Another setup definition enables Cumulus to extract the text contained in the file to the **Document Text** record field. If this option is activated, you can enter the maximal number of characters you want to extract.

Configuring

To have the fully functional range of Cumulus for InDesign documents available, some configurations have to be made:

- The Cumulus catalogs in which you want to store special additional information on cataloged documents have to be prepared. (See "Preparing Catalogs," below, for details.)

- Windows and Mac OS X only:
  To capture additional information while cataloging, the Cumulus plug-in for Adobe InDesign has to be installed on each computer where the InDesign documents you want to catalog are created. (See "Installing the DocWatch Plug-in", for details.)

- The Asset Handling Set(s) used for cataloging InDesign assets must be set up for optimized InDesign support. (See "Optimizing Asset Handling Sets for InDesign Support," below, for details.)

Preparing Catalogs

Of course, Cumulus can only capture the information contained in the cataloged assets. The captured information will be stored in Cumulus record fields. The corresponding record fields have to be included in the catalog to which you want to add the assets.

Some of the fields "fed" by the special InDesign modules may not be active in the catalog to which you want to add the InDesign documents. To include them in a catalog, you have to add the corresponding fields to the Record Fields in the Catalog Settings dialog before cataloging your documents or updating your records. (For details on

how to add record fields to a catalog, see "Adding Fields" .) Note that only the Cumulus Administrator or a user who has the appropriate permissions is allowed to change the settings of a catalog and add record fields.

Optimizing Asset Handling Sets for InDesign Support

To optimize an Asset Handling Set for InDesign support:

- Activate the InDesign Filter and define its properties (as described above.)
- Activate the InDesign AssetStore module (in order to have separate records for the document pages.)

Further Special InDesign Support

The following modules also provide special support for InDesign documents:

- Cumulus AXR™ (Asset Cross References) is able to detect links and place assets in Adobe InDesign documents. Note when using Cumulus Workgroup, the referenced assets must be cataloged before Cumulus can detect them.

- The HELIOS Filter supports HELIOS XPV preview files. This enables Cumulus to provide multipage previews for Adobe InDesign documents. If an XPV preview file for such a document is available, the HELIOS Filter will extract the data that Cumulus requires to provide a multipage preview.

- The Cumulus XMP (Extensible Metadata Platform) Filter extends Cumulus' functionality, when adding XMP files (e.g. Adobe Sidecar) to your catalogs. This filter is primarily employed as sub filter for embedded XMP data in any file format like PDF, JPEG, TIFF and Adobe Photoshop, Illustrator and InDesign. This means first the filter for the file format is invoked and then this filter.

Assigning Individual Permissions for Records and Categories

What functions a user is allowed to perform on records, assets and categories is controlled via the various permissions that are set via the User Manager. These permissions can either apply to all catalogs a user has access to, or can be catalog-specific.

The same applies to roles, if Cumulus runs in role mode. In this case, the permissions of a user are determined by the roles he/she is assigned to. For details on permission, see "Advanced View: Permissions". For details on roles, see "Working with the Role-Based Mode".

In addition to these general permissions settings, users (or roles) can be granted individual permissions on specific records, asset and categories.

NOTE: Individual permissions are always added to the user's general permissions. There is no way to reduce or revoke permissions a user has been assigned via the User Manager.

On Individual Record/Category Permissions

Optional feature! May not be available with your Cumulus configuration.

Cumulus provides a Properties dialog for records and categories where you can grant a user or role individual permissions on the currently selected items. There are different permissions for records and for categories.

For assigning individual permissions, there are several ways:

- Employing a Permissions Template. Thus, individual permissions can be granted to multiple users/roles at a single blow, as defined in the Permissions Template.

OR

- Granting individual permissions to selected users/roles one by one. To do so, you must first select the users/roles to which you want to grant the permissions.

Setting Individual Permissions

PRECONDITIONS:

- In order to search for users, you must have the **Browse for Users** permission.
- In order to give other users individual permissions to records, you must have the application permission **Modify Item Permissions** for the respective records.
- In order to give other users individual permissions to categories, you must have the application permission **Modify Item Permissions** for the respective categories.

For details on how to set general user permissions, see "Application Permissions".

For Records/Categories

To grant a user individual permissions for selected records or categories:

1. Right-click on a record or category and select **Properties** from the shortcut menu. The **Properties** window appears.
2. Click the **Permissions** tab.
   Users/roles that have already individual permissions are initially displayed in the users list.

Now, you can either grant individual permissions to selected users or roles one by one, or you can employ a Permissions Template.

Granting Permissions One by One

To grant individual permissions to selected users or roles:

1. If the desired user is not already shown, click **Add Users**.
   The **Add User** window is displayed.
2. Search for respective users. Click **OK** to add them to the list in the **Permissions** section.
   OR
   If the desired role is not already shown, click **Add Role** and select a role to add it to the list in the **Permissions** section.
3. Select a user or role from that list and activate the permissions you want to assign, or deactivate previously granted individual permissions to revoke them.

4. Click **Apply** to save your changes and continue to assign individual permissions to further users.
    OR
    Click **OK** to save all changes and close the **Properties** window.

Granting Permissions Employing Templates

To employ a Permissions Template:

1. Click **Use Template** and select the template you want to use.

2. Click **Apply** to save your changes and continue to assign individual permissions to further users.
    OR
    Click **OK** to save all changes and close the **Properties** window.

NOTE: With Permission Templates, both the permissions to be granted and the respective users are specified in the template itself. You can not assign a Permissions Template to a user selected from the user list on the Permissions tab. For more information on Permissions Templates, see "Overview: Permissions Templates" .)

SPECIAL TECH INFO: Configuring Authenticators' User Search Criteria

With the Cumulus Built-in authenticator you can search for the login names as well as for first, middle or last names. With LDAP authenticators, a search for login names is performed by default. The default search criteria for the LDAP authenticator can be changed in the LDAP.xml file (located in the **conf** folder inside the Cumulus Server installation folder.)

Additional Information on Category Permissions

* Categories Representing Catalogs
The Properties Window for a category representing a catalog (a "root" category) does not provide a Permissions tab. Because such a category is on the highest hierarchical category level, only child permissions can be defined for it. (For details on child permissions, see "For Subcategories" .)

* Moving Categories
To move a category, the user needs the permission **Modify Category** for the category to be moved and the permission **Create Category** for the 'absorbing' category (the category which will house the moved category). A moved category maintains its permissions.

For Subcategories

This feature enables you to define permissions for any subcategory created under the selected category. These permissions are set on the **Permissions for Subcategories** tab of the **Properties** window for categories.

Subcategories can either inherit the permissions defined for the 'parent' category (which is the default setting), or they can have their own permissions. Note that once a subcategory is created, its permissions can be modified individually. Thus it is very easy to define the level(s) of a categories tree a user or role is allowed to edit.

NOTE: If you change permission settings for a 'parent' category, you will be asked whether these changes should be applied to its subcategories as well.

To define explicit permissions for any subcategories created under a selected category:

1. Right-click on a record or category and select **Properties** from the shortcut menu. The **Properties** window appears.
2. Click the **Permissions for Subcategories** tab.
3. Activate the **Defined below** option.

Now, you can either grant individual permissions for subcategories to selected users or roles, or you can employ a Permissions Template.

Granting Permissions One by One

To grant individual permissions to selected users or roles:

1. If the desired user is not already shown, click **Add Users**.
   The **Add User** window is displayed.

   Search for respective users. Click **OK** to add them to the list in the **Permissions** section.

   OR

   If the desired role is not already shown, click **Add Role** and select a role to add it to the list in the **Permissions** section.

2. Select a user or role from that list and activate the permissions you want to assign, or deactivate previously granted permissions to revoke them.

3. Click **Apply** to save your changes and continue to assign individual permissions to further users.
   OR
   Click **OK** to save all changes and close the **Properties** window.

Granting Permissions Employing Templates

To employ a Permissions Template:

1. Click **Use Template** and select the template you want to use.

2. Click **Apply** to save your changes and continue to assign individual permissions to further users.

OR
Click **OK** to save all changes and close the **Properties** window.

NOTE: With Permission Templates, both the permissions to be granted and the respective users are specified in the template itself. A Permissions Template can not be assigned to a user selected from the user list on the Permissions tab. For more information on Permissions Templates, see "Overview: Permissions Templates" .)

View the Effective Permissions

The effective permissions a user/role has for a given record or category consist of the general permissions assigned via the User Manager, plus all individual permission that have been granted additionally. These individual permissions are displayed for a selected user/role on the **Permissions** tab of the **Properties** window.

For an overview on the effective permission a user/role has for a given record or category, use the **Effective Permissions** tab.

To view the effective permissions of a user or role:

1. Right-click on a record or category and select **Properties** from the shortcut menu. The **Properties** window appears.

2. Click the **Effective Permissions** tab.

3. If the desired user is not already shown, click **Add User**.
   The **Add User** window is displayed.

   Search for respective users. Click **OK** to add them to the list in the **Permissions** section.
   OR
   If the desired role is not already shown, click **Choose Role** and select a role to add it to the list in the **Permissions** section.

4. Select a user or role from that list to see the effective permissions...

NOTE: Users/roles that you have selected on the **Permissions** tab will be displayed on the **Effective Permissions** tab as well, and vice versa.

Cumulus

This section serves as a road map to the entire Cumulus product from the perspective of the user interface. Explanations are given for each of the program's menus and toolbars.

Client Menu Reference

The Cumulus Menu

- About Cumulus
- Preferences
- Quit Cumulus

The File Menu

- Open Catalog
- Open Recent Catalog
- Close
- New Collection
- Open Collection
- Save Collection
- Save Collection As
- Send Collection Link
- Send Upload Link
- Add Catalog to Collection
- Remove Catalog from Collection
- Save
- Add Assets to Catalog
- Remove Catalog from Collection
- Import
- Export
- Page Setup
- Print Preview

- Print
- Administration
- Exit

The Edit Menu

- UndoVideo Cloud
- Cut
- Copy
- Paste
- Delete
- Select All
- Deselect All
- Preview Tools
- Preferences

The View Menu

- Palette Mode
- Toolbar
- Statusbar
- Workspace
- Thumbnails
- Details
- Information
- Preview
- Report

- New Master Category (optional)

The Asset Menu

- Preview
- Fullscreen Preview
- Fullscreen Slide Show
- Edit
- Video Cloud
- Compare Previews
- View With
- Edit With
- Print With
- Perform Asset Action
- Convert To
- Mail To
- Copy To
- Copy Assets Assigned to Category To
- Duplicate Asset and Record
- Create WebAlbum
- Show Location
- Configure Web URL
- Move To
- Rename

- Update Asset Reference(s)
- Change Asset Reference
- Transform JPEG Original
- Check Out
- Undo Check Out
- Check In
- Show History

The Workflow Menu

- [workflow name 1]

The Help Menu

- Contents and Index
- Source
- About

The Cumulus Menu

About Cumulus

Displays a dialog that shows the version of Cumulus you're using. It also provides a button that launches your default Web browser and initiates a connection to the Canto Website. This requires an Internet connection.

Preferences

Opens the Preferences window, from which you can set all preferences. (See "Customizing Cumulus", for details.)

Quit Cumulus

Quits Cumulus.

The File Menu

- [Open Catalog](#)
- [Open Recent Catalog](#)
- [Close](#)
- [New Collection](#)
- [Open Collection](#)
- [Save Collection](#)
- [Save Collection As](#)
- [Send Collection Link](#)
- [Send Upload Link](#)
- [Add Catalog to Collection](#)
- [Remove Catalog from Collection](#)
- [Save](#)
- [Add Assets to Catalog](#)
- [Remove Catalog from Collection](#)
- [Import](#)
- [Export](#)
- [Page Setup](#)
- [Print Preview](#)
- [Print](#)
- [Administration](#)
- [Exit](#)

Open Catalog

Opens the Catalog Access Window for the current user on the **Catalogs** tab. If no user is logged in, the Connect to Cumulus Server window is opened instead.

When opening a catalog you either open it in a separate window or in the window of the current collection. Activate the desired option.

Open Recent Catalog

Opens a submenu that lists all catalogs opened recently. Selecting the entry for a catalog will open it. The submenu also includes an entry that allows you to clear the list of recently opened catalogs.

Connect to Cumulus Server

This menu item opens a dialog in which you can connect to a catalog on a remote Cumulus Server and open the catalog.

When the Connect to Server dialog is opened:

1. Using the drop-down list in the Server field, select the Server you wish to connect to. All currently active Cumulus Servers in the network appear in this list.
   If your Cumulus Administrator specified a custom TCP/IP port number for the Client-Server connection, enter the IP address and – separated by a colon – the port number in the Server field (e.g. 123.123.123:1234).

2. Select either **Guest** or **Registered User**. If connecting as a registered user, type your user name and password. Your Cumulus Administrator can help you determine which way you should log on.

   To have Cumulus remember your password for future log-ons, select **Remember Password**.

   NOTE: If this option is activated, any collection you save is password protected.

   NOTE: Exported Collections
   If this option is activated, any collection you export or mail contains your login information. Opening such an exported or emailed collection will connect to the Cumulus Server with your login and password. This means that the user who opens the collection works as you and has your permissions. If this option is not activated, the **Connect to Server** dialog will appear when an exported or emailed collection is opened.

3. Click **OK**. The server is contacted. Once the connection is made, the **Catalog Access** window appears, providing two tabs:. The Catalog tab which lists all catalogs your Cumulus Administrator has made available to you, and the Collections tab which lists all collections that are available to you.

4. Select a catalog or collection. If you already have a catalog or collection is already open, select whether the additional catalog or collection is to be opened in a separate window or in the window of the current collection.

5. Click **OK**. (If you are logged in as the Cumulus Administrator, the Catalog tab of the Catalog Access window offers more options. (See "Catalog Access Window for Administrators," below, for details.)

Catalog Access Window

The Catalog Access window provides two tabs:

• Catalog tab: lists all catalogs your Cumulus Administrator has made available to you.

• Collections tab: lists all collections that are available to you – either your own collections or shared collections provided by other users.

Select the catalog or collection you want to work with and click **Open**.

TIP: Collections

The Collections tab provides two buttons:

Properties – opens a window with detailed information on the selected collection

Delete – deletes the selected collections (if you have the appropriate permissions)

For more information on the Cumulus Collections, see "Collections".

Catalog Access Window for Administrators

For the Cumulus Administrator, the Catalog Access window is the starting point for performing numerous administrative tasks.

The Catalog tab of the Catalog Access window offers the following buttons and options to the Cumulus Administrator:

• **New**
Opens a dialog for creating a new catalog.

- **Add to List**
  Opens a dialog for adding an existing catalog to the list of catalogs Cumulus users see when they connect to the Cumulus Server. Catalogs already contained in that list are grayed out.

- **Remove from List**
  Removes selected catalogs from the list of available catalogs. If Cumulus users are currently connected to such a catalog, the **Disconnect Client** window is displayed. Use this window to specify the time until the clients are disconnected and a message that is send to the affected users, thus allowing them to finish their work
  The catalogs are not deleted, but they are no longer administered by the Cumulus Server and thus no longer available to Clients.

- **Rebuild**
  Opens a dialog in which you can repair (rebuild) the selected catalog. (See "Repairing Catalogs", for more information.)(See Administrator Guide for more information.)

- **Migrate**
  Migrates selected catalogs to the current catalog format.

- **Done**
  Saves the changes and closes the window.

- **Open**
  Opens the selected catalog files. Opening a catalog as the Cumulus Administrator is the first step to modifying catalog settings.

NOTE: For the Cumulus Administrator only, the Catalog Access window displays catalogs that are damaged. They are displayed in red.

Close

Closes the active window, e.g. the Collection, Preview, Record or Category Information window.

New Collection

Opens a submenu with two options for creating a new collection:

- **From Selection** – The new collection will contain the currently selected records.
- **Empty** – The new collection will be empty.

For more information on collections see "Collections".

Open Collection

Opens the **Catalog Access** window on the **Collections** tab, displaying all collections the current user is allowed to access. (If no user is logged in yet, the **Connect to Cumulus Server** window is opened instead.).

The **Collections** tab offers the following buttons:

- **Properties** – Opens a window for displaying and editing information about the selected collection. Which information is provided depends on the collection type.
- **Delete** – Deletes the selected collection.
- **Open** – Opens the selected collection and closes the window.
- **Done** – closes the window without opening a collection

For more information on collections see "Collections".

Save Collection

Saves the collection as it is shown.

For more information on collections see "Collections".

Save Collection As

Saves the collection as it is shown under a new name. A dialog is displayed for you to name the new collection. Enter a name for the collection and if you want the collection to be available for other users, activate the **Share Collection** option.

For more information on collections see "Collections".

Send Collection Link

Opens a submenu with two options for sending collection links via email:

- **Selected Records** to send a link to a collection that contains the currently selected records
- **All Records** to send a link to the current collection

Using this collection link, recipients, which don't need to be Cumulus users, may open the collection in any web browser. An additional link is offered allowing Cumulus users to open the collection with the Cumulus Client application. The sender can specify which actions recipients may perform on the assets via Permissions checkboxes in the Send Collection Link dialog.

Additionally, you may send personalized collection links. In this case, each recipient gets an individual link to the collection which allows Cumulus to monitor usage of such collections.

Depending on the permissions of the current user, a new external user can be created if a personalized collection link is sent to an email address not known to Cumulus. By default, external users have no permissions and no active login. However, they serve as a means to monitor the usage of the collection. The Properties window of the respective collection provides information about the last time a recipient has accessed the collection.

Preconditions:

- Your Cumulus installation includes Cumulus Portals or Sites.
- A Base Web URL was defined by your Cumulus Administrator in the Cumulus Server Settings (**Server Console > Remote Admin**).

- Cumulus is configured to work with a mail server (**Server Console > Mail Manager**).
- You must have the appropriate Permissions
  - The **Create External Users** permission (**Server Permissions > User Administrator Permissions)** for sending links to recipients that are not yet known to Cumulus, or **Use External Users** for sending links to already existing external users.
  - The **Create Download Collections** permission (**Server Permissions > Collections Permissions**).
- For personalized collection links, the (technical) admin user in Portals/Sites must have unrestricted run-as permissions (**Server Permissions > Run-as Permissions**).

To send a collection link:

1. Open a saved collection, or create a new one. If desired, select the records you want to include in the collection to be sent.

2. Select **File > Send Collection Link > Selected Records** or
   select **File > Send Collection Link > All Records**

   The first part of the **Send Collection Link** dialog is displayed, allowing to specify settings for the collection to be sent. Most Fields already contain proposals which you may adopt or simply overwrite.

3. Specify a name for the collection.

4. The embargo date is the current date by default. Optionally, change the embargo date. Recipients won't be able to access the collection before this date.

5. The expiration date is two weeks ahead of the current date by default. Optionally, change the expiration date. Recipients won't be able to access the collection from this date onwards.

   The expiration date is required. If you try to delete it, the value is automatically reset to the default.

6. The **Base URL for Web Access** field displays the base URL specified by your Cumulus Administrator. (Only if your Cumulus installation includes more than one web server, you may select a different base URL from the drop-down list.)

7. Optionally, set a password.

   If you decide to require a password, you must not forget to communicate it to the recipients – otherwise the recipients won't be able to view the collection.

8. Specify which actions the recipients will be allowed to perform on the assets by activating or deactivating the **Permissions** check boxes.

9. Click **Next**. The second part of the **Send Collection Link** dialog is displayed, allowing to specify the recipient(s) and a message

10. Activate **Personalize Collection** if you want to sent each recipient an individual link to the collection.

    With this option activated, the **CC:** and **BCC:** field are disabled. The usage of personalized collections is monitored by Cumulus.

    NOTE: If you send a personalized collection to an email address not known to Cumulus, a new external user is created for that email address. In the Properties window of the collection, you can find information on each recipients last access to the collection.

11. Fill in the recipient's addresses.

12. The **From** field is prefilled with your email address. You can overwrite this with a different address.

   NOTE: If your Cumulus Administrator has defined a From address to be used with all sent mails, the content of the this field is ignored.

13. Enter a **Subject** and optionally modify the proposed message **Text** or enter a new one.

14. Click **Send**. The dialog is closed and the collection link is sent to the recipient(s) specified in the **To** field.

TIP: Copy URL for Other Purposes

Instead of sending the collection link via Cumulus, you may as well copy it from the **URL** field and use it in a different way, e.g. sending it via your email application or via Twitter, or inserting it on a web page. In this case, quit the dialog with **Cancel**.

Send Upload Link

Opens a window to configure of a link for file upload and send this link to any email address. When a recipient clicks the link, a landing page is opened in the Web browser that allows the recipient to upload files. Uploaded files are cataloged to the specified catalog and gathered in a dedicated upload collection.

(Disabled if you don't have the appropriate permissions; see below for details.)

Preconditions:

- Your Cumulus installation includes Cumulus Portals or Sites.
- A Base Web URL was defined by your Cumulus Administrator in the Cumulus Server Settings (**Server Console > Remote Admin**).
- The catalog to which the uploaded files will be added must employ a central asset location (**Preferences > Catalog Settings > General**).
- Cumulus is configured to work with a mail server (**Server Console > Mail Manager**).
- You must have the appropriate permissions:
  - For at least one catalog, you must be allowed to create records (**Catalog Permissions > Application Permissions**).
  - The **Create External Users** permission for sending links to recipients that are not yet known to Cumulus, or the **Use External Users** permission for sending links to already existing external users. (**Server Permissions > User Administrator Permissions**).
  - The **Create Upload Collections** permission (**Server Permissions > Collections Permissions**).

- For enabling the upload function, the (technical) admin user in Portals/Sites must have unrestricted run-as permissions (**Server Permissions > Run-as Permissions**).

To send an upload link:

1. Select **File > Send Upload Link.**

   The **Send Upload Collection Link** dialog is displayed, Most fields already contain proposals which you may adopt or simply overwrite. Mandatory fields are marked with an ⚠ icon.

2. Specify a name for the collection that holds the uploaded files.

3. The embargo date is the current date by default. Optionally, change the embargo date. Recipients won't be able to upload files before this date.

4. The expiration date is two weeks ahead of the current date by default. Optionally, change the expiration date. Recipients won't be able to upload files from this date onwards.

   The expiration date is required. If you try to delete it, the value is automatically reset to the default.

5. The **Base URL for Web Access** field displays the base URL specified by your Cumulus Administrator. (Only if your Cumulus installation includes more than one web server, you may select a different base URL from the drop-down list.)

6. Select the catalog to which the uploaded files will be added. The drop-down list for selecting the catalog displays only those catalogs that are employing a Central Asset Location and that you are allowed to add assets to, i.e. you have the permission to create records.

7. If necessary, specify an Asset Handling Set and/or a Permission Template to be used with the uploaded files.

8. The **From** field is prefilled with your email address. You can overwrite this with a different address.

   NOTE: If your Cumulus Administrator has defined a **From** address to be used with all sent mails, the content of the this field is ignored.

9. Fill in the recipient's addresses.

10. Enter a **Subject** and optionally modify the proposed message **Text** or enter a new one.

11. Optionally, set a password.

   If you decide to require a password, do not forget to communicate it to the recipients – otherwise they won't be able to upload files.

12. Recipients get displayed thumbnails of the files they have uploaded. By activating the **Permissions** check boxes you can allow recipients to additionally view the information windows for the files and/or preview them.

13. Click **Send**. The window is closed. an email containing an upload link is sent to each of the specified recipient.

As the creator of an upload collection, you will receive a notification email each time someone uploads files via Sites to this collection.

TIP: Link usage

Via the Properties window of upload or download collection you can get an overview on each recipient's last access to this link.

Add Catalog to Collection

Opens a dialog to select another catalog to be opened within the current collection.

For more information on collections see "Collections" .

Remove Catalog from Collection

Opens a dialog which lists the open catalogs and lets you choose the catalog to be removed from the current collection.

If the collection contains any assets stored in this catalog, their records will be removed from the collection.

For more information on collections see "Collections" .

Save

Saves any changes depending on the active window; e.g. the Record or Category Information window.

Add Assets to Catalog

Open a submenu with following menu options:

- Browse for Assets
- New Empty Record
- Assign Asset to Record
- Recatalog Category Folder
- Setup Auto Cataloging

Browse for Assets

Opens a dialog in which you can browse for assets you want to add to a catalog (in Cumulus-speak: you want to "catalog".) Depending on your individual settings several options for cataloging might be offered to you before the dialog for selecting the assets is opened.

BACKGROUND INFO: Cataloging Assets

"Cataloging assets" is Cumulus-speak for adding media files to your catalog. There are several ways to catalog assets: via menu item, context menu and with drag and drop. As you catalog your assets, Cumulus creates special catalog entries called *records* that represent the assets to be managed. Each record contains vital searchable information about the asset it represents.
How Cumulus deals with your assets during the cataloging process depends on the Asset Handling Set used. *Asset Handling Sets* define many aspect of asset handling, including which Asset Stores and Filters should be used, where the assets should be stored when cataloged, and which metadata template (if any) should be automatically applied.

TIP: Cataloging Asset via Drag & Drop

You also catalog assets by dragging them from an Explorer/Finder window into the Cumulus window.

Options While Cataloging

Several options for the cataloging process are possible – most of them depend on the selections made in your User Settings (Cumulus / Edit > Preferences > User Settings > General or Asset Handling.)

Showing Progress Dialog

If activated in the User Settings, a progress dialog is shown while Cumulus is cataloging the assets. With Cumulus, you can have multiple cataloging processes running simultaneously and you can go on working with Cumulus while cataloging. With a Cumulus Client under Mac OS X you see an icon for each of the processes.

Selecting Asset Handling Set

If you have activated the option **Show dialog when cataloging** in the Asset Handling section of your User Settings, you will be prompted to select an Asset Handling Set for each cataloging process.

Make sure the selected Asset Handling Set fits to the catalog you want to add the assets to.

In the list of Asset Handling Sets, you can use the **Customize** option to access the preferences of the selected Asset Handling Set– if you have the appropriate permissions. (See "Overview: Asset Handling Sets" for details on how to set up Asset Handling Sets.)

Selecting Catalog

If you have multiple catalogs open in one window, you are prompted to select the catalog to which you want to add the assets.

If you have activated the option **Show dialog while cataloging** in your User Settings *and* have multiple catalogs open in one window you are prompted to select the cat-

alog to which you want to add the assets and select an Asset Handling Set for this cataloging process. Make sure the selected catalog and the selected Asset Handling Set match.

Employing the Metadata Editor

If the Asset Handling Set you use, has the Show Metadata Editor for New Records activated, a dialog is displayed when cataloging assets.It allows you to add metadata information to the records of those assets you are just cataloging. (The fields displayed depend on the Record View Set that was selected for the Metadata Editor in the settings of the Asset Handling Set.) You can use a Metadata Template and/or manually enter metadata information.

If you don't want to add any of your own information to the current asset's record, select the **Skip** button.

Creating TAG Files

If you catalog assets from a location where you are allowed to save files, Cumulus can create a TAG file for each cataloged asset. The file has the same name as the asset with the extension *.tag* added and is saved in the folder where the asset resides. TAG files are a standard exchange file format for metadata information on the asset. TAG files hold all of the information that can be viewed in the Asset Information – and more. For example, if a particular asset has been cataloged into different catalogs, this information is part of that asset's TAG file.

If you want Cumulus to create these TAG files while cataloging, use an Asset Handling Set that has an activated asset storage module **Cumulus Metadata Support** (properties set to **Always**).

New Empty Record

Creates an empty record. Opens a Dialog where you can specify the catalog to which the record is added, as well as the Asset Handling Set and the Permissions Template to be used with the new record. You can assign metadata and an asset to such a record later on.

TIP: Assigning An Asset

To assign an asset to an empty record later on, use the **Change Asset Reference** function.

Assign Asset to Record

Only available if one – and only one – record is selected that has no asset assigned to.

Opens a dialog to select the asset to be assigned to the record. Subsequently, the asset is cataloged and assigned to the selected record. (If applicable, the asset is also copied or moved to a Central Asset Location.) Optionally – depending on what is specified for the current catalog in the User Settings – a dialog for selecting an Asset Handling Set is displayed first.

Recatalog Category Folder

Synchronizes the content of the selected folder category with the contents of the folder represented by this category. This option compares the contents of the folder and Cumulus: files that are new in the folder are automatically cataloged. (Available for folder categories only.)

Setup Auto Cataloging

Opens a dialog to define auto cataloging for the selected category. (See "Categories and Auto-cataloging", for details.) (Available for folder categories only.)

TIP: More Autocataloging Features

Optional features provide additional auto-cataloging options; e.g. a Cumulus Scheduler Action that enables Cumulus to check a standard POP3 email account and retrieve and automatically catalog any emails it finds. For more information, see "Provided Scheduler Actions".

Import

Opens a submenu with several menu options. Each opens a dialog in which you can select an appropriate file type for import. The various file types are listed by the import type below:

- **Assets** – Lets you add assets to catalogs. After selecting an Asset Handling Set, a dialog opens to browse for the assets you want to add. For a description on how to go on <u>see "Browse for Assets"</u>.

- **Records** – Lets you import records that were exported to XML files or to Cumulus Record Exchange Files. If you have multiple catalogs open in one window, you are prompted to select the catalog to which you want to import the records. The imported records are appended to the active collection.

- **Categories** – Lets you import categories that were exported to XML files or Cumulus Category Exchange Files. If you have multiple catalogs open in one window, you are prompted to select the catalog to which you want to import the categories. The imported categories are appended to the active/selected catalog. If a category in the import file has the same name as an existing category, the category is not imported.

- **Collection** – Lets you import collections stored with previous Cumulus versions on the computer running the Client application and collections sent to you via email. If you have multiple catalogs open in one window, you are prompted to select the catalog which you want to import the collection to.

- **From Text/CSV File** – Lets you import metadata from text files (separated by delimiters.) As a comma is a very common delimiter, such files are also called Comma Separated Value (CSV) files. This import option enables you to import metadata from other database systems into Cumulus catalogs.

For detailed information on importing, <u>see "Importing and Exporting"</u>.

Export

Opens a submenu with several export options. Each opens a dialog in which you can name an appropriate file type for export. All exported files can be used on any supported Cumulus platform. The options are explained below:

- **Selected Records** – Exports the currently selected records. (This menu item is disabled if no records are selected.)
- **All Records** – Exports all records of the active collection. If you want to export all records of the catalog(s) included in the collection, you have to perform **Find > Find All Records** first.
- **Selected Categories** – Exports the currently selected categories in the active collection. (This menu item is disabled if no categories are selected.)
- **All Categories** – Exports all categories of the Category pane.
- **Collections** – To store collections in any location other than the Cumulus Server,
- **Mail Collection To** – Sends a collection via email to another user. However, don't forget: Since a collection is always connected to catalog(s), it is necessary for the recipient to have access to the catalog(s) 'serving' the collection. To make use of a collection you received via email you use the import function.

For detailed information on exporting, see "Importing and Exporting" .

Page Setup

This menu item opens a standard page setup window from which you can configure your printing options. The options available to you will depend on your system configuration. See your computer's operating system manual for details.

Under Mac OS, the Preview button allows you to view the printed output before it gets sent to your printer. Under Windows, Cumulus provides a Print Preview menu item.

Print Preview

This option allows you to view the print output before it gets sent to your printer. The output options are taken from the current print settings.

Print

Opens a submenu with the following menu options:

- **Selected** – Prints selected items (records, categories or preview sections) – depending on the active window or pane.
- **All** – Prints all items – depending on the active window or pane.

The print function is context sensitive (meaning that what is printed depends on the position of the cursor). If the active window or pane is:

- the category pane, the categories (all or selected) will be printed as they appear in the Category window. Make sure to expand the category list if you want to see all the subcategories in the print out.
- the record pane and thumbnail or details view is the current view mode, the records (selected or all of the active collection) are printed using Print Templates. (For more information on Print Templates, see "Print Templates".)
- the record pane and information view is the current view mode, the information displayed will be printed.
- an information window, the information displayed in the window will be printed.
- a preview window, the preview will be printed – in case it is available as a pixel image (e.g. JPEG, TIF or GIF). The preview will be printed in the size of the paper selected under Page Setup. This may take a while!

    If your intention is to print the actual asset, instead of its record or preview, see "Print With", for details.

Administration

Opens a submenu with several administration options:

- Server Console (only if installed on the machine)
- Connect to Server As
- Change Password
- Switch Application Language
- Prepare Catalog
- Rebuild Catalog
- Backup Catalog
- Compress Catalog
- Merge Categories
- Migrate Catalog
- Convert Catalog To
- Convert WPP/ICP 3.0 Triggers

Most of these options are only available if you are Cumulus Administrator or have the appropriate permissions. Descriptions on how to use the administrative functions for catalogs see "Catalog Maintenance" .

Server Console (only if installed on the machine)

Opens a dialog in which you can administrate the Cumulus Server if you have the permissions to do so. (For more information, see "Catalog Maintenance" .)

Connect to Server As

Opens a dialog to log in to the Cumulus Server and then act as a different user ("Run As"). – This function is useful for substitution purposes, e.g. for holiday replacement.

The user who logs in must have the Run-As-permission to act as the specified user. (For more information, see "Run-as Permissions" .)

IMPORTANT! A user A running as user B literally becomes user B, i.e. gets all permissions (and role assignments, if any) of user B. To become active again, user A must login anew.

Change Password

Opens a dialog to change your Cumulus user password. (Disabled if you don't have the appropriate permissions.)

Switch Application Language

Opens a dialog to select a different language for your Cumulus application's user interface. Expand the list to see the languages Cumulus supports.

Languages marked in bold already provide a localized user interface. For all other languages, an English user interface is displayed, but specific writing capabilities for the selected language are supported. This applies to the category tree, input fields and Quicksearch function.

Select the desired language and click **OK**. You must quit the Cumulus application and start it again before the language switch takes effect. If the selected language is not available on your computer, the Cumulus application language will default to English.

Prepare Catalog

Opens a submenu with options for preparing catalogs to manage different standard metadata formats. (For this function, you need the Administrator permission **Modify Catalog Settings** for the catalog to be prepared, and the Server permissions **Modify Asset Handling Sets** and **Manage User Asset Handling Set**.)

For IPTC

IPTC (International Press Telecommunication Council) is a standard for digital text applied to an image. Applications used for professional imaging support IPTC; e.g. the text information in Photoshop is a subset of the IPTC information.

Cumulus can read IPTC metadata information while cataloging. You can view and edit this metadata and Cumulus can write your changes back to the asset. Reading and writing back IPTC data is possible for assets of the following formats: JPEG, TIFF, PSD, and EPS. (For more information on writing back metadata, see "Write back Metadata".)

If you want to capture IPTC data from assets and to write back IPTC data to assets, the Asset Handling Set(s) and the catalog(s) managing these assets must be prepared for this feature. IPTC record fields have to be added to the catalog(s) and their properties have to be enabled for field linking. The Writing back Metadata option must be activated in the Asset Handling Sets used to handle the assets containing IPTC data.

The function makes the preparation process easy. Follow the on-screen instructions.

NOTE: To view the captured metadata, the corresponding record fields must be included in one of your Record View Sets. If none of your Record View Sets provide a view that includes the fields, you have to add these fields to one view of at least one Record View Set. For a description on how to add fields to a view, see "Adding a Field to a Record View" .

For EXIF

EXIF (Exchangeable Image File Format) is a standard for storing interchangeable information in image files, especially those using JPEG compression. Most digital cameras now use the EXIF format. Cumulus can read EXIF metadata information while cataloging. You can view and edit this metadata.

If you want a catalog to store EXIF information on assets, you have to add the EXIF record fields to this catalog. This function does it for you. Follow the on-screen instructions.

NOTE: To view the captured metadata, the corresponding record fields must be included in one of your Record View Sets. If none of your Record View Sets provide a view that includes the fields, you have to add these fields to one view of at least one Record View Set. For a description on how to add fields to a view, see "Adding a Field to a Record View" .

For XMP

Adobe's XMP (Extensible Metadata Platform) is a labeling technology that allows you to embed metadata into the asset itself. With an XMP-enabled application (e.g. all applications of Adobe Creative Suite), information about a project can be captured

during the content creation process and embedded within the file and into a content management system.

Cumulus can read XMP metadata information while cataloging from assets of the following formats: PDF, JPEG, DNG, TIFF and Adobe Photoshop, Illustrator and InDesign files. You can view and edit this metadata and Cumulus can write your changes back to the asset. Writing back XMP data is only possible for assets of the following formats: JPEG, DNG, TIFF, and PSD. (For more information on writing back metadata, see "Write back Metadata" .)

If you want to capture XMP data from assets and to write back XMP data to assets, the Asset Handling Set(s) and the catalog(s) managing these assets must be prepared for this feature. XMP record fields have to be added to the catalog(s) and their properties have to be enabled for field linking. The Writing back Metadata option must be activated in the Asset Handling Sets used to handle the assets containing XMP data.

The function makes the process of preparation easy. Follow the on-screen instructions.

NOTE: To view the captured metadata, the corresponding record fields must be included in one of your Record View Sets. If none of your Record View Sets provide a view that includes the fields, you have to add these fields to one view of at least one Record View Set. For a description on how to add fields to a view, see "Adding a Field to a Record View" .

Rebuild Catalog

Opens a dialog in which you can repair (rebuild) the active catalog. (See "Repairing Catalogs", for more information.)

Backup Catalog

Opens a dialog in which you can save a backup copy of the active catalog. (See "Backing Up Catalogs", for more information.)

Compress Catalog

Opens a dialog in which you can compress the active catalog. (Disabled if the catalog is already compressed as much as possible.) (See "Compressing Catalogs", for more information.)

Merge Categories

Merges the records assigned to different folder categories. This function affects only those categories created automatically by Cumulus when cataloging. If some of a catalog's assets were cataloged from a Windows computer and others were cataloged from a Mac computer, then you may have category structures that are the same, though named differently because of the directory-naming convention differences between the two operating systems. This application merges the records assigned to those two category structures. It does not affect other categories.

Migrate Catalog

Open a dialog to convert older Cumulus catalogs into a format compatible with the latest Cumulus version. (See "Migrating Catalogs", for more information.)

Convert WPP/ICP 3.0 Triggers

Converts the triggers from Web Publisher Pro or Internet Client Pro 3.0 that are assigned to the catalogs included in the current collection. The Web Publisher Pro or Internet Client Pro 3.0 Mail Notification feature has created triggers for all users who have activated the **Watch Asset** option. These triggers need to be converted before they can be used with a Cumulus 7 Server.

IMPORTANT! Have this function run on every catalog that might have triggers assigned.

Exit

Quits Cumulus.

The Edit Menu

- Undo
- Cut
- Copy
- Paste
- Delete
- Select All
- Deselect All
- Preview Tools
- Preferences

Undo

Allows you to *undo* some of the errors you may have made while entering text into fields. It reverts to the former text entry. It works for string fields of the Information window or view, for the Quicksearch entry field and when renaming categories. (Disabled if not available.)

Note that this function is limited to revert text entries, it will not reverse any functions.

Cut

Removes the current item or text selection and places it on the Clipboard so that it can be pasted elsewhere.

Copy

Copies the current item or text selection to the Clipboard so that it can be pasted elsewhere. When copying records or categories, a temporary metadata template is created additionally that can be used to transfer selected metadata to other items.

Paste

Places the contents of the Clipboard into the current location or text insertion point. Pasting a copied record into a catalog duplicates the record, but with a different creation date. Pasting a copied category into a category tree creates a new category with the same name below the selected target category. (This works only if "Keep category names unique" is not activated in the Catalog Settings.)

Paste Metadata

Opens the previously copied metadata in the Bulk Edit window so that it can be copied onto the current selection of records or categories. For details on how to use the Bulk Edit window, see "Bulk Edit" ".

NOTE: Pasting metadata only works with user editable fields that are displayed according to the Current Record View Set or Category View Set. Pasting metadata does not affect currently invisible fields and fields the user has no permission to edit.

Delete

Deletes the selected records or categories from the catalog after confirmation of the action. (Disabled if no records or categories are selected.)

The confirmation dialog for deleting records offers two options: to delete the record only or to delete the record and its associated asset, too. This is not undoable. Make sure that you no longer need an asset or that you have a copy elsewhere before deleting one.

If you decided to have the asset deleted as well but the asset cannot be deleted (e.g. because it is read-only access), the record will not be deleted either. Note that records that represent assets stored on CDs will be deleted.

Deleting Related Assets

If the record to be deleted represents a preferred alternate, or a variant source or the master of a custom relation, you will get a warning that deleting the asset also will dissolve the asset relation. At this point you can either confirm or cancel the deletion process.

Select All

Selects all objects or text. The type of selection depends on which window is active and whether you have clicked inside a text area.

Deselect All

Cancels any previous selection.

Preview Tools

Opens a submenu that lets you toggle between Hand tool and Select tool and that offers functions for the comment tool. For more information on these tools, see "Over-view: Toolbars for Previews". (Disabled if no Preview window or view is activated.)

Preferences

Opens the Preferences window, from which you can set all preferences. (See "Custom-izing Cumulus", for details.)

The View Menu

- [Palette Mode](#)
- [Toolbar](#)
- [Statusbar](#)
- [Workspace](#)
- [Thumbnails](#)
- [Details](#)
- [Information](#)
- [Preview](#)
- [Report](#)
- [Record View Set](#)
- [Category View Set](#)
- [Preview/Thumbnail Sizes](#)
- [Sort By](#)
- [Sort Direction](#)
- [Preview](#)
- [Categories](#)

Palette Mode

Changes the view of the Cumulus application to palette mode and back. In Palette Mode, the thumbnails and the contents of record fields are displayed as defined in selected View Set.

In palette mode the Cumulus application will shrink to a palette that can conveniently be used with another application. That way you can easily drag and drop cataloged assets into other applications. All open collections will be changed to palette mode. They are displayed on top of each other. The Palette Mode window can be resized to fit your needs (and all display changes will be kept when you reopen the palette mode). All Cumulus functions remain available; to display the menus select **Menu**.

Toolbar

Offers a submenu to select the size of the toolbar and options to toggle the toolbar on and off.

Statusbar

Toggles the statusbar on and off.

Workspace

Opens a submenu with options that let you toggle panes of your workspace on and off:

- : [Calendar Pane](#)
- : [Category Information Pane](#)
- : [Category Pane](#)
- : [Collection Basket Pane](#)
- : [Information Pane](#)
- : [Preview Pane](#)
- : [Sub-Pane for Relations](#)
- : [Thumbnail Pane](#)

Several menu options enable you to open (and close) additional panes in the current Collection window and to save this combination of panes as a workspace. A workspace saves even more information. It includes:

- window size
- window location
- visible panes
- View Sets selected for each pane.

Workspace menu options are:

- : [Save Current as Default Workspace](#)
- : [Use Default Workspace](#)
- : [Save Current Workspace As](#)
- : [Manage Workspace](#)

Below these menu options you will find more options if any saved layouts are available for you.

The additional panes will be displayed at the bottom of the Category pane.

TIP: Resizing Panes

You can resize the panes by pressing the ⊞ ALT / Option key and dragging the split bar. (Just clicking the split bar will resize the topmost pane and the sub-pane of the dragged split bar only.)

Collapsing: Pressing the ⊞ ALT / Option key and double-clicking in a pane's statusbar will collapse the pane so that the statusbar is displayed only and the pane above will fill the area. (Just double-clicking lets the pane above retain its size and the topmost pane will be enlarged.) A double-click on the statusbar of the topmost pane will collapse *all* panes below.

Expanding: Pressing the ⊞ ALT / Option key and double-clicking in a col-lapsed pane's statusbar will expand the pane again – using space from the above pane. (If you just click it – without the ⊞ ALT / Option key – the pane will be expanded using space from the topmost pane.) A double-click on the statusbar of the collapsed topmost pane will expand *all* panes below.

Minimizing: Double-clicking a pane's split bar minimizes the pane or resizes it again.

Calendar Pane

Toggles the Calendar pane on and off.

Use the Calendar pane to search for records by date. Dates that correspond records are highlighted. If you move the cursor over a highlighted date, a tooltip shows the number of corresponding records in all catalogs open in the current collection.

Clicking on the ▤ icon opens a menu with the following options:

- **Record View Set** – to change the used Record View Set
- **Calendar Mode** – to toggle between **Month** mode and **Year** mode. In month mode, you can select a single day or multiple days of the month or an entire month for searching. In year mode, you can select a single month or multiple months of the year or an entire year for searching.
- **Field** – to select the record field to which the highlighted items in the Calendar pane correspond, e.g. Asset Creation Date, Asset Modification Date, Item Creation Date, etc. You can select from all date fields and date-only fields that are indexed for searching in the currently open catalogs.

If you move the cursor over the ▤ icon, a tooltip shows the current settings.

Select a day/month by a single click on any highlighted item. With a ⊞ Ctrl-click / Command-click, the selection is increased or reduced by single items. With Shift-click, the selection is increased or reduced by a range of items.

Double-clicking any highlighted date or the month/year title starts a record search. Double-clicking a date inside a multiple date selection, finds all records belonging to any of the selected days/months. The search result will replace the current selection in the record main pane.

If you hold the Ctrl key while double-clicking a highlighted item in year view, it switches to the specified month displayed in month view.

The Calendar pane has its own toolbar.

Calendar Pane Toolbar Items

1   *Switches to current month/year*
2   *Switches to the previous year*
3   *Switches to the previous month (disabled in year mode)*
4   *Switches to next month (disabled in year mode)*
5   *Switches to next year*
6   *Opens a menu with following options:*
    – Record View Set.
    – Calendar Mode (month/year)
    – Field
7   *Minimizes the pane.*
8   *Closes the pane.*

Category Pane

Toggles the Category pane on and off. (Menu equivalent to the toolbar icon.)

Category Information Pane

Toggles the Category Information pane on and off. The Category Information pane displays information about the selected category. Which fields are displayed in the Category Information pane depends on the settings in the current Category View Set.

Collection Basket Pane

Toggles the Collection Basket pane on and off. The Collection Basket that enables you to gather and sort records for one-click access and optional processing.

The Collection Basket only slightly differs in function from regular collections. For this reason, most of the functions available while working with standard collections—changing view sets, saving and sharing contents, resorting, etc.—are also available from within the Collection Basket.

The Collection Basket pane appears on the right side of the main collection window and has its own toolbar.

Collection Basket Pane Toolbar Items

1   *Lets you choose an action as output option (action) for Collection Basket contents*
2   *Replaces the main collection window contents with the contents of the Collection Basket*
3   *Clears the Collection Basket*
4   *Lets you choose a Record View Set, sort field and sort order for the Collection Basket contents*
5   *Closes the Collection Basket*

Changing the Appearance and Size of the Collection Basket

The appearance of the Collection Basket can be changed using many of the same options you know from standard collections:

- Thumbnails and Details — Use the toolbar icons for changing the Collection Basket between thumbnail and detail views. (Make sure the Collection Basket is the active pane before making the change.)
- Record View Sets — Use the Record View Set menu found under the ≣ icon located at the top of the Collection Basket pane to choose from the available Record View Sets.
- Thumbnail Size — Use the standard thumbnail resizing icon located on the toolbar to adjust the size of Collection Basket thumbnails. You'll also notice that when you reduce the width of the Basket using the vertical bar, the thumbnails scale down in size to remain visible.

In addition, you can resize the Collection Basket by dragging the bar that divides the main collection and Collection Basket panes. Double-clicking this bar minimizes the pane or resizes it again.

Working with the Collection Basket's Contents

Moving Asset Records Into the Basket

Add asset records to the Collection Basket from the main collection window using drag & drop. Select one or more records and drag them into the Basket. You can add as many records at a time as you need, and you can add additional records at any time thereafter.

Removing Asset Records from the Basket

Select one or more records inside the Collection Basket and press the DEL key on your keyboard to remove them from the Basket. The items are removed from the Basket, but not from the main collection or catalog.

Optionally, you can use the menu command **Find > Remove Record from Collection**.

Rearranging the Order of Asset Records in the Basket

As you would in any other collection window, you can drag thumbnails around in the Collection Basket to rearrange them. You can also sort the contents of the Basket using the **Sort By** menu found under the ☰ icon located at the top of the Collection Basket pane. (Use the Sort Direction menu to reverse the sort.)

Outputting the Collection Basket's Contents

The ✳ icon open a list from which you can select an output option for the contents of the Collection Basket. It lists the asset actions available to you by permissions, and also includes several standard Cumulus functions, such as emailing, creating Web albums and printing thumbnails.

Choose an asset action and then use the buttons provided to choose whether you intend to output the entire contents of the Collection Basket or just the selected items.

Once you make your selection and click **OK**, the Collection Basket passes the list of assets to the selected action. Then the asset action is processing. At that point, you might see the user interface of the active module and can set parameters for the processing. (Or, if you've chosen an asset action that is configured for no user interaction, you will not see any further windows.)

- For information on asset actions, see "Cumulus Asset Actions".
- For information on the Mail To function, see "Mailing Your Assets".
- For information on the Web Album function, see "WebAlbum".

Replacing the Main Collection with the Collection Basket Contents

If you ever want to replace the contents of the main collection pane with the contents of the Collection Basket, click the ⊞ icon. The main collection is updated. There is no

"undo" for this operation, so make sure you intend to replace the main collection's contents when you click this icon.

Clearing and Closing the Collection Basket

Clear the contents of the Collection Basket using the 🗑 icon at the top of the Collection Basket. There is no "undo" for this operation, so make sure you intend to clear the basket's contents when you click this icon.

Click ⊗ to close the Collection Basket window. Closing the Collection Baskets does not clear it's contents – when you reopen the Basket, the contents appear as you left them. (Note that the Server permission **Manage User Collections** is required for saving the contents.)

NOTE: If your User Settings have the **Re-open Collections and Catalogs** option activated, the contents of your Collection Basket will reappear the next time you open that *same* catalog (or set of catalogs), even when using the Web Clients. But if you open a different catalog in the interim, the contents of the Collection Basket are deleted.

Information Pane

Toggles the Information pane on and off. The Information pane displays information about the record(s) selected in the current collection. Which fields are displayed in the Information pane depends on the settings for the Info View of the current Record View Set.

Preview Pane

Toggles the Preview pane on and off. The Preview pane displays the record selected in the active record pane in Preview View. This means that the display depends on the selected Record View Set.

Preview Pane Toolbar Items

1   *Shows first page of preview (available with multi-page previews*)*
2   *Shows previous page of preview (available with multi-page previews*)*
3   *Shows next page of preview (available with multi-page previews*)*
4   *Shows last page of preview (available with multi-page previews*)*
5   *Opens a list for selecting a Record View Set.*
6   *Minimizes the pane.*
7   *Closes the pane.*

* For more information on multi-page previews, see "Multi-page Previews"

TIP: *The preview images can be resized using the zoom slider in the main toolbar*

Sub-Pane for Relations

Opens a sub-pane below the active record or closes it. The sub-pane displays records or other information that are related to the selected record as defined in the active Sub-Pane Filter.

Thumbnail Pane

Toggles the Thumbnail pane on and off. The Thumbnail pane displays the record selected in the active record pane as thumbnail.

Save Current as Default Workspace

Saves the current layout as your default workspace for collection windows.

Use Default Workspace

Applies the saved default workspace as layout for the current collection window.

Save Current Workspace As

Opens a dialog that allows saving the current workspace under a selectable name. Enter a name for the workspace and – if you want this layout to be available to other users – activate the **Share Workspace** option. Note that shared layouts can be saved by the Cumulus Administrator only.

A saved layout includes:

- window size
- window location
- visible panes
- view sets selected for each pane.

Manage Workspace

Opens a dialog displaying all available workspaces (in alphabetic order). You can select one and apply it to the current collection window by clicking **Open**.

You can also delete workspace layouts via this dialog. Select the entry and click **Delete**. Note that shared Workspaces can be deleted by the Cumulus Administrator only.

Thumbnails

Activates Thumbnail View: Displays records as thumbnails and the contents of record fields as defined in the selected view set. (Menu equivalent to the toolbar icon.) Once this view mode is active, you can use the zoom slider to change the size of the thumbnails or use predefined sizes via menu (**View** > **Thumbnail Sizes**).

Details

Activates Details View: Displays records in a sorted text list as defined and the contents of record fields as defined in the selected view set. (Menu equivalent to the toolbar icon.)

Information

Activates Information View: Displays metadata information stored with the record. The displayed fields are defined by the selected view set. (Menu equivalent to the toolbar icon.)

Preview

Activates Preview View: Displays records as previews. The records' assets must be accessible to display the preview. Once this view mode is active, you can select different sizes for the previews. (Menu equivalent to the toolbar icon.)

TIP: Resizing

The preview image can be resized using the zoom slider.

Report

Activates Report View: Displays thumbnail and metadata information in horizontal order (a sort of hybrid between the Details and Info View modes.) It offers a convenient way to display the contents of text fields that contain lots of information. Can display as many lines as needed for quick browsing. (Menu equivalent to the toolbar icon.)

TIP: Resizing

The thumbnails can be resized using the zoom slider.

Record View Set

Opens a submenu with the available Record View Sets. For more information on Record View Sets, see "Record View Sets" . (Disabled unless a record is selected.)

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Record View Sets by selecting the Customize entry in the list for selecting Record View Sets. This entry opens the preferences for the current Record View Set.

Category View Set

Opens a submenu with the available Category View Sets. For more information on Category View Sets, see "Category View Sets". (Disabled unless a category is selected.)

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Category View Sets by selecting the Customize entry in the list for selecting Category View Sets. This entry opens the preferences for the current Category View Set.

Preview/Thumbnail Sizes

Opens a submenu to select the size of thumbnails or previews.

Small

Displays records as small thumbnails/previews (default 64 x 64 pixel). You can change the default size. (See "User Settings", for details.)

Medium

Displays records as medium thumbnails (default 128 x 128 pixel). You can change the default size. (See "User Settings", for details.)

Large Thumbnail/Preview

Displays records as large thumbnails (default 256 x 256 pixel)/previews. You can change the default size. (See "User Settings", for details.)

Sort By

Opens a list of the available fields of the current collection. Select the field you want to determine the sorting of. (Menu equivalent to the statusbar field.)

NOTE: The selected field should be one with the most records containing information – otherwise you will be quite unhappy with the sorting.

The option **Unsorted** will display the records in the order they were cataloged.

You can sort by two fields. In Details view Cumulus lets you select a second field as sorting criteria. Click the column header for the field you want to use as first sorting criteria and then Shift-click the column header you want to use as second sorting criteria. If you switch to other views, the sorting will remain until you change the sorting.

Sort Direction

Opens a submenu that provides two options for the direction of the sort order:

- **Sort Ascending** – Sorts the records in an A to Z (0-9) direction.
- **Sort Descending** – Sorts the records in a Z to A (9-0) direction.

(Menu equivalent to the statusbar icon.)

Language for Field Values

Opens a submenu that provides the possibility to switch the language in which multilingual metadata fields are displayed.

The first entry in the menu is **Application Language** which is also the default. If Application Language is selected, multilingual fields are always displayed in the language of the application (see "Switch Application Language").

If the language for field values is set to a language that is not defined for a multilingual field, this field displayed in its base language instead.

Changing the language for field values takes immediate effect.

Prerequisites and Additional Hints

The **Language for Field Values** function only works if the currently open catalog contains record fields and/or category fields that are enabled for multi language support.

Additionally, the following prerequisites must be met:

- To allow language switching for metadata fields, the **Allow language switch for multilingual fields** option must be activated in the preferences of the current View Set's active view. If this option is not activated, multilingual fields are always displayed in the language of the field that was added to the view.

- To allow language switching in the Category pane, the **Preferred Language** option must be activated and set to **As defined in View menu** in the Category Pane preferences of the current Category View Set. If the **Preferred Language** option is not activated, multilingual categories are always displayed in their base language.

There is one more issue with the category pane.

Instead of coupling the language of the Category pane to the selection made in the View menu. you may as well select a language to always be used with the category pane, independent of the language used for other metadata fields. Activate the **Preferred Language** option in the Category Pane preferences and select the desired language.

Category Pane and the Categories Field: Making the Language Consistent

If your Category pane is set to a language different from the language of other multilingual fields, you may nevertheless want to have the categories displayed always in the same language, both in the Category pane and in any specific View of your View Sets.

For example, you may have a German Category pane, whereas multilingual fields are set to be displayed in English. If category assignments of an asset are displayed in the Info View or the Asset Info Window, you would expect to see German category names here, as in the Category pane. However, according to the language settings for multilingual fields, they are displayed in English.

To solve this inconsistency and always have the same category language used both in the Category pane and in the Categories field displayed in a record view, open the Record View Set preferences, select the desired View Set and View and make sure that the **Preferred Language** settings in the **Properties** of the Categories field are identical to the **Preferred Language** settings of the Category pane.

NOTE: This has to be done individually for every View in every View Set where the Categories field is displayed.

Go To

Opens a submenu for navigation. The available options depend on the current focus.

Preview

Opens a submenu for preview display options. (Disabled if no Preview window or view is activated.)

- Zoom In
- Zoom Out
- Fit to Window
- Fit Width to Window
- Fit Height to Window
- Full Screen

Zoom In

Doubles the size of a preview image. Preview images can be increased to eight times or 800% of their original size. (Disabled if no Preview window is activated.)

Zoom Out

Halves the size of a preview image. Preview images can be reduced to one eighth or 12.5% of their original size. (Disabled if no Preview window is activated.)

Fit to Window

Resizes the Preview window to fit inside the main Cumulus window. Can be set as default, see "User Settings", for details. (Disabled if no Preview window is activated.)

Fit Width to Window

Resizes the Preview window to fit the width of the main Cumulus window. Can be set as default, see "User Settings", for details. (Disabled if no Preview window is activated.)

Fit Height to Window

Resizes the Preview window to fit the height of the main Cumulus window. Can be set as default, see "User Settings", for details. (Disabled if no Preview window is activated.)

Full Screen

Displays a preview using the whole screen. (Disabled if no Preview window is activated.)

TIP: Viewing Multiple Assets

To view multiple assets at once, use **Asset > Fullscreen Preview**.

Categories

Opens a submenu:

- **:** Expand
- **:** Expand All
- **:** Collapse
- **:** Collapse All

Expand

Expands the selected categories to reveal subcategories. This works the same way as clicking on the arrow icon to the left of the parent category. (Disabled if no parent categories are selected.)

TIP: Expanding All

To expand all categories under a parent category, press the ⊞ ALT / 🍎 Option key when clicking on the category arrow icon.

Expand All

Expands all parent categories to reveal subcategories. (Disabled if all parent categories are already expanded.)

Collapse

Collapses the selected parent categories to hide subcategories. This works the same way as clicking on the arrow down icon to the left of the parent category. (Disabled if no expanded parent categories are selected.)

TIP: Collapsing All

To collapse all categories under a parent category, press the ⊞ ALT / ⌘ Option key when clicking on the category arrow icon.

Collapse All

Collapses all parent categories to hide subcategories. (Disabled if all parent categories are already collapsed.)

The Find Menu

- Find Records
- Find All Records
- Find Records by Query
- Find Records Assigned to Categories
- Find Duplicates
- Find Records with Invalid Field Values
- Find Offline Assets
- Find Versionable Assets
- Invert Collection
- Find Categories
- Find All Categories
- Find Categories by Query
- Show Original Category
- Show Related Categories
- Show Categories Containing
- Remove from Collection

Find Records

Opens or activates the Record Find window. (See "Searching with the Find Window", for details.)

Find All Records

Resets the current selection of records to the entire contents of the catalog(s) opened in the collection. This is useful after a search operation has reduced the number of visible records.

Find Records by Query

Opens a list for selecting a record query that will be performed immediately. (Disabled unless at least one record query is saved.) If the selected query contains placeholders, you are prompted for the respective input before the query is executed.

Find Records Assigned to Categories

Finds all records that are associated with the selected categories. This is the menu equivalent to double-clicking on categories. (Disabled unless one or more categories are selected.)

Find Duplicates

If a collection contains only records from the same catalog, this function searches it for records with the same record name (the assets and asset names may be different). The search result will replace the current collection.

NOTE: It's not possible to find duplicates in a collection containing records of more than one catalog.

TIP: Performance

This function may take a while. Hence, we suggest that you put up a collection that fits this search before starting this function.

Find Records with Invalid Field Values

Checks all records of the current collection for any field value that is invalid according to the defined field validators.

This function will find any record with invalid field values, even if the field in question is not displayed in the current Record View Set.

NOTE: You may also check for invalid records on a regular base using the scheduler action **Find Invalid Items**.

Find Offline Assets

Searches the current collection for records with asset references that cannot be resolved. The search result will replace the current collection.

NOTE: This function may take a while. Hence, we suggest that you put up a collection that fits this search before starting this function.

Find Versionable Assets

Searches the current collection for records of assets under version control (e.g. Cumulus Vault.) The search result will replace the current collection.

NOTE: This function may take a while. Hence, we suggest that you put up a collection that fits this search before starting this function.

Invert Collection

Searches for all records (of the catalogs opened in the collection) that are not contained in the current collection and replaces the current collection with this search result. With one click you can obtain all records that are not currently shown.

Find Categories

Opens or activates the Category Find window.

Find All Categories

Resets the current selection of categories to the entire contents of the catalog. This is useful after a search operation has reduced the number of visible categories.

Find Categories by Query

Opens a list for selecting a category query that will be performed immediately. (Disabled unless at least one category query is saved.) If the selected query contains placeholders, you are prompted for the respective input before the query is executed.

Show Original Category

Finds and highlights the original category of a selected related category. (See "Category Types".)

Show Related Categories

Finds and highlights the selected category's related category or categories. (Disabled unless a category is selected.)

Show Categories Containing

Opens a dialog where you can enter a string of text that you would like to search for in all category names of the active catalog. Categories whose names contain the string are highlighted. Related categories are included in the search.

For example: Typing "oa" would find categories like "Boat", "Coat", "Oasis", "Oat", etc.

Remove from Collection

Removes the record/category from the current collection but not from the catalog. (See "Delete", for deleting a record/category from a catalog.)

The Metadata Menu

- [Information](#)
- [Bulk Edit](#)
- [Update Record](#)
- [Update Formula Fields](#)
- [Write back Metadata](#)
- [Assign Metadata From Template](#)
- [Find And Replace Metadata](#)
- [Assign Label](#)
- [Assign Rating](#)
- [Assign Categories](#)
- [Detach Categories](#)
- [Optimize Thumbnail](#)
- [Rotate Preview](#)
- [Rotate Thumbnail](#)
- [Assign Relation](#)
- [Alternates](#)
- [Show Related](#)
- [New Category](#)
- [New Related Category](#)
- [New Master Category (optional)](#)

Information

Depending on the active pane this menu item opens the Asset Information window or the Category Information window for the selected record/category.

- Category Information window – For further information, see "Category Information Window".
- Asset Information window (Menu equivalent to the toolbar icon) – For further information, see "Asset Information", and "Editing Asset Information".)

Viewing and Editing Multiple Records

If you have selected multiple records before opening the Asset Information window, you can change the field values for multiple records at once. But this is only possible, if in your User Settings for the Display of the Asset Information window the option **Only One Window** is activated and **Display values identical for all selected records** is checked.

If the asset information of multiple records is shown in one window, only field contents which have the same values are displayed. So the **Asset Reference** and **Thumbnail** fields will always be empty. Check boxes (Boolean fields) with different values appear gray. The field **Categories** only displays categories that the selected records have in common. All other field types are displayed with no value if there are different values for fields.

Fields with different values do not show a value but can be edited – this also applies to gray (neutral) check boxes. If you add an additional category, this category is added to the set of categories for each record.

If you add any text to a field that already contains values for one of the selected assets, you are asked whether you want the new text to replace the existing value or to be appended to the existing text.

Bulk Edit

Opens a window to edit metadata of selected records or categories.

The Bulk Edit window shows the same fields as the Information Window defined for the current Record View Set or Category View Set – but only if they are user editable.

For each field you can decide how its value is dealt with (default: **Keep Current Value**). Click the icon on the left to have the available options displayed and to choose from them. Note that these options vary slightly according to the type of field selected.

You must select an editing option first and then enter or modify the respective value. (With certain fields, e.g. Rating, you can also start entering or modifying a value. The default option is then automatically switched to **Replace Current Value.**)

With the **Categories** field, select the desired editing option and then to use drag & drop or the **Add** and **Remove** buttons to configure a set of categories that will be assigned to or removed from the selected records.

Whether a field is set to be mandatory is ignored by the Bulk Edit – even mandatory fields can be left empty when Bulk edit is employed. Also field validators only take effect with fields that actually contain values; empty fields are not validated.

NOTE: Be carefully with the **Replace Current Value** and the **Clear Current Value** options! These options delete all existing values and cannot be undone.

Further Options

Clicking the template icon in the lower left corner of the Bulk Edit window opens a menu with further options:

- **Save as Template** – Creates a new Metadata Template with the current values from the bulk edit window. Only available if values have been entered or modified.
- **Load Template** – Opens a list of Metadata Templates available for the currently edited type of metadata (record or category metadata). Select a Metadata Template to prefill the bulk edit fields with values from that template. You may then edit theses values as necessary.
- **Use Metadata from** – Opens list of previously copied records or categories. Select an item to prefill the bulk edits fields with values from that item. You may then edit theses values as necessary

If you are the Cumulus Administrator and the catalog you are working with has subscriptions enabled (see "Enabling Subscriptions"), there is an additional checkbox: **Notify subscribers**, which is activated by default. Deactivate this option if you don't want subscribed users to get notified about your administrative edits.

NOTE: Regardless of the actual content of an employed Metadata Template, only values for fields that are included in the Bulk Edit window are taken into account.

Update Record

Opens a submenu with functions to refresh the selected records with the asset's up-to-date information. This can be necessary if catalog settings have changed, but also if assets have been modified since they were cataloged. Records of unavailable assets cannot be updated. (The menu item is disabled if no records are selected.)

Update

Updates the selected records according to the settings specified in the Preferences (**User Settings > General > Application > When Updating**). Depending on the settings specified for the current catalog (User Settings > Asset Handling), you may be prompted to select an Asset Handling Set.

Advanced

Opens a dialog to specify settings for the current update process. The settings defined in this dialog will not affect the settings defined in the Preferences.

Define the settings according to your needs, then click OK to perform the update.

NOTE: If the Asset Handling Set used for the update does not provide the correct settings for creating records for pages/slides (e.g. because the required Asset Storage Module is not activated), the records representing the individual pages will be deleted. Because this might not be the intended result, Cumulus shows a list of the records that are to be deleted. Either confirm the deletion, or cancel the complete update process, or select single records on this list to confirm their deletion only.

Update Formula Fields

Updates all fields containing formulas in the selected records, no matter whether these fields are currently displayed or not. A dialog is displayed which lets you choose whether the record's Item Modification Date should be changed accordingly or not. (By default, the record's Item Modification Date is not changed.)

Write back Metadata

Writes metadata from the selected records back to the related assets or metadata container, e.g. XMP files. Opens a dialog to specify an appropriate Asset Handling Set and optionally to select the metadata fields that should be written back. (Disabled if no Asset Handling Set is available that has enabled the writing back metadata option.)

When writing back metadata to assets, be aware of the following:

- Metadata can be written back to assets only
  - if the assets are not write protected or stored on a write protected volume or media.
  - if Cumulus has direct access to the assets (no Server/Client Asset Transfer).
- Some IPTC and XMP metadata fields overlap. All assets that have been edited with applications of the Adobe Creative Suite contain both IPTC and XMP metadata. When writing back metadata to such assets, make sure that both the Cumulus IPTC and the XMP filter are activated. If not, the IPTC and XMP data stored in the asset might differ.

NOTE: Captured IPTC and XMP metadata

As some image files contain IPTC as well XMP metadata in different blocks, and some metadata information is stored in both blocks, the metadata captured by different applications might differ. Some applications give priority to XMP (e.g. Adobe Creative Suite). With a standard installation, Cumulus captures IPTC metadata prior to XMP. If you want to alter the priority to XMP, you have to change the order of the formats for the Asset Handling Set employed for cataloging. In the Asset Formats list of the Asset Handling Set, the entry for the Extensible Metadata Platform format supported by the XMP filter has to have a lower entry number than the first format supported by the IPTC filter. This is due to the fact that Cumulus starts searching for matching formats at the lowest entry number. (see Asset Format Support, for further details.)

NOTE: Metadata size restrictions in JPEG assets

The size of meta data fields in JPEG files (e.g., EXIF data or XMP data) is restricted to 64 kB. However, metadata larger than 64 kB can be written back to the JPEG file and is saved in discrete segments of 64 kB each. Although this is conform to the specification, keep in mind that not every image editor / JPEG readers is able to read large metadata properly!

NOTE: Writing back keyword categories to assets

In order write back keywords from the $Keywords master category to assets (e.g. to have these keywords available in other applications), make sure that field linking "when writing back metadata" is activated for the "Categories" record field, but is disabled for the "Keywords" record field (via **Field Properties > Field Linking** tab for each field).

Assign Metadata From Template

Open a dialog to select the Metadata Template to be used for filling. For further information, see "Using a Metadata Template". (Available only, if you are allowed to modify records.)

Run Automatic Tagging

Starts the configured external Automatic Tagging service for the selected records. The tags found by the service will be written into the configured fields. For further information, see "Automatic Tagging of Assets". (Available only, if the optional Automatic Tagging feature is part of your installation and is properly configured, and if you are allowed to use it.)

Find And Replace Metadata

Finds certain information stored on assets in selected records and replaces it with information entered by the user. (Available only if you are allowed to modify records.)

1. Select one or more records.

2. Select **Metadata > Find And Replace Metadata**. A dialog opens.

3. Select the field that stores the information you want replaced. Clicking the arrow button reveals a list of all editable String fields of all open catalogs.

4. Enter the text to be replaced in the **Text to find** field.

5. Enter the replacement text in the field **Replace with**.

   NOTE: For a line break, enter \n.

   FOR SPECIALISTS ONLY: If you activate the **Use Regular Expression** checkbox, you can enter regular expressions (Perl 5 like) in the **Text to find** and **Replace with** fields. For a description on using regular expressions, please refer to specific information available in book stores and on the Web.

6. Click **Start**. Cumulus starts to search for the entered text in the selected field of the selected records. You will get a notice for each of the selected records whether the text was replaced or not. Replacements are not necessary if the text to be replaced wasn't contained in the selected field or if a record is stored in a catalog that does not provide the selected field.

7. Click **Close** to finish.

Assign Label

Opens a submenu for selecting the labeling you want to assign to the select record(s). (Disabled if no Labeling field is included in the catalog or if the effects of assigning the label cannot be immediately seen by the user.) For more information, see "Labeling".

Assign Rating

Opens a submenu for selecting the rating you want to assign to the select record(s). You can rate assets from 1 to 5. (Disabled, if no Rating field is included in the catalog.) For more information, see "Rating".

Assign Categories

Assigns a selection of records to a selection of categories, or vice versa. (This is the opposite of "Detach Categories.") (Available only, if you are allowed to modify records.)

NOTE: If you have a large number of records (more than 500) you want to assign, it is better that you use this function rather than drag and drop.

1. Select one or more records.
2. Select one or more categories to which you want to assign the selected records.
3. Select **Metadata > Assign Categories**. The records are assigned to each of the categories in the selection.

Detach Categories

Detaches a selection of records from a selection of categories, or vice versa. (This is the opposite of "Assign Categories".) (Available only, if you are allowed to modify categories.)

1. Select one or more records.
2. Select one or more categories which you want to detach from the selected records.
3. Select **Metadata > Detach Categories**. The records are detached from each of the categories in the selection.

Optimize Thumbnail

Equalizes the appearance of the selected records' thumbnails. This is useful for thumbnails that are too dark, too light, or lacking contrast. The action cannot be undone, but you can force-update the record to get back the original thumbnail. (Disabled if no records are selected.) (See "Update Record", for information on updating a record, including its thumbnail.)

Rotate Preview

Rotates the selected preview's images in one of three ways:

- 90° clockwise
- 90° counter-clockwise
- 180°

(Available only in Preview view or when the Preview window is open.)

Rotate Thumbnail

Rotates the selected records' thumbnail images in one of three ways:

- 90° clockwise
- 90° counter-clockwise
- 180°

(Disabled if no records are selected.)

The record field **Thumbnail Rotation** saves the rotation value for a rotated thumbnail. The rotated thumbnail will be used for previewing, printing, exporting to HTML and creating slide shows.

NOTE: Catalogs Created with Versions Prior to Cumulus 5.5!

If the field **Thumbnail Rotation** (for storing the rotation value) should be available with catalogs that have been created with previous versions, this record field has to be added to the catalog. The field is then empty. There are two ways to fill it out:

– Either, open the Asset Information window and enter the according value (degree of rotation) manually.

– Or, select **Metadata > Update Record**. This will set the thumbnail back to the asset's orientation. Then rotate the thumbnail again. The value of the rotation will then be stored in the Thumbnail Rotation field.

Assign Relation

Open submenu to select an relation type. Default relation types are alternates and variants. However, your Catalog Administrator can delete and add relation types. (For details on how to assign additional relation types – so called custom relation types – see Assigning Custom Relations.)

Variants

Assigns variants to an asset. The asset to which other assets are assigned is called the source of the variant.

1. Select the records of the assets you want to assign as variants to a source asset
2. Select **Metadata > Assign Relation >Variants**. Then a message prompts you to select the source.
3. Select the record you want to be assigned as the source of the variants (master) and click **OK**.

To have the variants of an asset displayed, open a subpane and select a corresponding Sub-Pane Filter. For more information on asset relations, see "Managing Related Assets".

Alternates

Assigns alternates to assets and lets you define a preferred alternate.

1. Select the records of the assets you want to become alternates.

2. Select **Metadata > Assign Relation >Alternates**. Then a message prompts you to select the preferred alternate.

3. Select the record you want to be the preferred alternate (master) and click **OK**.

To have the alternates of an asset displayed, open a subpane and select a corresponding Sub-Pane Filter. For more information on asset relations, see "Managing Related Assets".

Show Related

Opens a submenu displaying the available sub-pane filters. Once you have chosen a filter, a sup-pane displays the records of related assets according to the selected sub-pane filter.

New Category

Creates a category under the currently selected category, named "Category". This name can be changed immediately to a more fitting one. (Disabled unless a single category is selected.)

New Related Category

Makes a related category for each of the currently selected categories. (Disabled unless one or more categories are selected.) (See "Category Types".)

New Master Category (optional)

Opens a window to enter a name for the new master category that will be created under the currently selected catalog category. A master category has its own category tree. (Disabled unless a catalog category is selected. Available with Enterprise or a special option only.)

The Asset Menu

- Preview
- Fullscreen Preview
- Fullscreen Slide Show
- Edit
- Video Cloud
- Compare Previews
- View With
- Edit With
- Print With
- Perform Asset Action
- Convert To
- Mail To
- Copy To
- Copy Assets Assigned to Category To
- Duplicate Asset and Record
- Create WebAlbum
- Show Location
- Configure Web URL
- Move To
- Rename
- Update Asset Reference(s)

- Change Asset Reference
- Transform JPEG Original
- Check Out
- Undo Check Out
- Check In
- Show History

Preview

Opens a Preview window for each selected record. The records' assets must be available to display the Preview window. (Menu equivalent to the toolbar icon.)

The contents of the window opened depends on the asset type and on the active Record View Set. (For a description on how to configure the view of the Preview window see "Record View Sets" .)

Image previews can be zoomed in or out and displayed in different sizes and you can add user comments. For more information, see "Preview View and Window" .

Fullscreen Preview

Shows assets as fullscreen previews. You can display up to six different assets at once. The records' assets must be available to display.

What is displayed depends on the asset type and on the active Record View Set. (For a description on how to configure the view of the Preview window see "Record View Sets" .)

For more information, see "Fullscreen Preview" .

Fullscreen Slide Show

Shows assets as fullscreen previews in a slide show. The records' assets must be available to display. (Menu equivalent to the toolbar icon.)

What is displayed depends on the asset type and on the active Record View Set. (For a description on how to configure the view of the Preview window see "Record View Sets" .)

For more information, see "Fullscreen Slide Show" .

Edit

Opens a submenu with options for choosing an application for editing the selected image asset.

Image Editor

Opens the selected image asset in a special window that allows you to edit the image. The Image Editor offers image cropping as well as calibration tools that can enhance the color, sharpness and brightness of your images. For details see "Editing Images".

Crop Editor

Opens the selected image asset in the crop editor of the Cumulus Web Client, in your default web browser. With the crop editor, you can define crop areas on an image asset and save these settings to the metadata of the asset. The defined crop areas will then be used by the Media Delivery Cloud (MDC) or Media Delivery on Premise (MDO), in order to deliver proper renditions oft the asset. For more information see the Cumulus Web Client Help.

This function is deactivated if an audio or video asset is selected.

Prerequisites and Additional Hints

This entry is only available if the field "Media Delivery Cloud Rendition Parameters" is available in the open catalog.

Additionally, one single valid Base URL for Web Access of type "WebClient" must be configured in the Remote Admin Settings. This function won't work properly, if multiple Base URLs for Web Access are configured!

Video Cloud

Opens a submenu with options related to the possibility of uploading a video to the Cumulus Video Cloud service in order to make in publicly available.

Show Video Cloud Data

Opens a dialog displaying data related to the selected received from the Cumulus Video Cloud service (as opposed to data stored in Cumulus)..

For a detailed explanation of the information provided, see Video Cloud Data.

Upload

Uploads the selected video(s) to the Cumulus Video Cloud service. All necessary derivatives for different solutions and devices will then be created automatically.

Remove

Removes the selected video(s) from the Cumulus Video Cloud service. (This function does not impact the availability of the video within Cumulus.)

Publish

(Only available with videos that are already uploaded to the Cumulus Video Cloud service!) Makes the selected video(s) available to the public via the provided embed code and video link.

Un-Publish

(Only available with videos that are already published!) Blocks the public availability of the selected videos. The videos remain untouched on the Cumulus Video Cloud service and can be published again later.

Compare Previews

Opens the selected two image assets along with a comparison image in fullscreen view. For details see "Comparing Previews". (Disabled if less or more than two records are selected.)

View With

Opens a submenu with options for choosing an application for viewing the selected asset. (Disabled if no records are selected.)

Creating Application

Opens the selected records' assets with the application that created the assets (if it is known and available).

Other

Opens a dialog to choose an application with which to view the selected records' assets.

Customize

Lets you customize the options in the View With menu. You can add and delete applications.

Edit With

Opens a submenu with options for choosing an application for opening and editing the selected asset. (Disabled if no records are selected.)

NOTE: If the asset is under control of a version control system (e.g. Cumulus Vault), it will be checked out.

Creating Application

Opens the selected records' assets with the application that created the assets (if it is known and available) and lets you edit the asset.

Other

Opens a dialog to choose an application with which to open and edit the selected records' assets.

Customize

Lets you customize the options in the Edit With menu. You can add and delete applications.

Print With

Opens submenu with options for choosing an application. (Disabled if no records are selected.)

Creating Application

Prints the selected records' assets with the application that created the assets (if it's known and available.)

Other

Opens a dialog to choose an application with which to print the selected records' assets.

Customize

Lets you customize the options in the Print With menu. You can add and delete applications.

Perform Asset Action

Opens a submenu that lists Cumulus Assets Actions. Selecting an Action from that submenu will perform it. For further information, see "Cumulus Asset Actions".

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Asset Actions by selecting the **Customize** entry in the submenu for selecting an Action. This entry opens the preferences for the current Action.

Convert To

Opens a dialog for converting the asset associated with the selected record to another file format. The target formats depend on the availability of Cumulus Converter modules. Before you decide on the Converter module, you must specify the download location for the converted file.

The offered modules depend on the AssetProcessor modules activated for the Asset Handling Set selected for asset access in your user settings. Several Converter modules are available with a Cumulus standard installation, e.g.:

- Pixel Image Converter (For more information, see "Converting Image Assets")
- Watermark AssetProcessor (For more information, see "Watermarking Assets")
- ZIP AssetProcessor (For more information, See "Creating ZIP Archives".)

NOTE: If you have selected multiple assets' records, the chosen settings will be applied to convert all selected assets.

Mail To

Use this option to attach an asset to an outgoing email message. Cumulus launches your email application (in case you have more than one, offers you a menu to select) / launches your default email application.

Copy To

Copies the selected records' assets to the location specified in the dialog that appears. The original assets are left alone. (Disabled if no records are selected.)

Copy Assets Assigned to Category To

Opens a dialog in which you can choose a destination. Cumulus then copies the assets of records that are associated with the selected categories to the location you selected. The assets are saved in folders named for the categories selected.

This option is handy for collecting production files for output (assuming the files all have at least one common category, such as project name). (Disabled if no category is selected.)

Duplicate Asset and Record

Duplicates the asset of the selected record and the record itself. A dialog appears in which you can choose a name and set several options for the new asset and record

- **Copy Record Metadata** – Activate to copy the metadata from the original to the duplicated record, except creation date and modification date.
- **Update Record** – Activate to update the metadata in the duplicated record from the duplicated asset.
- **Assign as Variant** – Activate to assign the duplicated asset as a variant to the original asset.
- **Assign as Alternate** – Activate to assign the duplicated asset as an alternate to the original asset.

Create WebAlbum

Opens a dialog in which you can create a Web Album. For further information, see "WebAlbum".

Show Location

Locates the selected records' assets and displays them in the Mac OS X Finder or Windows Explorer. (Disabled if no records are selected.)

TIP: Show Location of Folder Category

The context menu for categories offers a similar function for folder categories. The selected category's folder is displayed, e.g., in the Mac OS X Finder or Windows Explorer. (Disabled if no folder category is selected.)

Configure Web URL

Opens a dialog to display the URL (Uniform Resource Locator) of the selected records, their assets, thumbnails or previews. You can copy these URLs and paste the links. The links will work if your Cumulus installation includes Cumulus Web Client or Sites. For details see "Configuring Web URL".

Move To

Copies the selected records' assets to the location specified in the dialog that appears and updates the records' asset references to point to the new location. The original assets are deleted. (Disabled if no records are selected.)

Rename

Opens a submenu:

- Single
- Batch

The options are only available if you are allowed to modify records.

Single

Opens a dialog to rename the asset represented by the selected record. If asset name and record name are the same, the record name will be changed according to the asset name.

Batch

Opens the **Rename Assets** dialog to configure a rule for and to start the renaming process for the assets represented by the selected records. If asset name and record name are identical, the record name will be changed according to the asset name.

The Rename Assets Dialog
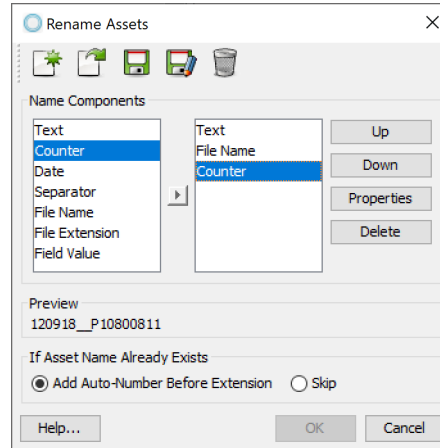
The list on the left side offers different name components available for the new asset name(s). The list on the right side contains the name components that are actually used for the renaming. Select the components you want to use in the left list and click the arrow button to move them to the right. Change their order with the **Up** and **Down** buttons.

Each selected component has to be configured before you can start the renaming process. Select a component in the right list and click **Properties** to open a specific properties dialog.

NOTE: The **Define File Name** and **Define Field Value** dialogs provide a **Use Regular Expression** checkbox. If activated, you can enter regular expressions (Perl 5 like) in the **Replace** and **With** fields. For example, if the checkbox is activated for file names and you enter a period (.) into the **Replace** field, every character in the file names will be replaced with the character(s) specified in the **With** field. – Detailed information on how to use regular expressions can be found on the Internet.

A **Preview** of the result allows you to check and adapt your configurations before you actually start the batch renaming process.

Next, you must decide what Cumulus shall do if the renaming process results in file names that already exists in the folder where the involved assets reside: either skip the renaming of this asset, or add an automatic number to the new name.

If assets can not be renamed (due to e.g. no writing rights, or not writable storage media), these assets are assigned to a new category the name of which indicates date and time of the rename failure. Such categories are created below the **Rename – Skipped Assets** category.

Using the icons on top of the window, you can save the current configuration as a set, or open a saved set to use it again. Existing sets can be modified, saved under a new name, and deleted.

Update Asset Reference(s)

Updates the path used to find the selected asset files, e.g when assets have been moved. Asset references can only be updated if the assets are available. (Disabled if no records are selected.)

Opens a dialog to specify how to proceed if asset references cannot be resolved:

- **Assign record to special category** – Records with unresolvable asset references are assigned to a special category named **Update reference -Skipped Assets** and can be processed later. All other records are properly updated.

- **Ask for asset location** – The update process stops on every unresolvable asset reference and asks for the appropriate location

- **Skip record** – Records with unresolvable asset references are ignored. All other records are properly updated.

Change Asset Reference

Opens a submenu:

· Select Single

· Batch

The options are only available if you are allowed to modify records.

This function allows you to update selected records to reflect a new location of their assets. This is useful if you have cataloged assets from a remote drive or volume that has since been renamed or have simply moved cataloged assets to a new location (and did not use Cumulus for moving them). Without this function, the records would still "point" to the old asset paths. This function does not overwrite, move or otherwise affect asset files at all. However, the function is available only if you are allowed to modify records.

You can either change the asset reference for a single asset by selecting an asset or you change the asset references for multiple assets through a batch process.

Select Single

Opens a dialog to browse for the asset that should be represented by the selected record.

Batch

Opens a dialog to change the asset references for multiple assets through a batch process. To change the asset references for multiple assets:

1. Select the records that still point to the old location of the assets.
2. Select **Asset > Change Asset Reference.**
3. Select **Batch**.

A dialog appears asking you for the new location. The new location is defined in relation to the old location stored as asset reference.

- **Server/Volume (under Windows only)**
  In case the assets now reside on another location in the Network, you have to activate the **Network** Option and then:
  a) if the assets now reside on another server (but a volume with the same name), activate the **New Server** option and enter the name of this new server into the field on the left.
  b) if the assets now reside on another volume (but still on the same server), activate the **New Volume** option and enter the name of this new volume into the field on the left.
  c) if the assets now reside on another server and another volume, activate both the **New Server** and the **New Volume** option and enter the names into the corresponding fields on the left.

  In case the assets now reside on another local location, you have to activate the **Local** Option and then if the assets now reside on another drive, activate the **New Drive** option and select this new drive.

- Volume (under OS X only)
  In case the assets now reside on another volume, activate the **New Volume** option and select this new volume.
- Folder Settings
  – Activate the **Keep Existent** option if the assets now reside in the same directory structure as they did before.
  – Activate the **None** option if the assets now reside directly in the volume/drive selected above (and not in any subdirectories).
  – Activate the **Add Parent** option if the assets now reside in the same directory structure as they did before but this structure is now nested into another. The **Add Parent** option lets you enter the path of the directory that now nests the "old" directory structure.
  – Activate the **Change Parent** option if the directory structure has partially changed. Enter the part of the path that you want to modify into the left field and the replacement string into the right field. You can monitor the result in the **Preview** section.
  – Activate the **New** option if the assets now reside in just one new directory (and not in any subdirectories). The **New** option lets you browse for the new directory by clicking the ⋯ button.

4. Click **Start.**

The application searches for the assets represented by the selected records in the new location and updates the records to the new location. If an asset is not found in the new location, a new category is created named **Change Reference – Skipped Assets** and inside a subcategory indicating date and time of the process to which the asset is assigned.

Transform JPEG Original

Opens a submenu that allows you to rotate or flip the original asset if the asset is a JPEG file you have direct access to. The transformation will transverse the JPEG lossless. (Available only if you are allowed to modify records.)

The **Advanced** item opens a dialog to specify further settings.

Along with the transformation of the asset, its record will be updated as well. The thumbnail will be updated and resemble the transformed asset – regardless of whether the thumbnail was rotated before. The following record fields will be updated with the new values: Horizontal Pixel, Horizontal Resolution, Image Height, Image Width, Thumbnail Height, Thumbnail Rotation, Thumbnail Width, Vertical Pixel, and Vertical Resolution.

Check Out

Checks out the asset associated with the highlighted record to your workstation. Only available if asset versioning is enabled, e.g via File System Versioning or Cumulus Vault. (For more information on Cumulus Vault, see "Checking Assets Out".)

Undo Check Out

Cancels a previous check-out. The asset is returned to the asset versioning system but not as a new version. Only available if asset versioning is enabled, e.g via File System Versioning or Cumulus Vault. (For more information on Cumulus Vault, see "Undoing a Check Out".)

Check In

Checks a previously checked-out asset back into the asset versioning system as a new version. Only available if asset versioning is enabled, e.g via File System Versioning or Cumulus Vault. (For more information on Cumulus Vault, see "Checking Assets In".)

Show History

Opens the Version History window, from which you can view version information on the asset associated with the selected record. Only available if asset versioning is enabled, e.g via File System Versioning or Cumulus Vault. (For more information on Cumulus Vault, see "Viewing an Asset's Version History" .)

The Workflow Menu

The Workflow Menu is displayed only if the open catalogs contain at least one workflow. The menu contains an entry for every workflow available with the current catalog:

- [workflow name 1]
- [workflow name 2]
- etc.

Each workflow entry provides a similar submenu structure:

- **Currently assigned to me** – performs a query to find the records of all assets attached to the workflow that are currently assigned to you.

- **[activity name 1…n]** – One entry for each activity defined in the workflow. Selecting an activity promotes the asset to the next workflow state and performs the actions stated in the workflow definition (e.g. changing the assigned user, executing asset actions, etc). Which of these activities are available depends on your permissions and on the workflow state of the selected record. Only activities that are allowed in the current state can be performed.

- **Remove Workflow** – Removes the workflow from the asset and deletes the respective state and assignment information. The workflow can be started again, if desired. (This function is available only to Workflow Administrators!)

The Help Menu

- [Contents and Index](#)
- [Source](#)
- 🪟 [About](#)

Contents and Index

Opens the table of contents and searchable index window for Cumulus' help system. It is displayed by the default Web browser of your computer.

NOTE: The Cumulus help system is based on HTML pages that can be viewed with any standard Web browser. However, if you employ any pop up blockers, the display of the help system may not be possible.

Source

Opens a submenu that offers the options for the source of the Using Cumulus Help system you use. Select the desired:

Online

Cumulus Help comes from the Canto website, where the latest updates will always be available. (This requires an Internet connection.)

Local

Cumulus Help comes from your hard drive – if you had it installed with your Cumulus Client application.

About

Displays a dialog that shows the version of Cumulus you're using. You can get detailed version information by clicking the **More** button. It also provides a button that launches your default Web browser and initiates a connection to the Canto Web site. This requires an Internet connection. (See the Microsoft Windows documentation for information on setting your default Web browser.)

Cumulus

This chapter gives a list of keyboard shortcuts to common menu commands and options.

Keyboard Shortcuts

	Windows	OS X
Collection Window – Record Pane		
Thumbnail View	Ctrl+1	Cmd+1
Details View	Ctrl+2	Cmd+2
Information View	Ctrl+3	Cmd+3
Preview View	Ctrl+4	Cmd+4
Open Information window	Ctrl+I	Cmd+I
Open Preview window	Ctrl+Y	Cmd+Y
Open Fullscreen Preview window	Ctrl+Shift+Y	Cmd+Shift+Y
Open Record Find window	Ctrl+F	Cmd+F
Show location	Ctrl+R	Cmd+R
Open asset with creating application	Ctrl+E	Cmd+E
Connect to server	Ctrl+Shift+O	Shift+Cmd+O
Open catalog	Ctrl+O	Cmd+O
Catalog assets	Ctrl+B	Cmd+B
Print	Ctrl+P	Cmd+P
Display all records	Ctrl+G	Cmd+G
Select all	Ctrl+A	Cmd+A
Deselect all items	Ctrl+Shift+A	Shift+Cmd+A
Deselect one item	Ctrl+spacebar	---
Hide Cumulus	---	Cmd+H
Hide others	---	Alt+Cmd+H

	Windows	OS X
New empty collection	Ctrl+Shift+N	Shift+Cmd+N
Close collection window	Ctrl+F4	Cmd+W
Exit Cumulus	Alt+F4	Cmd+Q
Undo	Ctrl+Z	Cmd+Z
Cut	Ctrl+X	Cmd+X
Copy	Ctrl+C	Cmd+C
Paste	Ctrl+V	Cmd+V
Paste Metadata	Ctrl+Shift+V	Cmd+Shift+V
Edit Preferences	Ctrl+,	Cmd+,
Delete record from catalog	Ctrl+Del	Cmd+Del
Remove record from collection	Del	Del
Delete record from catalog without asking (*same command as* Cut)	Shift+Del	Cmd+X
Assign rating: 1 star	Ctrl+Alt+1	Alt+Cmd+1
Assign rating: 2 stars	Ctrl+Alt+2	Alt+Cmd+2
Assign rating: 3 stars	Ctrl+Alt+3	Alt+Cmd+3
Assign rating: 4 stars	Ctrl+Alt+4	Alt+Cmd+4
Assign rating: 5 stars	Ctrl+Alt+5	Alt+Cmd+5
Assign rating: no stars (no value)	Ctrl+Alt+N	Alt+Cmd+N
Start/quit Palette Mode	Shift+Ctrl+P	Shift+Cmd+P
For Thumbnail display		
– use next larger size	+	+
– use next smaller size	-	-

	Windows	OS X
– rotate 90° clockwise	Ctrl+Alt+R	Alt+Cmd+R
– rotate 90° counterclockwise	Ctrl+Shift+R	Shift+Cmd+R
– rotate 180°	Ctrl+Alt+Shift+R	Shift+Alt+ Cmd+R
Change to next window	Ctrl+Tab/Ctrl+F6	– – –
Thumbnail view		
Go to previous record	arrow left	arrow left
Go to next record	arrow right	arrow right
Go to record above	arrow up	arrow up
Go to record below	arrow down	arrow down
Details view:		
Go to previous record	arrow up	arrow up
Go to next record	arrow down	arrow down
Go to first page (unmarked)	Alt+Home	Alt+Home
Go to previous page (unmarked)	Alt+arrow left	Alt+arrow left
Go to next page (unmarked)	Alt+arrow right	Alt+arrow right
Go to last page (unmarked)	Alt+End	Alt+End
Go to first page (marked)	Home	Home
Go to previous page (marked)	PgUp	PgUp
Go to next page (marked)	PgDn	PgDn
Go to last page (marked)	End	End
Assign categories	Ctrl+Shift+5	Shift+Cmd+5
Detach categories	Ctrl+Shift+6	Shift+Cmd+6

	Windows	OS X
When dragging & dropping an OPI file into another application: – place *high* resolution file – place *low* resolution file	 – – – – – –	 Alt+H Alt+L
Toggle: category and record pane	Tab	Tab
Collection Window – Category Pane		
Create new category	Ctrl+J	Cmd+J
Expand all categories	Ctrl+Alt+X	Alt+Cmd+X
Collapse all categories	Ctrl+Alt+C	Alt+Cmd+C
Category search for previous category	Alt+arrow up	Alt+arrow up
Category search for next category	Alt+arrow down	Alt+arrow down
Category search for selected category	Enter	Enter
Enterprise: Remove categories from collection *Workgroup*: Delete categories	Del	Del
Delete categories	Ctrl+Del	Cmd+Del
With collapsed category: Go to category of next higher level *With expanded category:* Collapse category	arrow left	arrow left
With collapsed category: Expand category *With expanded category:* Go to next subcategory	arrow right	arrow right
Go to previous category	arrow up	arrow up
Go to next category	arrow down	arrow down

	Windows	OS X
Go to first category (unmarked)	Ctrl+Home	Cmd+Home
Go to previous category page (unmarked)	Ctrl+PgUp	Cmd+PgUp
Go to next category page (unmarked)	Ctrl+PgDn	Cmd+PgDn
Go to last category (unmarked)	Ctrl+End	Cmd+End
Go to first category (marked)	Home	Home
Go to previous category page (marked)	PgUp	PgUp
Go to next category page (marked)	PgDn	PgDn
Go to last category (marked)	End	End
Collection Window		
Show/hide Category pane	Ctrl+F3	Cmd+F3
Show/hide Information pane	Ctrl+F7	Cmd+F7
Show/hide Category Information pane	Ctrl+F8	Cmd+F8
Show/hide Thumbnail pane	Ctrl+F9	Cmd+F9
Show/hide Preview pane	Ctrl+F10	Cmd+F10
Show/hide Calendar pane	Ctrl+F11	Cmd+F11
Show/hide Collection Basket pane	Ctrl+F12	Cmd+F12
Use Default Workspace	Ctrl+F1	Cmd+F1
Assign categories	Ctrl+Shift+5	Cmd+Shift+5
Detach categories	Ctrl+Shift+6	Cmd+Shift+5

	Windows	OS X
Information Window / View/Pane		
Save changes	Ctrl+S	Cmd+S
Print Information window	Ctrl+P	Cmd+P
Load information on		
– first record in collection	Alt+Home	– – –
– on next record in collection	Alt+arrow right	– – –
– on previous record in collection	Alt+arrow left	– – –
– on last record in collection	Alt+End	– – –
Go to next field	Tab	Tab
Go to previous field	Shift+Tab	Shift+Tab
Preview Window and Preview Fullscreen		
Load preview of		
– first record in collection	Home	Home
– previous record in collection	PgUp / Alt+arrow left	PgUp / Alt+arrow left
– next record in collection	PgDn / Alt+arrow right	PgDn / Alt+arrow right
– last record in collection	End	End
100% display	Alt+Ctrl+0	Alt+Cmd+0
Fit to main window	Ctrl+0	Cmd+0
Zoom in	Ctrl++	Cmd++
Zoom out	Ctrl+-	Cmd+-
Scroll in preview	arrow keys	arrow keys

	Windows	OS X
Preview Window only		
Print preview	Ctrl+P	Cmd+P
Edit with creating application	Ctrl+E	Cmd+E
Preview Fullscreen only		
Start/stop loop	spacebar	spacebar
Close fullscreen mode	Escape	Escape
Multi-page Previews		
Load first page of preview	Alt+Shift+Home	Alt+Shift+ Home
Load previous page of preview	Alt+Shift+arrow left	Alt+Shift+ arrow left
Load next page of preview	Alt+Shift+arrow right	Alt+Shift+ arrow right
Load last page of preview	Alt+Shift+End	Alt+Shift+End

Cumulus

This chapter covers some topics important for getting your Cumulus configuration up and running. Since your workgroup needs Cumulus catalogs to access, this chapter gives you a few guidelines about effective catalog administration, as well as information on how to provide catalogs to your workgroup.

Administration: Getting Started

How Cumulus Works

Canto offers different editions of Cumulus:

- Cumulus Workgroup Edition
- Cumulus Enterprise Edition

The different editions of Cumulus are designed to meet the needs of anyone who wants to keep track of their digital media. To meet individual workflow needs, Canto has developed a range of additional add-on products. For more information on Cumulus products, see Canto's website.

The Cumulus Architecture

Cumulus features a client/server architecture in which individual users (or clients) access the server application across a network.

Web Clients

Client Applications

Users can either work with Cumulus via native client applications under Mac OS and Windows or with standard Web browsers.

Web Server

Metadata Server
Stores user-relevant metadata of various types. Both data automatically read by filters and manual additions in customized record fields are stored.

Processor Server
Modular approach for integrating third-party technologies, converting or „refining" cataloged assets (for example: Watermarking, DRM, Cross-Media Publishing).

Asset Server
Clear abstraction level between Cumulus and used storage technology. Enables easy managing of CD/DVD jukeboxes and HSM systems and is the base for solutions such as the ZIP AssetStore, which allows users to see the individual components of a compressed ZIP file as files on their hard disk.

Data Bases

M W U
Mac OS Windows Unix
Operating Systems

Storage Systems

The Cumulus Architecture
Cumulus can be seen as "middleware" as it communicates between the levels of the employed operating systems, storage devices and databases and the user interface level. The main components of Cumulus are the metadata server, an asset server and a processor server. These components can be installed on different computers with different operating systems.

The Cumulus Client/Server Architecture

The overall client/server architecture is simple. The Cumulus Server is installed on a server computer in the network. The Cumulus Clients are then installed on computers that have access to the computer running the Cumulus Server.

The communication between Clients and Server is handled via the Internet-standard TCP/IP, enabling Clients to access Cumulus catalogs from anywhere in the world. Since Cumulus is cross-platform compatible, both Mac OS X and Windows Clients can access catalogs administered by *any* Cumulus Server. The only restriction is that the Client has to have TCP/IP access to the computer running the Server.

You don't have to specify which computers are running the Cumulus Client application. The Cumulus Server allows as many Clients to connect as the number of Clients you purchased, no matter where they're trying to connect from.

The Cumulus Administrator

The Cumulus Administrator has to perform the following tasks:

*   Installing the Cumulus Server application on a server computer in the network. (See the online *Installation Guide*.)
*   Registering your Cumulus configuration and activating the software. (See the online *Installation Guide.*)
*   Configuring the Cumulus Server – employing the Remote Admin utility. (See "Remote Admin")

The Cumulus Administrator is responsible for the following tasks:

- Providing catalogs to Cumulus Clients by creating new catalogs or adding existing ones to the list of catalogs administered by the Cumulus Server. (See "Providing Catalogs".)
- Configuring each catalog's settings to meet the specific needs of the workgroup. (See "Catalog Settings".)
- Making catalogs available or unavailable to Cumulus Clients and defining individual user permissions. (See "Managing Users".)
- Maintaining the catalog files themselves, including tasks such as optimizing catalog performance, backing up and restoring catalogs, repairing catalogs, etc. (See "Catalog Maintenance".)

The permission to perform these tasks can be given to other users. The Cumulus Administrator has all these permissions by default and is the one who is responsible that the permissions are given according to the specific needs of the workgroup.

Cumulus Clients

Cumulus Clients such as Cumulus Web Client or Cumulus Desktop Client access catalogs by logging onto the Cumulus Server and opening catalogs administered by the Server. Once logged on, they have access to all of the functions described in the Cumulus help (provided, of course, that the Cumulus Administrator has not restricted their permissions to use these functions).

The Cumulus Server

Once installed, as default the Cumulus Server is launched "invisibly" every time the computer it's running on is started up. Most administrative actions can be performed

from a Cumulus Desktop Client application logged on as Cumulus Administrator to the Server. Before you can log on from a Client, however, you have to register the Cumulus software and maybe configure the Cumulus Server properties. You configure the properties of a Cumulus Server using the Remote Admin module. For details on the Remote Admin module, see "Remote Admin" ".

The Cumulus Administrator

To administer Cumulus, there has to be a user account which functions as the Cumulus Administrator. This user account is created during the installation of the Cumulus Server with the default name *cumulus*.

The Cumulus Administrator has to perform the following tasks:

* Installing the Cumulus Server application on a server computer in the network.
* Registering your Cumulus configuration and activating the software.
* Configuring the Cumulus Server – employing the Remote Admin utility.

The Cumulus Administrator is responsible for the following tasks:

* Providing catalogs to Cumulus Clients by creating new catalogs or adding existing ones to the list of catalogs administered by the Cumulus Server.
* Configuring each catalog's settings to meet the specific needs of the workgroup.
* Making catalogs available or unavailable to Cumulus Clients and defining individual user permissions.
* Maintaining the catalog files themselves, including tasks such as optimizing catalog performance, backing up and restoring catalogs, repairing catalogs, etc.

The permission to perform these tasks can be given to other users. The Cumulus Administrator has all these permissions by default and is the one who is responsible that the permissions are given according to the specific needs of the workgroup.

There is only one Cumulus Administrator, but to provide your workgroup with extra flexibility in managing catalogs, Cumulus permits more than one user to *act* as Cumulus Administrator simultaneously. It does not, however, permit more than one user to open a catalog as Administrator at the same time. Each one simply needs to

enter the user name of the Cumulus Administrator when connecting to the Cumulus Server.

Initial Tasks and Their Order

The sections that follow describe how to log on as Administrator and then how to provide catalogs as this is the next step to be performed. This should be done before you set up any Cumulus Client users as you can only allow them access to catalogs that are provided by the Cumulus Server. For a description on how to set up users, see "Managing Users". However, before you let your Cumulus Clients work with these catalogs you should set up the catalogs as well. For a description on how to set up catalogs, see "Catalog Settings".

Logging On as Cumulus Administrator

Before you can begin managing your workgroup's catalogs, you have to log onto the Server as Cumulus Administrator from a Cumulus Desktop Client application.

To log on as Cumulus Administrator:

1. From any Cumulus Desktop Client, select **File > Connect to Cumulus Server**.

   The Connect to Server dialog box appears.

2. In the **Server** field, select or enter the name of the Cumulus Server, you want to connect to.

   If you are logging on from the same computer as the Server is installed, you can type in **localhost**. If more than one Cumulus Servers are available to you, click on the arrow to get a list displayed. This list contains the names/IP addresses of all

currently active Cumulus Servers in the network. If necessary, edit the IP address of the Cumulus Server by selecting another one from the drop-down list. The IP address can be either a numbered address or the name of the Cumulus Server (e.g., cumulus.canto.com).

NOTE: To be able to connect to the Server, every Client must specify a port number. By default, Cumulus automatically determines an open port number and configures it for both Server and Clients (see "Remote Admin"). Change the port number only to avoid a conflict with other server software. If the port number is changed, all Clients need to be informed of this fact or they will not be able to log on.

3. Under **Connect as**, enable **Registered User**.

4. Type the user name of the Cumulus Administrator in the **Name** field and the corresponding password in the **Password** field. (See "The Cumulus Administrator", for information on the identity of the Cumulus Administrator.)

5. Click **OK**.

The Catalog Access window appears.

The Catalog Access Window

The Catalog Access window lists all catalogs currently administered by the Cumulus Server and is the starting point for performing numerous administrative tasks.

Via the Catalog Access window, you can:

- Open a catalog and modify its properties (see "Catalog Settings").
- Create new catalogs (see "New Catalogs").

- Add existing catalogs to the list of those administered by the Cumulus Server (see "Adding Existing Catalogs").
- Remove catalogs from this list. Then they are not administered by the Cumulus Server.
- Rebuild a damaged catalog (See "Repairing Catalogs").
- Migrate old catalogs to the current catalog format (See "Migrating Catalogs").

Working Smart

Before you jump into providing catalogs for your workgroup, it's a good idea to become familiar with a few guidelines that will make your work with Cumulus as efficient and effective as possible.

Name a Catalog Manager

It's best to assign one person in your workgroup to manage assets and Cumulus catalogs. Having one manager helps keep things consistent and provides your workgroup with a recognized source for asset and catalog information.

For the catalog manager to be able to effectively manage workgroup catalogs, this user has to log on to the Cumulus Server as the Cumulus Administrator. For details on acting as the Cumulus Administrator, see "The Cumulus Administrator".

Develop an Effective File Naming Convention

Even though Cumulus makes it easy to keep track of assets with its thumbnail previews and wealth of search options, there is no substitute for a well planned filing system. There will be times that you must access files without the convenience of the Cumulus interface. For example, when writing scripts to enable Cumulus to automate the workflow, a consistent and predictable filing system can not only save many hours of script debugging, but it can also enable functionality that might not otherwise be possible.

How you name your files will depend on how you use them. A news agency may decide to name incoming news stories prefixed with the current date and affixed with the file type:

2003-06-01-ElectionResults.txt
2003-06-01-ElectionResults.tif

Using the date in this order lists the files chronologically when sorted alphabetically. It also makes it easier for Cumulus scripts to select files based on a date range.

A Web design group may choose to include an image's file size in its name to make entering HTML size tags more convenient: MainPageBanner200x50.gif

Or, to use this manual as an example, file names for screen shots of menus and dialog boxes each begin with either "M_" or "W_" to identify the platform from which the images come. For example, the file name for the Mac OS File menu is: M_FileMenu.tif. Its Windows counterpart is called: W_FileMenu.tif

Using the two file name prefixes not only helps differentiate the files at a glance, but also helps to make the filing system more predictable. From this example, you can probably guess the file names of most images in this document. Consistency and predictability are key to developing a naming convention that will serve you and your workgroup well.

Develop an Effective Folder Naming Convention

Apply an equally clear naming convention to your folder (directory) structures. Cumulus can use your folder hierarchy to create categories when cataloging assets. It is a real time saver if your folder structure helps to identify your assets.

Some users may choose to store assets in folders based on file type rather than project name. A sound clip of audience applause, for example, may be used in many projects, but it will always be a sound clip. You can use Cumulus' categories to associate assets with one or more projects.

Cross-Platform Catalog Use

Though the catalogs that Cumulus creates are completely cross-platform compatible, it is up to you to use a catalog file naming convention compatible with each platform which you plan to use for your catalogs.

Keep in mind that catalog *names* and catalog *file names* are two different things. For cross-platform purposes, you need only be concerned with catalog file names. (see "Renaming Catalogs", for catalog naming information.)

Consult your operating system's documentation for details on the range of characters that can be used. In the meantime, here are a few tips:

- Windows uses a backslash (\) to differentiate folder hierarchies. Mac OS users should avoid using this character in their catalog names. (The Mac OS uses a colon (:) to differentiate folder hierarchies, but this character is not allowed in files name on either platform, so it is of no real concern.)
- Windows file names can be up to 255 characters in length. Mac OS file names must be 31 characters or less.

Characters that are safe for use on all Cumulus platforms include all upper and lower case letters, all numbers, the hyphen (-), and the underscore (_).

Multiple Catalogs & Servers

You may want to use separate servers for different departments within your organization. Although each server can manage one or more catalogs, you must have a separate copy of Cumulus for each server.

When evaluating your media management needs, consider the following questions:

- How many Clients will access the catalog?

- How many assets do you need to manage, today and in the future?
- Where will the cataloged assets be stored? Who should have access to the cataloged assets (for example, to modify them)?
- Does the media archive contain logically unrelated groups of assets?
- Do different groups of people use different groups of assets? Or do the documents themselves fall into multiple categories?

Providing Catalogs

Catalogs to be shared by your workgroup must be administered by the Cumulus Server, which means that they must appear in the list of catalogs administered by the Server (in the Catalog Access window). Catalogs administered by the Cumulus Server have to be stored locally on the computer running the Server application. So before you jump into providing catalogs for your workgroup, make sure that you create or note the location(s) that will house the catalogs you provide.

You have a couple of options for providing catalogs to be administered by the Cumulus Server. You can either create new catalogs or add existing catalogs to the list in the Catalog Access window. If you add catalogs from previous Cumulus versions, you must migrate them to the current Cumulus format. The sections that follow describe how to provide catalogs to your workgroup using any of these routes.

Creating New Catalogs

The first step in creating new workgroup catalogs is to create or note the location where they will be stored on the computer running the Cumulus Server. So if you haven't already done so, do that now.

Then you can log on to the Cumulus Server from any Cumulus Desktop Client and tell the Server where the catalog is to be stored and what you want to call it.

You create new catalogs via the Catalog Access window. For a detailed description see "New Catalogs".

Adding Existing Catalogs

Catalogs to be administered by the Cumulus Server must be stored locally on the computer running the Server application Only catalogs stored in locations approved by the Cumulus Administrator can be used by Cumulus. So before you add a catalog for your workgroup, make sure that it is stored in appropriate location. You can then log on to the Cumulus Server from any Cumulus Desktop Client and tell the Server where the catalog can be found.

Catalogs created with Cumulus version 7 or 8 can be opened with Cumulus 9, but must be migrated explicitly in order to support the new features. Catalogs created with Cumulus versions earlier than 7 can not be opened with Cumulus 9 and must be migrated before they can be used. (See "Migrating Catalogs", for more information.)

To add an existing Cumulus catalog to the list:

1. Log on as Cumulus Administrator to the Cumulus Server (see "Logging On as Cumulus Administrator").

2. In the Catalog Access dialog box, click **Add to List**.

    The **Browse** window appears.

3. If necessary, select the location where the catalog is stored from the **Look In** drop down menu

4. Select the desired catalog file (.ccf) from the list an click **Open**.The added catalog appears in the catalog list of the Catalog Access window.

Your catalogs are now administered by the Cumulus Server and can be accessed by Cumulus Clients.

Catalog Availability

There are two levels of catalog access to keep in mind when managing user permissions:

- **Catalog availability** – Determines whether or not a catalog is available for sharing at all. If available, the catalog is available to every Client who connects to the Server, unless you define specific user access restrictions.
- **User permissions** – Determines how a catalog is shared. You can define which access permissions users have. (See "User Properties".)

Making Catalogs Available

Just because a catalog appears in the list of catalogs administered by the Cumulus Server, it doesn't mean that it can be shared by your workgroup. You first have to make each catalog available before it can be accessed by Clients.

To make a catalog available to Clients in general:

1. Log on as Cumulus Administrator to the Cumulus Server (see "Logging On as Cumulus Administrator").

   The Catalog Access window appears. You can see which catalogs are accessible to clients by selecting a catalog and noting whether the **Share Catalog** option is checked for that catalog.

2. Select the catalog you wish to make available to Clients and enable **Share Catalog**.

   A dialog asks you to confirm the change of the sharing status of the catalog in question.

3. Confirm the change.

The catalog is now available to every Client who has got the respective permissions, see "User Properties".

Making Catalogs Unavailable

There are two ways to make a catalog unavailable to Clients. Both are done from the Catalog Access window. You can:

* *temporarily* deactivate it in the list of catalogs administered by the Cumulus Server by disabling **Share Catalog**.
* *permanently* remove it from the list of catalogs administered by the Cumulus Server by clicking **Remove from List**. The catalog is not deleted, but is no longer administered by the Cumulus Server.

To make a catalog unavailable to Clients in general:

1. Log on as Cumulus Administrator to the Cumulus Server (see "Logging On as Cumulus Administrator").

   The **Catalog Access** window appears. You can see which catalogs are accessible to clients by selecting a catalog and noting whether the **Share Catalog** option is checked for that catalog.

2. Select the catalog you wish to make unavailable to clients and disable **Share Catalog**. A dialog box appears asking you to confirm the change of the sharing status of the catalog in question.

3. Click **OK.**

The catalog still appears in the list of catalogs administered by the Cumulus Server, but it is no longer available to be shared by Clients.

To remove a catalog from the list of catalogs administered by the Cumulus Server:

1. Log on as Cumulus Administrator to the Cumulus Server (see "Logging On as Cumulus Administrator").

   The **Catalog Access** window appears.

2. Select the catalog you wish to remove from the list and click **Remove from List**.

   If the catalog to be removed is being used by a Client, a dialog box appears in which you can determine the length of time the Clients have before they will be disconnected. This dialog box also lets you send these Clients a message on the impending disconnection.

3. Click **OK.**

The catalog is removed from the list in the Catalog Access window, but is *not* deleted from the system.

Going On

As Cumulus Administrator, you are responsible

- for setting up the catalogs to meet the needs of your workgroup. To find out how, see "Managing Catalogs".

- for creating Cumulus Client users and giving them the permissions for accessing catalogs and functions as it best suits your workflow. To find out how, see "User Properties".

- for providing View Sets, Asset Handling Sets, Actions, and Metadata Templates to the Cumulus Client users that meet the specific needs of your workgroup. To find out how to define these sets, see "Customizing Cumulus".
The Cumulus Administrator can also give other Client users the permissions to define these items. You can have users with very individual permissions. For example, you can have users who have the permissions to define shared Asset Handling Sets or the permissions to define shared View Sets and others who are allowed to do both. This enables big organizations to delegate these tasks to different users, e.g. from different departments. However, as the Cumulus Administrator knows best about the fields included in the catalogs, it's also the Cumulus Administrator who knows best how to set up View Sets that meet the specific needs of the workgroup and fit the catalogs used by the workgroup. Again it's the Cumulus Administrator who knows best about the Asset Handling modules that are used by the workgroup and that's why the Cumulus Administrator is the one who knows best how to set up Asset Handling Sets that are ideal for the workflow. The same goes for Actions and Metadata Templates. However, it is up to you either to take over these tasks yourself or to train other users so that they can take on these tasks.

- for configuring messages sent by the mail notification function. (For details, see "Configuring Email Notifications")

Default User Settings

However, the Cumulus Administrator has all permissions by default and is the only one who can define the User Settings before other Cumulus Client users start working with a new Cumulus installation. This is possible because all settings are centrally stored at the Cumulus Server. The Cumulus Server installation folder includes a **conf** folder that houses folders where the settings are stored. The Users folder holds the individual folders of Cumulus Clients (named as their login names) where their individual settings are stored. The Server folder holds the shared settings that can be used by all Cumulus Clients.

When a Client user logs in to a new Cumulus installation for the first time, all settings are taken from the DefaultUser folder. However, only then, as with logging in for the first time, an individual folder is created in the Users folder for each Client user to store her/his individual settings. When logging in next time, the settings from this individual folder will be taken.

Customizing Default User Settings

In case the Cumulus Administrator wants the Client users to have initial User Settings that differ from those Canto provides, there is an easy way to prepare this before a Client user logs in for the first time.

In order to do this, log in as Cumulus Administrator and define the User Settings as you want them to be for Cumulus Client users to start with. Then save them and close the Preferences windows (or even quit the Cumulus application). The User Settings are stored in the Cumulus Administrator's folder (default: **cumulus**) inside the Cumulus

Server installation folder, e.g

⊞ ..\Canto\Cumulus Enterprise Server\ conf\Options\Users\%7b98ca1422-0171-4d1d-8b84-8cdda4ab70ae%7d\cumulus or

 /usr/local/Cumulus_Enterprise_Server/conf/Options/Users/%7b98ca1422-0171-4d1d-8b84-8cdda4ab70ae%7d/cumulus

Then copy the ModulePreferences.xml & ModulePreferences.pack files from the this folder to the folder of the default user (named **defaultuser),** e.g.

⊞ ..\Canto\Cumulus Enterprise Server \conf\Options\Users\ %7b98ca1422-0171-4d1d-8b84-8cdda4ab70ae%7d\defaultuser or

 /usr/local/Cumulus_Enterprise_Server/conf/Options/Users/%7b98ca1422-0171-4d1d-8b84-8cdda4ab70ae%7d/defaultuser

NOTE: Do not copy any possibly existing collections.xml file! Collections can not be duplicated this way.

TIP: Copying the User Settings of a Selected User for Other Users

The User Manager module offers a function that lets you copy user settings from one user to another. In that case the User Settings for the Cumulus application as set in the Preferences window are copied. For details see "Copying User Settings" .

Default User Settings with Roles

If you employ the role-based mode of the User Manager, Cumulus offers the possibility to provide different initial settings for the different roles. Each role created with the User Manager has its own folder located in the **Users** folder, and if a user assigned to

certain roles logs in for the first time, she/he will get her/his individual user folder which contains the settings provided by the role's folder. If the role's folder does not contain certain settings they are taken from the DefaultUser folder. If a user is assigned to more than one role, the settings from the assigned roles will be added and merged before copied to the individual user folder.

To make use of this feature you must copy the desired settings (e.g. ModulePreferences.xml & ModulePreferences.pack) to the roles' folders.

Just in Case: Troubleshooting

In very rare cases, the Cumulus Desktop Client can get unresponsive. If this happens, the Canto support team might need some information in order to properly investigate the reason of the issue. To facilitate this, Canto provides a dedicated tool to create client dumps. A client dump is a bunch of files that reflect the state of your client in the very moment of the occurrence of the problem. This tool, **Create Client Dumps**, is installed automatically with the Cumulus Desktop Client, both on Windows and on Mac computers.

NOTE: The dump files may contain potentially sensitive information, e.g. about the name of your computer, the folder structure, and running processes, among others! While you could easily edit the computer's name, the bulk of this information, however, is needed for a proper analysis and must not be altered in any way.

Invoking the creation of dumps works slightly different on Windows and Mac OS.

Windows

To initiate the creation of client dumps on Windows:

1. Click the **Start** button and navigate to Cumulus node. Expand it. Depending on your Windows version, you see something like this:
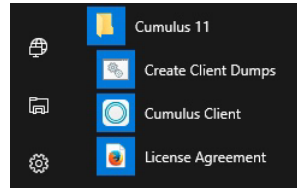
2. Click **Create Client Dumps**.
   Creating the dumps may take a while. You may see several command prompts popping up during this time.

A folder named **CumulusClientDbg** will be created on your desktop. Each time the **Create Client Dumps** tool is executed, a new subfolder is created within this folder, the name of which is composed of your computer's name and the date and time of the dump's creation, e.g. MY-COMPUTER_2017-08-10_13-05-54. This folder contains all files related to the dumps and can easily be transmitted e.g. to the Canto support team.

Mac OS

NOTE: A client dump from a Mac computer includes a screen shot. Therefore, make sure that the UI of the unresponsive Cumulus Client is in the foreground and completely visible when you invoke the dump. Do not hide or minimize the Cumulus Client! However, it is strongly advised to minimize or hide all other applications before you start the Create Client Dumps tool in order to prevent the involuntary leaking of confidential data.

To initiate the creation of client dumps on Mac OS:

1. Open the Cumulus installation folder (usually Applications/Cumulus Client).
2. Double click **Create Client Dumps**.
   Creating the dumps may take a while.

A folder named **CumulusClientDbg** will be created on your desktop. Each time the **Create Client Dumps** tool is executed, an new subfolder is created within this folder, the name of which is composed of your computer's name and the date and time of the dump's creation, e.g. MY-COMPUTER_2017-08-10_13-05-54. This folder contains all files related to the dumps. For your convenience, a zip file of this folder with the same name is created additionally and can easily be transmitted e.g. to the Canto support team.

Cumulus

A little up-front planning can save countless hours of work and frustration further down the road. This section explains the setting up of Cumulus preferences and also offers some information on Asset Handling modules and Asset Format support.

The topics of this chapter include:

- [Preferences](#)
- [User Settings](#)
- [Record View Sets](#)
- [Category View Sets](#)
- [Asset Handling Sets](#)
- [Asset Handling Modules](#)
- [Asset Format Support](#)
- [Cumulus Asset Actions](#)
- [Metadata Templates](#)
- [Print Templates](#)
- [Crop Templates](#)
- [Sub-Pane Filters](#)
- [Permissions Templates](#)

Customizing Cumulus

Preferences

There is no best way to use Cumulus. Many aspects of the program can be changed to adapt to your way of managing your assets. Fundamental changes can be made by modifying the preferences.

The Preferences window is available only from within the Cumulus Client application as soon as a Cumulus catalog is open. All user settings and catalog settings are configured from within this single window. The available options depend on permissions of the logged-in user.

When making catalog-specific changes and more than one Cumulus catalog is open, a drop-down list enables you to select the catalog which settings you want to change. (You cannot make changes to a catalog you are not connected to.)

The left column of the Preferences window displays icons for the sections you have the permissions to access. These permissions are Server permissions and they are defined employing the User Manager module of the Server Console.

What you can see in the window and what you are allowed to edit depends on the permissions you have for viewing, modifying and creating the different preferences. For details on the different sets or settings see:

- "User Settings"
- "Record View Sets"
- "Category View Sets"
- "Asset Handling Sets"
- "Cumulus Asset Actions"
- "Metadata Templates"
- "Print Templates"

- "Sub-Pane Filters"
- "Permissions Templates"
- "Catalog Templates"
- "Catalog Settings"

TIP: Properties for Sets, Templates and Actions

Clicking on the ℹ️ icon opens the Properties dialog of the selected set, template or action – offering two tabs. The Description tab allows you to enter a display name and a description for the item in each language supported by Cumulus. The Sharing tab allows you to define whether you want to share an item with others. And if you want to share, you may define specific users or roles that are allowed to use the item.

User Settings

The User Settings section of the Cumulus Preferences provide access to your individual user settings – at least your personal settings for the Cumulus application. It can also provide access to other user settings for other applications integrated in Cumulus.

The settings made for the Cumulus application affect global application behavior. They are specific to the connected user. They are not specific to any one catalog. Included here are options that control the way Cumulus conducts application category searches.

User settings are not specific to computer platform, Client software or catalog. This means that settings made by a user at one workstation will be active when that user logs in to Cumulus from another workstation, no matter which catalog is used. Settings made in the Client application also apply when the user is connected via a Cumulus Web client (Web Client)/Portals/Sites), where applicable.

PRECONDITIONS: To modify your User Settings, you must have the appropriate permissions (**Server Permissions > User Permissions > Modify [tab name] User Settings**.)

For detailed information on the options available, see "Overview: User Settings".

Overview: User Settings

The User Settings section contains tabs that separate sections. Beneath each tab are one or more sections that further organize options available.

Select the tab first and then click the icon for the component.

General Tab

- **Application**

Double-Click on Record

1Double-clicking on a record will open the Asset Information window.

2Double-clicking on a record will open the Preview window.

3Double-clicking on a record will open the asset for editing with the application used to create the asset.

NOTE: *If the asset is under control of a version control system (e.g. Cumulus Vault), it will be checked out.*

4Double-clicking on a record will open the asset for viewing with the application used to create the asset.

Measurement

5Selects preferred unit of measurement for heights and widths.

When Updating

6 *Forces Cumulus to count assets before cataloging begins, so that it can display a progress bar (slows performance).*

7 *Records of newly cataloged assets will always be added to the current collection.*

8 *Users carrying out auto cataloging (via a directory category) will be informed of auto cataloging activities: the Metadata Editor window will pop up.*

9 *Activate to include the records of unchanged assets in an update process useful e.g. if catalog settings have been changed).*

10 *Activate to updated the records for contained assets (related sub assets).*

11 *Activate to additionally delete records of no longer contained sub assets.*

Category handling when dragging and dropping records into a different catalog

12 *If activated, a dialog is shown for each drag and drop action, allowing users to decide on the category handling individually.*

13 *Categories to which the dragged & dropped records are assigned in the source catalog, but are missing in the target catalog, will be created there.*

14 *Categories to which the dragged & dropped records are assigned in the source catalog, but are missing in the target catalog, will be ignored*

Checkout

15 *Users carrying out a version control (e.g. the Cumulus Vault Option) can define their general Checkout Location. That way they can avoid being asked for the Checkout Location for each check out they perform.*

When Starting

16 *At startup, Cumulus will open all catalogs and collections that were open when Cumulus was closed the last time. If this option is not enabled, Cumulus will always start without an open catalog or collection.*

- **WebAlbum**
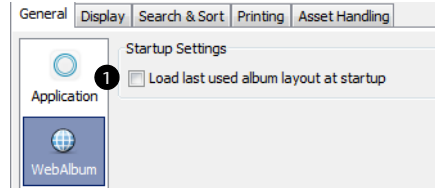
1Automatically loads the Album Layout that was used last when the WebAlbum feature is started. (See "WebAlbum", for a description on how to use the WebAlbum feature.)

Display Tab

The Display Tab provides access to general display options, options for transparency display and the display options for the different view modes.

- **General**
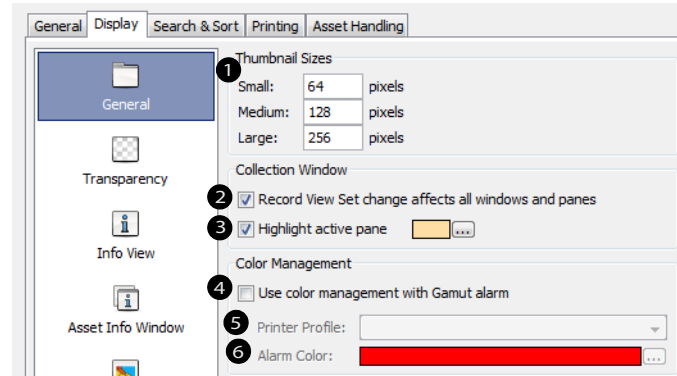
Thumbnail Size
1Defines the sizes of small, medium and large thumbnails. The sizes defined here for thumbnails are those displayed when the respective size is selected.

Collection Window
2When selecting another View Set the settings for all windows and panes will change to those of the newly selected set. If the option is not activated,

dows and panes will change to those of the newly selected set. If the option is not activated,

the settings will change for the currently selected pane or window only.

3 *Highlights the active sub-pane in the color selected in the field on the right. Click the button to select a color.*

Color Management

4 *Shows preview with color management profile used by asset and highlights any part of the image that is beyond the printable color spectrum of the printer selected in # 5, below.*

5 *Selects a color management printer profile - Mac OS: ColorSync; Windows: ICM. (Disabled if # 4 is not selected.)*

6 *Click to select a warning color for unprintable shades in an asset.*

• **Transparency**
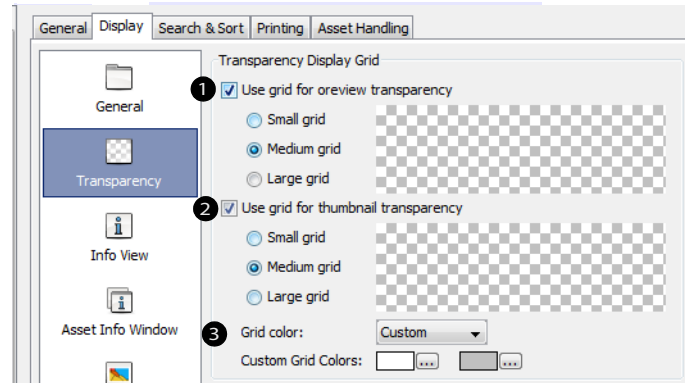
Some asset formats create transparent areas in an image's preview or thumbnail. For these you can specify how the transparent areas are displayed. Such formats are: Portable Network Graphics (PNG), GIF Image, Photoshop (PSD, PSB), TARGA Image (TGA, TPIC), Windows Cursor (CUR) and Windows Icon (ICO).

Transparency Grid Display

1   *If activated, the transparent areas of a preview are displayed as a grid and you can select the grid size. If not activated, the background color selected for the Record View Set is used for transparency display of a preview.*

2   *If activated, the transparent areas of a thumbnail are displayed as a grid and you can select the grid size. If not activated, the background color selected for the Record View Set is used for transparency display of a thumbnail.*

3   *Allows you to choose colors for the grid. You can either choose a pre-defined color combination or define your own custom combination. Click the buttons to select the colors for your custom combination.*

• View Modes – Groups of Options

The options for the different view modes– that is, the Info View, the Asset Info Window, the Preview View, the preview Window and the Category Info Window – comprise one or more of the following groups.

Audio

1When you open the view, the voice annotation in the first Audio field of the Information window will be played (only works on Windows).

Assets/Categories

Specifies what happens once you open an Information window

2Cumulus opens a new Information window for each asset/category.

3Cumulus uses one window to show information on all currently selected assets/categories. Displays and lets you edit common information for multiple records/categories.

4 *The open window displays the records/categories currently selected in the Collection window and follows any selection changes.*

5 *The open window displays the values that are identical for all currently selected records/categories.*

Window Position

6 *Always displays the window on top of all other windows.*

Preview Window Mode

7 *Always opens a preview in fullscreen.*

8 *Always opens a preview in a separate preview window.*

9 *Keeps the Preview window always on top of the Cumulus main window (Default). – If deactivated, the preview window remains inside the Cumulus main window, as in earlier versions of Cumulus.*

Preview View Size

10 *Defines the sizes of small, medium and large preview views. The sizes defined here for preview views are those displayed when the respective size is selected.*

Preview Image Size

Preview Image Size

- (11) Use predefined size — Medium
- (12) Original size
- (13) Fit Image
  - ☐ Enlarge smaller preview images
  - ☑ Reduce larger preview images
- (14) Fit Width
  - ☐ Enlarge smaller preview images
  - ☑ Reduce larger preview images
- (15) ● Fit Height
  - ☐ Enlarge smaller preview images
  - ☑ Reduce larger preview images
- (16) Other: 1024 pixels

You can select one of the following options:

11 Shows asset previews at the selected predefined preview view size.

12 Shows asset previews at the actual size of the asset. (For large images with high resolution, this could result in a very large preview.)

13 Enables selecting whether previews are enlarged or reduced to fit the size of the preview window.

14 Enables selecting whether the width of previews is enlarged or reduced to fit the size of the preview window.

15 Enables selecting whether the height of previews is enlarged or reduced to fit the size of the preview window.

16 Selects a predetermined size for all previews.

Additional Preview Settings

Additional Preview Settings

- (17) ☐ Automatically play Audio field "Annotation"
- (18) ☑ Show error message when unable to generate preview

17 Hides the toolbar when the preview is displayed fullscreen (only available with the Preview Window settings).

18 Shows an error message if a preview can't be generated.

Use Mouse Wheel in Preview For

Use Mouse Wheel in Preview For

- (19) ● Record navigation (hold CTRL for page navigation)
- ○ Page navigation (hold CTRL for record navigation)

19 Toggle the mouse wheel function: Either use the mouse wheel to cycle between records, or between the pages of multi-page records.

TIP: *Press Ctrl while using the mouse wheel to invert the way it works.*

Search & Sort Tab

- **Records**

Category List Search

These options affect the way the Cumulus application finds records if you double-click on categories. – Note that these settings also affect the search results when the Categories field is included in a search request (e.g. with Quicksearch)!

1   *Found records must match at least one selected category.*
2   *Found records must match all selected categories.*
3   *Found set includes records assigned to parent categories of the selected category. (Categories that have subcategories are called parent categories.)*
4   *Found set includes records assigned to subcategories of the selected category.*
5   *Found set includes records belonging to the original category of a related subcategory.*

NOTE: Difference between finding files by Category List Search, or by Quicksearch

The Category List Search performs an "is" search, the Quick search a "contains" search.
If, for example, you search for a category called "test" with the Category List Search, the search result will contain only records belonging to that category (and, depending on the Preferences, records belonging to categories below and/or beneath that category).
If you perform a (record) Quicksearch with the string "test", the search result will contain not only records belonging to that category, but also records belonging to any other category containing that string in its name, such as "testcase" or "protest".
*It is possible to obtain the same search result with the Category List Search. To do so, first select all categories containing the respective string (via **Find > Show Categories Containing**), then press **Enter** or perform a double click.*

Quicksearch Fields

6   *Activates the default setting for Record Quicksearch: a "contains" search in the record fields Record Name, Notes, Keywords, and Categories*
7   *Only with catalogs containing multi language record fields: If activated, the Quicksearch is extended to all language specific fields of the default field selection.*
8   *Enables an individual setting for the Record Quicksearch. If this option is activated, Quicksearch will search the fields displayed in the list. Click **Add** to get a list of all available record*

fields of the type String, String List and Integer. A "contains" search is performed for all included String and String List fields and an "is" search for all included Integer fields. Make sure the fields are correctly indexed for searching in the Catalog Settings of the catalogs where you want to use Record Quicksearch.

NOTE: *To allow multi-lingual searching, you must add the required language specific fields explicitly. The exception of this rule is the Categories field (see below).*

9   Activate this option to enable multi-lingual searching in the Categories field (only relevant it the Categories field is contained in your individual Quicksearch settings).

Additional Options

10   Selected records remain selected even when sort criterion or order is changed, or when a (new) search is performed and they appear in the search result, or when a filter is applied.

NOTE: *After a search/sort/filter operation, the collection automatically scrolls to the first selected record, i.e. the first record displayed is not necessarily the first record in the collection (use the scrollbar to scroll to the top of the collection).*

11   Sorting criteria are kept for the result of a search.

12   Drop-down list to select a record field's contents as sorting criteria when a catalog is newly opened (aka, "initial sorting"). Additionally, select whether the sorting is performed in ascending (A-Z, 0-9) or descending (Z-A, 9-0) order.

NOTE: *In the drop-down list, the fields are presented with their names and field types, which helps to select the proper field if there are fields with identical names, but different field type. For the rare but possible case that fields with identical names also have the same field type, just open the drop-down list with the CTRL key pressed. Then the fields GUIDs are displayed, too, in addition to name and field type, allowing for an unambiguous identification of the fields.*
The GUID of the currently selected field is also revealed by a tool tip.

- **Categories**
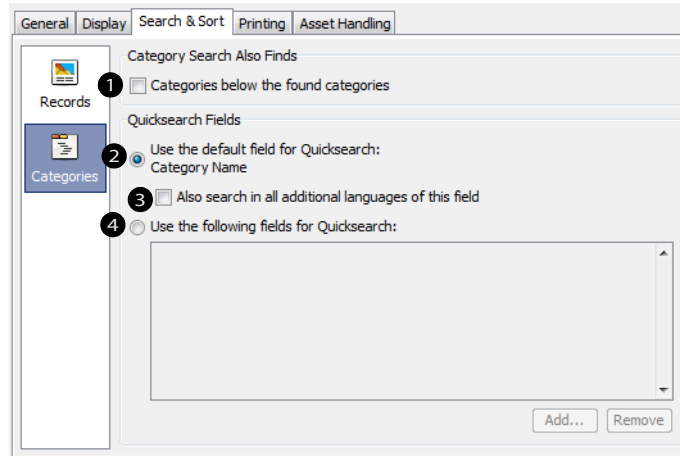
Category Search Also Finds

These options affect the way the Cumulus application finds categories using the Category Quick-search.

1 If activated, category nested into the found categories are also found and displayed.

Quicksearch Fields

2 Activates the default setting for Quicksearch: a "contains" search in the category field Category Name,

3   Only with catalogs containing multi language record fields: If activated, the Quicksearch is extended to all language specific fields of the default field selection.

4   Enables an individual setting for category Quicksearch. If this option is activated, category Quicksearch will search the fields displayed in the list. Click **Add** to get a list of all available category fields of the type String, String List and Integer. A "contains" search is performed for all included String and String List fields and an "is" search for all included Integer fields. Make sure the fields are correctly indexed for searching in the Catalog Settings of the catalogs where you want to use category Quicksearch.

Printing Tab

1 If a Record View Set defines the layout for printing (and not the Advanced Print Settings), the records' thumbnails will be printed in high-resolution so the printouts can serve as contact sheets.

Asset Handling Tab

1 You can preset one Asset Handling Set used for cataloging in all catalogs and one Asset Handling Set for the asset access done in all catalogs. Depending on your Cumulus configuration, you can also select a Permissions Template for cataloging. This template will then be applied to the cataloged asset. If you activate the **Show dialog** option, you can select an Asset Handling Set and Permissions Template when cataloging assets.

OR

2   *You can assign different Asset Handling Sets to different catalogs (even different ones for cataloging and asset access).*

NOTE: *The Asset Handling Set selected for asset access also determines the asset processors offered when converting an asset.*

Record View Sets

With Record View Sets, you can easily control which metadata fields are displayed, and how. This chapter explains how to customize existing Record View Sets and how to create and edit new ones. For a basic description of (Record) View Sets and their purposes, see: View Sets.

Each Record View Set comprises different view modes for different purposes, or use cases. such as Thumbnail View, Report View, Details View, Info View, and Information window, among others. The settings for each view mode can be customized individually.

Record View Sets were designed to control the representation of information at the Cumulus Desktop Client. However, Record View Sets are used with other Cumulus clients, too, such as the Cumulus Web Client, Portals, and InDesign Client. For these clients, only certain view modes are taken into account (see below).

NOTE: Canto strongly recommends to create at least one dedicated Record View Set for each client in use!

A View Set can be restricted for your personal use, or can be shared with other users. Shared View Sets are displayed in *italics* in the list of available View Sets.

Customization Options for Record View Sets

For Thumbnail, Details and Information view as well as for Asset Information window and Palette Mode you can decide which record fields are displayed, their order and how they are displayed: font type, style, size, and color. You can also choose a background color for most of the views. For the Asset Information window, the Information

view and the Fullscreen Preview you can create dynamic views. You can define whether fields are displayed or not displayed depending on the type of the selected asset.

IMPORTANT! Font Settings are Operating-System Specific!

Cumulus uses different font settings depending on the operating system the Client runs on. Changing these settings in a Record View Set on a Windows Client will not take effect with Clients on OS X/macOS, and vice versa. To customize Record View Sets to have the same look and feel both on Windows and OS X/macOS, you have to perform appropriate changes twice, on a Mac Client as well as on a Windows Client.

For some views you can even choose to use the color of a Label field as background color. For many views you can select the spacing around it and whether the record is displayed within a frame. For certain views you can also define that the field names are displayed along with the field values.

For Preview view and Preview window you can choose a background color. For Preview window you can choose whether and how the values (and names) of record fields should be displayed.

For each View Set you can define the view that is to be displayed when the View Set is selected. As soon as you have selected a View Set from the drop-down list, the view will switch. This action is not activated by default. To activate this feature for a View Set, you have to activate this option in the **Set Properties** section and then select the desired starting view.

Whether all views will change when changing the Record View Set or only the current one is determined by each user individually in her/his User Settings. (For details, see "Display Tab".)

NOTE: Record View Sets and Multilingual Working Environment
For users working in a multilingual working environment certain View Settings offer an **Allow language switch for multilingual fields** option. This option enables users to switch the language in which multilingual metadata fields are displayed. If this option is not activated, multilingual fields are always displayed in the language of the field that was added to the view.

Using Record View Sets for various Cumulus Clients

When Record View Sets are used with other Cumulus clients, such as the Cumulus Web Client, Portals, and InDesign Client, only the settings of certain view modes relevant. Which clients makes use of which view modes is depicted in the following table.

Views modes in Record View Sets	Web Client Settings used for:	Portals Settings used for:	InDesign Client Settings used for:
Thumbnail View	*Thumbnail view of* • *Overview pages* • *Search Result* • *Collection* • *Basket*	• *Overview pages* • *Search result pages* • *Basket overlay*	• *Records panel (Thumbnail view)*
Report View	*List view of* • *Overview pages* • *Search Result* • *Collection* • *Basket*	*(Not used)*	• *Records panel (Report view)*

Views modes in Record View Sets	Web Client Settings used for:	Portals Settings used for:	InDesign Client Settings used for:
Details View	*Details View of* • *Overview pages* • *Search Result* • *Collection* • *Basket*	*(Not used)*	*(Not used)*
Info View	*(Not used)*	• *Quick preview overlay*	*(Not used)*
Asset Info Window	• *Information tab of a file's details page* • *Edit view*	• *Details page*	• *Information panel*
Palette Mode	*(Not used)*	*(Not used)*	*(Not used)*
Preview View	*(Not used)*	*(Not used)*	*(Not used)*
Preview Window	*(Not used)*	*(Not used)*	*(Not used)*
Calendar Pane	*(Not used)*	*(Not used)*	*(Not used)*

In addition, some settings don't take effect if a Record View Set is used with a client other than the Desktop Client. For example, field properties such as the number of lines, or layout settings (colors, fonts, etc.), are generally ignored.

Some client-specific features must be considered, too:

• Web Client:

  • Certain fields are always displayed in the Web Client, regardless of the settings in the view set (e.g. thumbnail, record name, file format type, modification date,...)

- Portals:
  - Certain fields are always displayed in Portals, regardless of the settings in the view set (e. g. preview, record name,...).
  - Empty fields (fields without a value) are never displayed in Portals.
  - Field names of metadata fields are displayed on overview pages, search result pages and the basket overlay, if **Show field names** is activated in the settings for the Thumbnail View. (**Properties** settings for field names, however, are always ignored.)
    If this option is not activated, a tool tip with both field name and value is displayed when the mouse pointer hovers over a field.
  - Field names are always displayed on the details page, and never on the quick preview, because this is the default setting for the respective view modes which can't be changed. On the quick preview, a tool tip with both field name and value is displayed when the mouse pointer hovers over a field.
  - Separators defined in a Record View Set are ignored.
- InDesign Client:
  - The InDesign Client respects font color settings for fields. Different colors can be used e.g. to highlight certain items.

    NOTE: In order to always ensure best readability, the configured font colors adapt to InDesign's UI color theme changes.

Further information

For detailed information on the usage of Record View Sets with:

- Web Client, see: Select a Record View Set and a Category View Set to be used.

- Portals, see: Layout Tab.
- InDesign Client, see: Cumulus InDesign Client Panels.

Creating and Editing Record View Sets

You can either change existing View Sets or create new ones – if you have the appropriate permissions for changing or creating View Sets. You may have the permissions to define and customize your individual sets only or may even have the permissions to edit all sets.

NOTE: When renaming a shared set, remember to update users' permissions for this set.

Record View Sets are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > Record View Set.)

PRECONDITIONS: To view and modify Record View Sets, you must have the appropriate permissions (**Server Permissions > Record View Set Permissions**.)

To change an existing set:

1. Select Cumulus / Edit > Preferences.
2. Click **Record View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Click the icon for the view you want to change.
5. Make the changes. For details see
   - "Adding a Field to a Record View"
   - "Changing the Properties of a Displayed Field"

6. Click **Apply** to save your changes.

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Record View Sets by selecting the **Customize** entry in the list for selecting Record View Sets (e.g. in the Collection window or the Asset Information window). This entry opens the preferences for the current Record View Set.

A new View Set is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > Preferences.
2. Click **Record View Sets**.
3. Under **Set**, select the set to use as a basis for the new one.
4. Click **Duplicate**.

   The **Name and Settings** dialog opens.
5. Enter a name for the new View Set, and optionally
   • Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new View Sets).
   • Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new View Sets).
6. Activate the **Allow Sharing** option to make this View Set a shared set that is available to other users.

7. Click **OK**.

8. Define the new View Set. (For details see <u>"Adding a Field to a Record View"</u>, and <u>"Changing the Properties of a Displayed Field"</u>.)

9. Click **Apply** to save your changes.

Setting A Default Record View Set

You can define one View Set to be the default View Set for the Desktop Client. This default View Set will be used in case no other set is available or the selected set is not accessible. For example, a set that is stored with a collection was deleted after the collection had been saved. The default View Set is denoted by **bold** characters in the list for selecting a View Set.

To set the default View Set:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Record View Sets**.
3. Under **Set**, select the View Set you want to be the default one. This should be a shared set (denoted by *italics*).
4. Click **Set as Default**.
5. Click **Apply** to save your changes.

NOTE: Defining a default View Set for the Desktop Client has no impact on other Cumulus clients (e.g. Web Client or Portals)!

Adding a Field to a Record View

To add a field to one of the views:

1. Select Cumulus / Edit > Preferences.
2. Click **Record View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Click the icon of the view to which you want to add a field.

   A list of fields that are shown in the selected view is displayed.
5. Optionally: select the entry of the field after which you want to place the new field. If no entry is selected, new fields will be added at the bottom of the list. (A field's position can be adjusted anytime with the buttons on the right side.)
6. Click **Add**.

   The **Add Fields to View** window appears, providing two tabs:

   • The **Fields** tab, displaying a list of all fields contained in the catalogs of the active collection that are not yet included in the view.

   • The **Modules** tab, displaying the nodes: **Catalogs, Modules** and **Languages**.

   – The **Catalogs** node expands to a list of all catalogs open in the active collection. Clicking the plus sign in front of a catalog's name displays all fields contained in that catalog, but not yet included in the view. Either select the name of a catalog to add all contained fields, or select the individual fields you want to add.

   – The **Modules** node expands to a list of all Cumulus modules that provide fields. Clicking the plus sign in front of a module's name displays the fields supported

by the respective module but not yet included in the view. Either select the name of a module to add all fields supported by that module, or select the individual fields you want to add.

– The **Languages** node expands to a list of all languages configured for string field values. Clicking the plus sign in front of a language name displays the fields that support values in the respective language, but are not yet included in the view. Either select the name of a language's to add all respective fields, or select the individual language-specific fields you want to add.

Additionally, all language independent fields that are not yet included in the view are listed and can be added.

7. Select the field(s) you want to add.

8. Click **OK** to add the field(s) to the list of shown fields.

9. Click **OK** or **Apply**. Your changes take immediate effect.

TIP: Copying/Replacing The Fields From Another View

You can copy the fields included in one view to another view of the same Record View Set or you can replace all fields. Select the icon for the view you want to have the same fields as another view and use the alternate (right) mouse button to open a context menu. Select first the desired function and the view from which you want to copy the fields.

Adding a Separator to a View

The Asset Info window and the Category Info window as well as Info view support separator elements that allow to group fields. Separators can make it clear to users which metadata fields belong together. Users can close a separator to hide its fields and make metadata editing much easier on views that contain many fields. You can add as many separators as you need.

You can add and remove a separator just as any other field.

To add a separator to an Info window or Info view:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Record View Sets** or **Category View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Click the icon for the view to which you want to add the separator.

   A list of fields shown in the selected view is displayed.
5. Select the entry for the field after which you want to place the separator.
6. Click **Add Separator**. A dialog for entering a name for the separator is opened.
7. Enter a name and click **OK**.

   The separator is added to the view.

To change the properties of a separator:

1. Select Cumulus / Edit > **Preferences**.

2. Click **Record View Sets** or **Category View Sets**.

3. Under **Set**, select the View Set you want to edit.

4. Click the icon for the view you want to edit.

5. Select the entry for the separator whose properties you want to change.

6. Click **Properties**.

   This opens a dialog for defining the font attributes and changing the name of the separator.

7. Make your selections.

8. Click **OK** to assign the selected properties to the separator.

9. Click **Apply**. The separator will be displayed according to your settings.

NOTE: Activating the Dynamic Field Visibility option for a separator affects all fields below that separator: if the separator is not displayed, none of the respective fields will be displayed regardless of their individual settings. But then, if the separator is displayed, the settings for individual fields are taken into account.

Changing the Properties of a Displayed Field

The properties of a displayed field define the font (type, style, size, and color) used to display the field contents.

IMPORTANT! Font Settings are Operating-System Specific!
Cumulus uses different font settings depending on the operating system the Client runs on. Changing these settings in a Record View Set on a Windows Client will not take effect with Clients on OS X, and vice versa. To customize Record View Sets to have the same look and feel both on Windows and OS X, you have to perform appropriate changes twice, on a Mac Client as well as on a Windows Client.

To change the display properties of a field:

1. Select Cumulus / Edit > Preferences.
2. Click **Record View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Click the icon for the view you want to edit.
5. Select the entry for the field whose properties you want to change.
6. Click **Properties**.

   This opens a dialog for defining the font attributes and – depending on the field type – additional properties.

7. Make your selections. The options differ depending on the field type. (See "Additional Display Properties for Different Field Types", for more information on additional properties.)

8. Click **OK** to assign the selected properties to the field.

9. Click **Apply**. The field is displayed according to your settings.

Additional Display Properties for Different Field Types

In addition to choosing the font, the Properties dialog offers different options depending on the field type:

- **String Fields** – *With Info View or Info Window only*
  You can define the number of lines to display the contents of the field. For String List fields you can define the number of lines as well as display options. For String List fields that do not allow multi-select, you can decide to have the values displayed as drop-down list or radio buttons.

  NOTE: String Fields – Scroll Bar Display for Info View/Window on Mac OS!
  To have a scroll bar available for a String field in Info View or Info Window, you need to give it at least 5 lines.

- **Picture Fields** – *With Info Window, Thumbnail, Report and Info View*
  Icons can be displayed to quickly inform about embedded metadata (e.g. EXIF, IPTC and XMP data as well as included color profiles, multi-page assets or the availability of versions).

  NOTE:
  To display icons for embedded metadata, a catalog must contain the **Embedded Metadata Standards** field. If you add this field to an existing catalog, make sure to subsequently update all records of the respective catalog in order to have the new field taken into account.
  To do so, select **Metadata > Update Record > Advanced**. Activate the **Update even if assets are unchanged** option and restrict the update to the **Embedded Metadata Standards** field, then click **OK.**

  The following icons can be displayed:

EXIF EXIF data available

XMP XMP data available

IPTC IPTC data available

ICC ICC data available

Multipage asset (only if catalog includes the **Number of Pages** field and its value is > 1.)

Versioned asset

8BIM Photoshop resource available

- **Categories Field** – *With Info Window and Info View only*

  The language of Category tabs in the Asset Info window and in the Info view can be set via the Properties dialog of the Categories field. The set language governs the names of the Category tabs as well as the names of the categories displayed in the tabs. To specify a preferred language for the names activate **Preferred language** and select the desired language from the list. To automatically have displayed the language chosen in the View menu select **As defined in View Menu**.

- **Vocabulary Fields**

  Additional information on a vocabulary terms can be displayed.

  Vocabulary fields only accept predefined values (terms) as input, which are supplied by a special $Vocabularies catalog. The categories of this catalog serve as the vocabulary terms. Additional information about a term can be stored in the metadata of the respective category and can be displayed in the **Add Vocabulary Term** dialog (see Adding Terms to a Vocabulary Field), or as tool tip when hovering over a vocabulary term in Cumulus Portals, Cumulus Web Client and Desktop Client. Which additional information is displayed depends on the **Category View Set for details** (see Preparing a Cumulus Catalog for Working with Controlled Vocabularies). Tool tips are only available for the contents of metadata field of type String, Date only, and Picture.

Dynamically Displaying Fields

With the **Dynamic Field Visibility** option, Record View Sets and Category View Sets can be configured to display or not to display fields depending either on the file format type of the selected asset, or the Container Type of the selected category, or depending on the result of a saved query. (For more information on queries, see [Searching with the Find Window](#).)

For example, you may want to see the duration information for audio or video assets, whereas this information doesn't make sense for picture assets. Instead of having different View Sets for different types of assets, you can define just one View Set which adapts to the currently selected asset.

The **Dynamic Field Visibility** option works with the following view modes only:

- the Asset Information window and the Category Information window,
- the Information view
- the information displayed with the Fullscreen Preview

To have record fields or category fields displayed dynamically:

1. Select **Cumulus** / **Edit > Preferences**.
2. Click **Record View Sets**, or **Category View Sets**.
3. Under **Set**, select the View Set you want to configure.
4. Click the icon for either the **Info View,** or the **Asset Info window**, or the **Preview Window**.
5. Select the field whose properties you want to change.
6. Click **Properties**.

The **Properties** window is displayed.

7. In the **Dynamic Field Visibility** section,

   activate the **Only when the file format type is one of the following** option, then select the file format type(s) or the container type(s) for which the field shall be displayed.
   OR
   activate the **Only when matching the query** option, then select a saved query.

   NOTE: Make sure to select a query that does not contain placeholders!

8. Click **OK** to assign the setting to the field. The **Properties** window is closed.

9. Click **Apply**. The field is displayed according to your settings.

NOTE: Dynamic Field Visibility for Separators
Dynamic Field visibility works with separators, too. If a separator is not displayed due to the configured criteria, none of the fields below that separator will be displayed regardless of their individual settings. But then, if the separator is displayed, the settings for individual fields are taken into account.

Category View Sets

A Category View Set defines the display options for the Category Information window and the Category pane display. For each tab you can define different display options. You need the appropriate permissions for changing the Category View Sets.

Category View Sets are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > Category View Set.)

PRECONDITIONS: To view and modify Category View Sets, you must have the appropriate permissions (Server Permissions > Category View Set Permissions.)

To change a Category View Set:

1. Select Cumulus / Edit > Preferences.
2. Click **Category View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Make the changes.

   For details on changes for the Category Info window see:

   • "Adding a Field to the Category Info Window"
   • "Changing the Properties of a Displayed Field"

   For details on changes for the Category pane see:

   • "Changing the Category Pane Display"
5. Click **Apply** to save your changes.

Category Info Window

You can add fields to the display and change the properties of a displayed field. In any Category View Set, the Category Information window can be configured to display or not to display fields depending on the container type of the selected category.

Adding a Field to the Category Info Window

To add a field to a Category Information window:

1. Select Cumulus / Edit > Preferences.
2. Click **Category View Sets**
3. Under **Set**, select the View Set you want to edit.
4. Click **Category Info Window**.

   On the **General** tab, a list of fields that are shown in the Category Info window is displayed.

5. Optionally: select the entry of the field after which you want to place the new field. If no entry is selected, new fields will be added at the bottom of the list. (A field's position can be adjusted anytime with the buttons on the right side.)

6. Click **Add**.

   The **Add Fields to View** window appears, providing two tabs:

   • The **Fields** tab, displaying a list of all category fields contained in the catalogs of the active collection that are not yet included in the Category Info window.

   • The **Modules** tab, displaying the nodes **Catalogs, Modules** and **Languages**.

     – The **Catalogs** node expands to a list of all catalogs open in the active collection. Clicking the plus sign in front of a catalog's name displays all fields contained in that catalog, but not yet included in the Category Info window. Either select the name of a catalog to add all fields contained in that catalog, or select the individual fields you want to add.

– The **Modules** node expands to a list of all Cumulus modules that provide fields. Clicking the plus sign in front of a module's name displays the fields supported by the respective module but not yet included in the Category Info window. Either select the name of a module to add all fields supported by the module, or select the individual fields you want to add.

– The **Languages** node expands to a list of all languages configured for string field values. Clicking the plus sign in front of a language name displays the fields that support values in the respective language, but are not yet included in the Category Info window. Either select the name of a language's to add all respective fields, or select the individual language-specific fields you want to add.

Additionally, all language independent fields that are not yet included in the view are listed and can be added.

7. Select the field(s) you want to add.

8. Click **OK** to add the field(s) to the list of shown fields. The **Add Fields to View** window is closed.

9. Click **OK** or **Apply**. Your changes take immediate effect.

Changing the Properties of a Displayed Field

The properties of a displayed field define the font (type, style, size, and color) used to display the field contents, as well as its visibility depending on the container type of the respective category.

IMPORTANT! Font Settings are Operating-System Specific!
Cumulus uses different font settings depending on the operating system the Client runs on. Changing these settings in a Record View Set on a Windows Client will not take effect with Clients on OS X, and vice versa. To customize Record View Sets to have the same look and feel both on Windows and OS X, you have to perform appropriate changes twice, on a Mac Client as well as on a Windows Client.

To change the display properties of a field:

1. Select Cumulus / Edit > Preferences.
2. Click **Category View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Click **Category Info Window**.
5. On the **General** tab, select the entry for the field whose properties you want to change.
6. Click **Properties**.

    This opens a dialog for defining the font attributes and – depending on the field type – additional properties.

7. Make your selections.

8. Click **OK** to assign the selected properties to the field. The **Properties** window is closed.

9. Click **Apply**. The field is displayed according to your settings.

NOTE: Category View Sets and Multilingual Working Environment
For users working in a multilingual working environment View Settings offer an **Allow language switch for multilingual fields** option. This option enables users to switch the language in which multilingual metadata fields are displayed. If this option is not activated, multilingual fields are always displayed in the language of the field that was added to the view.

Changing the Category Pane Display

To set up the display of the Category Tree to your needs you can select a background color and define the font type, size and color.

To change the display:

1. SeSelect Cumulus / Edit > Preferences.
2. Click **Category View Sets**.
3. Under **Set**, select the View Set you want to edit.
4. Click **Category Pane**.
5. Make your selections:

   • To change the background color, click the ⬚ button next to the **Background Color** field.

   • To change the font, click the ⬚ button next to the **Font** field. – Changing the font color also affects the color of the square and triangle symbols in the category tree.

   NOTE: Font Settings are Operating-System Specific!
   Cumulus uses different font settings depending on the operating system the Client runs on. Changing these settings in a Category View Set on a Windows Client will not take effect with Clients on OS X, and vice versa. To customize Category View Sets to have the same look and feel both on Windows and OS X, you have to perform appropriate changes twice, on a Mac Client as well as on a Windows Client.

- To change the default display of the Category pane, you can enable/disable various display options. You can activate the option to display the number of records assigned to the category right next to the category name. You can decide which master categories are to be displayed in the drop-down list and which master category will be displayed when the View Set is selected.

  NOTE: These are only general options for the display of categories. Which categories are actually displayed depends also on the user permissions set in the User Manager and Live Filtering settings.

  For details on options only important if working in a multilingual environment see "Category Pane and Multilingual Working Environment"

6. Click **Apply**. The Category pane is displayed according to your settings.

Category Pane and Multilingual Working Environment

For users working in a multilingual working environment the settings for the Category pane offer following options:

- To allow sorting of categories according to the rules of a specific language and to enable the display of a manually re-ordered category tree, activate **Enable/ View language specific category sorting and custom ordering.**

  NOTE: Language-specific sorting is performed either according to the rules of the application language or according to the rules of the selected preferred language, if a preferred language is specified.

- To specify a preferred language for the display of categories, activate **Preferred language** and select the desired language from the list. To automatically have displayed the language chosen in the View menu select **As defined in View Menu**.
- If for any reason the name of a category is not available in the preferred language, it is displayed in the base language. To have additionally displayed the name of the used base language, activate the **If not available ...** option.

Asset Handling Sets

An Asset Handling Set affects how Cumulus deals with your assets – during the cataloging process and when accessing assets. The options of a set are not specific to any one catalog.

In the Asset Handling Sets section of the Cumulus Preferences you can define different Asset Handling Sets. When a certain set is used depends on the individual user settings defined by the user.

In the User settings of the Cumulus Preferences, each user can define *one* Asset Handling Set for the cataloging done in *all* catalogs and *one* Asset Handling Set for the asset access done in *all* catalogs. Each user can also assign different Asset Handling Sets to different catalogs (even different ones for cataloging and asset access). And each user can define to be asked for an Asset Handling Set when cataloging assets. (See "Overview: Asset Handling Sets" for details.) You can either change existing sets or create new ones – if you have the appropriate permissions for changing or creating Asset Handling Sets. There are Asset Handling Sets for individual use and Asset Handling Sets that are shared with other users. Shared sets are displayed in *italics*. You may have the permission to define and customize your individual sets only or may even have the permissions to edit all sets.

NOTE: When renaming a shared set remember to update users' permissions for this set.

Asset Handling Sets are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > **Asset Handling Set**.)

PRECONDITIONS: To view and modify Asset Handling Sets, you must have the appropriate permissions (**Server Permissions > Asset Handling Set Permissions**.)

Editing An Asset Handling Set

To change an existing Asset Handling Set:

1. Select Cumulus / Edit > Preferences.
2. Click **Asset Handling Sets**.
3. Under **Set**, select the set you want to edit.
4. Make the changes.
5. Click **Apply** to save your changes.

See "Overview: Asset Handling Sets", for an overview of the options available for Asset Handling Sets. Asset Handling Sets can only be defined by the Cumulus Administrator or users who have the right to do this.

Of all the various settings available within an Asset Handling Set, those concerning Asset Storage modules are described in detail in the section "Asset Handling Modules" . Asset Formats are described in the section "Asset Format Support" .

Creating An Asset Handling Set

A new Asset Handling Set is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > Preferences.
2. Click **Asset Handling Sets**.
3. Under **Set**, select the set to use as a basis for the new one.
4. Click **Duplicate**.

   The **Name and Settings** dialog opens.
5. Enter a name for the new set, and optionally
   - Activate the **Allow Sharing** option, if you want this set to be available to other users.
   - Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new sets).
   - Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new sets).
6. Click **OK**.
7. Define the new set. (See "Overview: Asset Handling Sets", for an overview of the options available.)
8. Click **Apply** to save your changes.

Setting A Default Asset Handling Set

You can define one Asset Handling Set to be the default set. This default set will be used:

- when the Cumulus Server uses an Asset Handling Set, e.g. for Server/Client Asset Transfer.
- when the set defined in the User Settings is not available.
- when records are imported.

The default set is denoted by **bold** characters in the list for selecting a set.

To determine the default set:

1. Select Cumulus / Edit > Preferences.
2. Click **Asset Handling Sets**.
3. Under **Set**, select the set you want as default. This should be a shared set (denoted by *italics*).
4. Click **Set as Default**.
5. Click **Apply** to save your changes.

Overview: Asset Handling Sets

Asset Handling Sets control the way the records of newly cataloged assets are created and how cataloged asset are accessed. The Asset Handling Sets defined here can be selected in the User Settings dialog or within dialogs when cataloging or accessing assets.

Thumbnails Tab

Create Thumbnails from

1   Some programs can save images with embedded thumbnails. This option uses those thumbnails, if available, instead of creating new ones. Stored thumbnails may differ in size.

2   *Uses embedded thumbnails, if available and large enough (the minimum is the size defined in the section below, see # 4).*

3   *Creates thumbnail images of the entire asset's content. These thumbnails are of best quality, but this option slows the cataloging process. If a thumbnail cannot be created, the stored thumbnail is used.*

Thumbnail Size

4   *Selects default thumbnail size for all newly cataloged assets. Current records' thumbnails can be adjusted to the new size by updating the record. (See "Update Record".)*

Optimize Thumbnail

5   *Equalizes the thumbnail images for newly cataloged assets automatically. This can also be done afterwards. (See "Optimize Thumbnail".)*

Quality

6   *Sets thumbnail quality for the different color modes: Line art (NORMAL=2 color / HIGH=4 color), grayscale (NORMAL=8-bit grayscale, more compression / HIGH=8-bit grayscale, less compression), Color (NORMAL=24-bit color, more compression / HIGH=24-bit color, less compression.)*

NOTE: *High-quality thumbnails make records larger.*

Thumbnail Preview

7   *Displays the thumbnail quality and the disk space required for each thumbnail (in bytes) according to the selected options.*

- **Thumbnail Size and Quality**

The thumbnail size and quality that you select when setting up an Asset Handling Set influences the size of a typical record and thus Cumulus' overall performance. Since Cumulus uses JPEG compression for grayscale and color thumbnails, the size of individual records varies depending on the thumbnail content. Higher quality thumbnails typically create larger records.

For example, a catalog containing 4,000 records and *normal* thumbnail quality (i.e., 128 x 128 pixels) yields a catalog that is approximately 50 MB in size. The same catalog with *high* thumbnail quality (i.e., 192 x 192 pixels) is 70 MB in size.

To find out how much space thumbnails take up in a catalog, first select the thumbnail size and thumbnail quality. As you make your selections, the disk space required for each thumbnail (in bytes) is displayed in the Thumbnail Preview area.

Cataloging Tab

When Cataloging

1   *Cumulus adds new records but doesn't update existing records whose assets have changed.*

2   *Cumulus adds new records and updates those records whose assets have changed.*

   NOTE: *For updating existing records the cataloging user must have the Update Records permission.*

3   *Cumulus updates existing records only. No new records are added.*

Add only – Asset Duplicates Handling

4   *When cataloging, if Cumulus finds an asset that has already been cataloged, a duplicate record is created for the asset.*

   NOTE: *This is possible only when **Add Only** is selected, otherwise Cumulus thinks you're trying to update the existing record.)*

5   *When cataloging, if Cumulus finds an asset that has already been cataloged, it does not create a duplicate record.*

Operating System Shortcuts/Aliases/Links

6   *Cumulus resolves any links/shortcuts/aliases found in the selected assets being cataloged. This enables Cumulus to catalog the asset that the shortcut/alias points to.*

7   *Links/shortcuts/aliases are not resolved and assets they represent are not cataloged.*

AXR Options

8   *Optional: When cataloging an asset that contains references, the referenced assets will be cataloged automatically with the same cataloging process.*

Central Asset Location

9   *Copies all newly cataloged assets to a central location specified in the Catalog Settings and makes the newly created record reference the copied asset. If you enable the **Delete Original Asset** option, the asset will be deleted at its original location after it was copied to the central*

location. Can be overridden by the Catalog Settings. (*See "Overview: Catalog Settings Window".*)

10   *This is the "off" position for #9. Assets are cataloged normally and not copied to a central location.*

11   *The original asset will be deleted after the asset was cataloged and successfully copied.*

12   *Cumulus also copies assets that are contained in a cataloged asset to the Central Asset Location – as discrete assets. Requires an activated corresponding AssetStore that can detect this relation and extract sub-assets that can be saved as discrete assets. (Appropriate AssetStores are available e.g for ZIP and TAR files as well as for PDF, PowerPoint,, and Quark XPress documents.) Canto recommends to activate this option only in conjunction with a Web Client/ Portals/Sites installation where the machine running the Web application does not support the corresponding applications, e.g. PowerPoint.*

Adding Metadata

13   **Metadata Editor View Set:** *Specifies the View Set that is used by the Metadata Editor. The fields included in the Information window view of this set define what can be edited with the Metadata Editor.*

14   **Use Metadata Template:** *If activated, the specified Metadata Template is used to add metadata to the records of newly cataloged assets. Make sure the permissions for the assigned Metadata Template correspond to those for the Asset Handling Set.*

15   **Show Metadata Editor for new records:** *If activated, the Metadata Editor is displayed whenever new assets are cataloged, thus allowing to add metadata information to records during the cataloging process.*
With the Web Client, the **Add information** *window is displayed to serve this purpose.*

16   **Show Metadata Editor for updated records:** *If activated, the Metadata Editor is displayed whenever records are updated, thus allowing to add or modify metadata information during the update process.*

Asset Access Tab

Writing back Metadata
1   *Record-field content is never written back.*
2   *Record-field content is written back to assets if possible.*
3   *If activated, the asset modification date will be updated when record-field content is written back to an asset.*
4   *If activated, record-field content is written back to external metadata container only, e.g sidecar files, without modifying the assets.*
5   *If activated, dialogs are suppressed that may appear while resolving the connection to an asset for writing back metadata.*

Accessing Versions
If you employ a licensed and activated version control system with your Cumulus installation (e.g. Cumulus Vault), Cumulus lets you determine how to deal with versions of an asset. The option selected under **When Getting Assets** *affects the* **Preview, Mail To, Copy To** *and* **Print With** *commands in the Cumulus* **Asset** *menu.*
6   *Cumulus always uses the latest version of the asset when you preview, mail, copy or print it.*

7   *Cumulus prompts you to choose the desired version when you preview, mail, copy or print it.*

Asset Formats Tab

The list in this tab displays all formats configured for the selected Asset Handling Set. Formats, that are supported by filters that are not installed on the machine you are working with, are displayed in italics. You can click on each column heading to re-sort the list by that field. A green marker indicates formats that are active. Deactivated formats are indicated by red markers. Activate and deactivate formats for the selected Asset Handling Set using the button #6.

1   *Automatically adds formats supported by newly installed filters to the list and activates them.*

2   *All formats will be cataloged. For unknown formats (not listed), the Cumulus Generic Filter will be used. If this option is not activated, only those formats which are listed and activated in the list will be cataloged.*

3   *Opens the properties window for the format. (Only available if the filter provides any properties.)*

4   *Opens a dialog displaying available formats that are not included in the list.*

5   *Removes a format from the list. You can add it again using the Add button, but then it is appended to the list.*

6   *Activates/deactivates the selected format for the selected Asset Handling Set.*

7   *Opens a menu for selecting the columns to be displayed on this tab.*

8   *These buttons change the selected entry's position in the list.*
    When cataloging assets Cumulus uses the filters in the order of the entry numbers of formats they support. This is important if you have multiple filters for the same file type. Starting from the top: move to top of list, move before current position, move behind current position, and move to end of list. (Disabled if no filter is selected.)

Modules Tab

The Modules tab includes multiple icons that provide access to the different modules. Asset Storage, Asset Processor and Metadata modules can be activated for the selected Asset Handling Set.
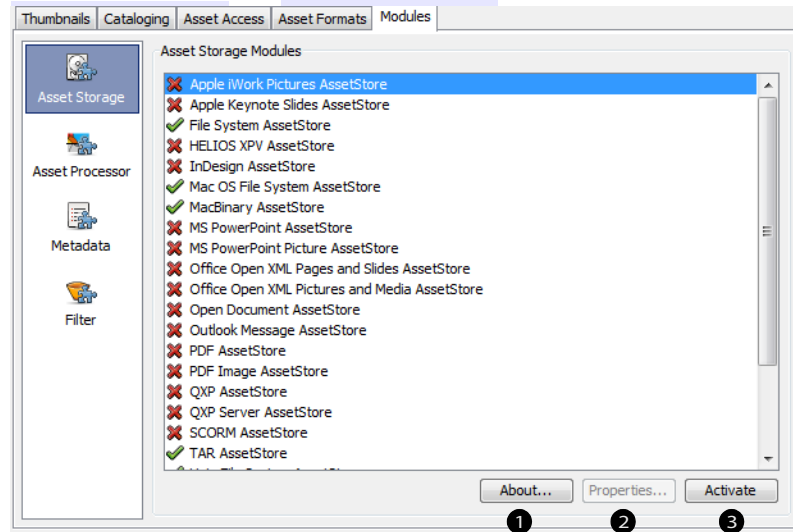
- **Asset Storage**

For details on the Asset Storage modules, see "Asset Storage Modules" .

1 *Displays a window that shows the version of the module.*
2 *Opens the properties window for the format. (Only available if the module provides any properties.)*
3 *Activates/deactivates the selected module for the selected Asset Handling Set.*

Active modules are indicated by a green marker. Modules that have been deactivated have a red marker.

Modules that are indicated by italics are currently not supported (not installed on the machine you are working on.)

- **Asset Processor**

For details on the Asset Processor modules, see "Asset Processor Modules".

1   *Displays a window that shows the version of the module.*
2   *Opens the properties window for the format. (Only available if the module provides any properties.)*
3   *Activates/deactivates the selected module for the selected Asset Handling Set.*

Active modules are indicated by a green marker. Modules that have been deactivated have a red marker.

Modules that are indicated by italics are currently not supported (not installed on the machine you are working on.)

- **Metadata**

For details on the Metadata modules, see "Metadata Modules".

1   *Displays a window that shows the version of the module.*
2   *Opens the properties window for the format. (Only available if the module provides any properties.)*
3   *Activates/deactivates the selected module for the selected Asset Handling Set.*

Active modules are indicated by a green marker. Modules that have been deactivated have a red marker.

Modules that are indicated by italics are currently not supported (not installed on the machine you are working on.)

- **Filter**

*Under **Filter** you can see the Filter Modules that are available on the machine you are working on.*
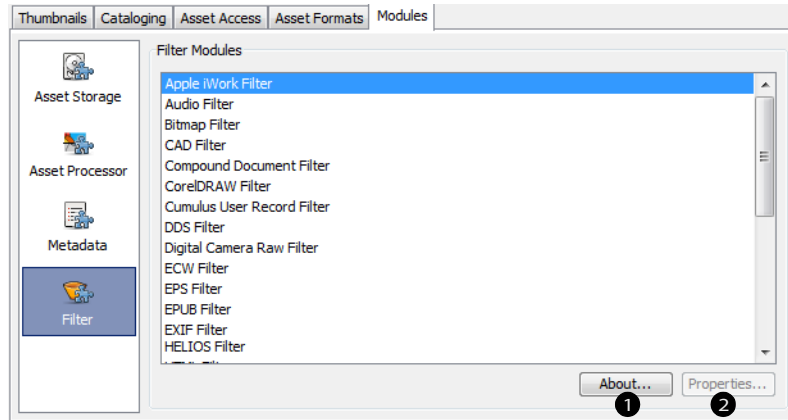
Modules that are indicated by italics are currently not supported (not installed on the machine you are working on.)

1   *Displays a window that shows the version of the module.*
2   *Opens the properties window for the format. (Only if available.)*

Workflows Tab

The Workflows tab provides a list of workflows to which new assets are assigned during the cataloging process.

NOTE: Because Asset Handling Sets are not catalog-specific, this list can contain workflows which are not available in a given catalog. A workflow can only be attached to new assets if it is contained in the catalog to which the assets are added. For details on how to add a workflow to a catalog, see Catalog Settings/.
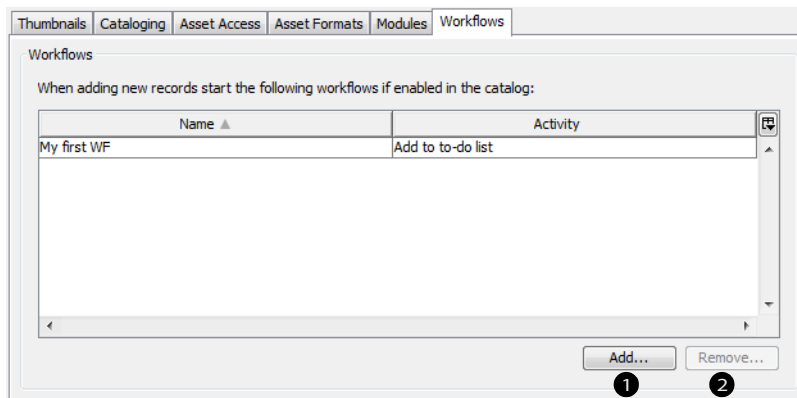
1   *Opens a dialog for selecting a workflow. You can select any workflow that is defined in the Workflow Manager tab of the Web Server Console and add it to the Asset Handling Set. However, a workflow only takes effect in an Asset Handling Set if the respective workflow is also*

available in the catalog to which new assets are added. You can check the available work-flows on the Workflows tab of the Catalog Settings.

2 *Removes the selected workflow from the Asset Handling Set.*

Asset Handling Modules

When cataloging and accessing assets, Cumulus uses different modules: Asset Storage, Asset Processor, Metadata and Filter modules.

- **Asset Storage** modules manage the asset's storage (the access to its location), whereas a Filter module analyzes the asset's contents. For example, if you catalog a file from the file system of your computer, the Asset Storage module manages the access to the file system of your computer, and the employed filter reads the file's content.

- **Asset Processor** and **Metadata** modules are special modules for special tasks, e.g. to handle DCS (Desktop Color Separation) files and OPI (Open Prepress Interface).

- **Cumulus Filters** extract file-type specific metadata from assets. This information can include color mode, resolution, file type, font names, etc., depending on the type of asset.
  Users who are allowed to define Asset Handling Sets can create their own Filter format options for specific file types (see "Extending Generic Filter Options"), and Canto is always updating existing Filters and creating new ones.

Cumulus makes it possible for you to determine precisely what sort of information should be kept on the assets. This can be defined differently for each catalog as each catalog has its own properties. It is the catalog properties that determine what information is stored on the assets in the record fields. (For further information, see "Catalog Settings".) Linking metadata fields to record fields "feeds" the record with asset metadata during cataloging. The link can work in both directions—if supported by the corresponding Filter or Asset Storage Module—meaning that you can also write modified record field contents back to asset fields. To find out how, see "Administering Field Linking". By default, all Cumulus-supported record fields are linked to the match-

ing asset fields. This also applies to fields that are included with Cumulus but not activated by default in every catalog. When you set up a catalog for your workgroup, you can define how these asset fields (from both Asset Storage modules and Filters) should be linked to the catalog's record fields. You can also define how to link the custom fields you define to asset metadata.

If you want to learn more about Cumulus' various modules, what they do and how they are configured to customize Cumulus to your specific workflow, then please continue reading the following sections that describe these modules.

(De)activating Asset Handling Modules

Depending on your workflow requirements, you may not need to use some of these Asset Handling modules. If, for example, you are not using services from a prepress service provider and do not have access to an OPI server, you should deactivate the OPI System Support. Deactivating modules which are not needed for your specific workflow enhances productivity by freeing up Cumulus' resources and speeding up the cataloging process. To meet individual workflow requirements Asset Storage, Asset Processor and Metadata modules can be activated and deactivated for each Asset Handling Set individually. Note that you need the appropriate permissions to change Asset Handling Sets.

To activate or deactivate an Asset Handling module for an Asset Handling Set:

1. Launch your Cumulus application and open any one catalog.
2. Select **Cumulus** / **Edit > Preferences**.
3. Click **Asset Handling Sets**.
4. Under **Set**, select the set you want to edit.
5. Click **Modules** and select the icon for the module type.
6. Select the desired module and click **Activate** /**Deactivate**.
7. Click **Apply** or **OK** to save your changes.

   Now the module is (de)activated for the selected Asset Handling Set.

Asset Storage Modules

The Asset Storage module manages the access to files. To catalog a file from the file system of a computer, the Asset Storage module for that computer's operating system must be activated for the Asset-Handling Set used. It must also be activated to enable you to access this file. If you are working in a cross platform environment you should have the Asset Storage modules for the other platforms activated as well so that you can access assets that are stored on other operating systems.

Amazon S3 AssetStore (optional)

This Asset Storage module enables Cumulus to employ an Amazon Simple Storage Service (Amazon S3) bucket as Central Asset Location and it supports versioning. To employ it, you need an Amazon Web Services (AWS) account and must be signed up for Amazon S3. If you are signed up for Amazon's CloudFront as well, it can also be employed for best possible performance.

The properties you can define are the Amazon security credentials. The security credentials are used to authenticate and authorize calls that Cumulus makes to Amazon Web Services (AWS).

NOTE: Only the Cumulus Administrator can view or edit the properties of the Amazon S3 AssetStore!

Clicking on the Properties button opens the list of available credentials. The list displays for each credential an alias name and the Amazon Web Services (AWS) access key – and, if configured, the Amazon CloudFront Key Pair. The buttons below the list let you add, edit or remove credentials.

For adding or editing credentials the Credentials dialog is provided. It is divided into two groups: the mandatory credentials and the optional CloudFront Key Pair.

The mandatory credentials include:

* **Name** – The alias name for the credentials identifying a bucket. The name is given by the user.
* **Access Key** – The AWS access key as received from Amazon.
* **Secret Key** – The AWS secret key as received from Amazon; when you type it, it is displayed as asterisks or dots.

CloudFront Key Pair

CloudFront uses access keys to authenticate requests made to CloudFront.

* **Key Pair ID** – The key pair ID as received from Amazon.
* **Key Pair ID PEM File** – The associated private key file (downloaded to a local directory). The content of the PEM file will be saved encrypted at the Cumulus Server and the file itself can be moved to any other location.

NOTE: If CloudFront is employed, make sure that "Forward query strings" is configured to YES in the CloudFront distribution. This option ensures that files are properly downloaded via CloudFront URLs, instead of simply being displayed in the browser with Cumulus Web Client or Cumulus Portals.

BACKGROUND INFO: Amazon S3

Objects are organized into buckets (each owned by an Amazon Web Services account), and identified within each bucket by a unique key. Amazon Cloud-Front can be used to route requests for content automatically to the nearest edge location, so content is delivered with the best possible performance.

Apple iWork Picture AssetStore

The Apple iWork Picture AssetStore enables Cumulus to create one record for each picture embedded in a Apple iWork document while cataloging. These records are created in addition to creating a record for the entire document and in addition to separate records for pages or slides. The records will be assigned to the corresponding document as "contained images". A category for each document will automatically be created and the images' records are assigned to these categories. The record name of an embedded image is either the name of the image inserted in the document, or "image" and a corresponding number. (No properties to be defined.)

Apple Keynote Slides AssetStore

This Asset Storage module allows you to efficiently manage slides created with Apple Keynote. It automatically catalogs all slides of a Keynote presentation and in addition to creating a record for the entire presentation document, a record for each slide is created. (No properties to be defined.) For more information, see "Working with Office Documents" .

HELIOS XPV AssetStore (optional)

This Asset Storage module enables Cumulus users to catalog pages within Adobe InDesign and Quark XPress documents. If an XPV preview file for such a document is available, in addition to creating a record for the entire document, the XPV Support module creates records for each page of the document.

An XPV preview file also contains information on referenced assets. This information can be captured by Cumulus filters (such as HELIOS, InDesign and Quark XPress) and enables Cumulus AXR (Asset Cross References.)

Because the XPV AssetStore does not use the original Quark XPress documents, you cannot use the 'normal' functions for the pages, e.g. copy, move and drag & drop. [Whereas the Cumulus QXP AssetStore, for Mac OS only, that also catalogs pages within Quark XPress documents, can create a new one-page Quark XPress document from the record of a page.]

NOTE: The XPV Support module is available only to computers in network environments in which the HELIOS ImageServer is licensed and installed on the same computer as a Cumulus Server.

InDesign Asset Store

The InDesign AssetStores enables Cumulus to create one record for each page of an InDesign document while cataloging. For more information, see "Working with InDesign Documents" .

Mac OS File System AssetStore

This Asset Storage module manages the access to files accessible from a Mac computer. (No properties to be defined.)

MacBinary AssetStore

The Mac Binary AssetStore enables Cumulus to catalog MacBinary converted assets even on Windows machines. In addition to creating a record for the entire BIN file, it creates records for the compressed file in the BIN file. (No properties to be defined.)

Microsoft Azure AssetStore (optional)

This Asset Storage module enables Cumulus to employ a Microsoft Azure container as Central Asset Location and it supports versioning. To employ it, you need a Microsoft Azure account and must be signed up for Microsoft Azure.

NOTE: This Asset Storage module is working with Azure Standard Storage only, but not with Azure Premium Storage.

The properties you can define are the Azure security credentials. The security credentials are used to authenticate and authorize calls that Cumulus makes to Microsoft Azure.

Only the Cumulus Administrator can view or edit the properties of the Microsoft Azure AssetStore!

Clicking on the Properties button opens the list of available credentials. The list displays for each credential an alias name. The buttons below the list let you add, edit or remove credentials.

Clicking on the Properties button opens the Credentials window. The mandatory credentials include:

- **Name** – The alias name for the credentials identifying a container. The name is given by the user.
- **Account Name** – The Azure account name as received from Microsoft.

- **Account Key** – The corresponding account key.

MS PowerPoint AssetStore

This Asset Storage module allows you to efficiently manage slides created with Microsoft PowerPoint. It automatically catalogs all slides of a PowerPoint presentation in addition to creating a record for the entire presentation document. Such cataloged slides can be added to existing PowerPoint presentations – within Cumulus as well as within Microsoft PowerPoint. Within Cumulus you may even create new PowerPoint presentations out of cataloged slides. (No properties to be defined.) For more information, see "Working with Office Documents" .

MS Power Point Picture AssetStore

The MS Power Point Picture AssetStore works in conjunction with the MS Power Point AssetStore only. It enables Cumulus to create one record for each picture embedded in an MS Power Point presentation while cataloging. These records are created in addition to creating a record for the entire document and in addition to separate records for pages or slides (created by the MS Power Point AssetStore.) The images' records will be related to the corresponding slide/page as "contained images". A subcategory for each slide/page of the presentation file is automatically created and the images' records are assigned to these categories. The record name of an embedded image is the name of the image inserted in the document, or "image" and a corresponding number. (No properties to be defined.)

Office Open XML Pages and Slides AssetStore

The Office Open XML Pages and Slides AssetStore enables Cumulus to create one record for each page, sheet or slide of a 2007 MS Office System document (*.DOCX,

*.XLSX, *.PPTX) or XML Paper Specification document (*.XPS) while cataloging. These records are created in addition to creating a record for the entire document. The records will be assigned to the corresponding document as "contained pages". A category for each document will automatically be created and the images' and pages' records are assigned to these categories. The record name of the pages/slide is the name of the document and a corresponding number. (No properties to be defined.)

Office Open XML Pictures and Media AssetStore

The Office Open XML Pictures and Media AssetStore enables Cumulus to create one record for each picture or media embedded in a 2007 MS Office System document or XML Paper Specification document (*.XPS) while cataloging. These records are created in addition to creating a record for the entire document and in addition to separate records for image or media assets. The records will be assigned to the corresponding document as "contained images". A category for each document will automatically be created and the media's/images' records are assigned to these categories. The record name of an embedded image/media is the name of the image/media inserted in the document or "image" and a corresponding number. (No properties to be defined.)

Open Document AssetStore

The Open Document AssetStore enables Cumulus to create one record for each image embedded in an Open Office document while cataloging – in addition to creating a record for the entire document. The records will be assigned to the corresponding document as "contained assets". A category for each document will automatically be created and the images' records are assigned to these categories. The record name of an embedded image is the name of the image as saved with the document. (No properties to be defined.)

Outlook Message AssetStore

The Outlook Message AssetStore enables Cumulus to create one record for each attachment or embedded image of a Microsoft Office Outlook message while cataloging – in addition to creating a record for the message. The records will be assigned to the corresponding message as "related sub assets". A category for each message will automatically be created and the images' and attachments' records are assigned to these categories. The record name of an attachment or an embedded image is the name of the image as saved with the document. (No properties to be defined.)

TIP: *Auto-cataloging Emails*
Another optional feature provides a Cumulus Scheduler Action that enables Cumulus to check a standard POP3 email account and retrieve and automatically catalog any email it finds. For more information, <u>see "Provided Scheduler Actions"</u> .

PDF AssetStore

This Asset Storage module enables Cumulus users to catalog pages within PDF documents. In addition to creating a record for the entire PDF document, it creates records for each page of the PDF document.

PDF Image AssetStore

The PDF Image AssetStore works in conjunction with the optional PDF AssetStore only. It enables Cumulus to create one record for each image embedded in the PDF file while cataloging – in addition to separate records for pages created by the PDF AssetStore. The records will be assigned to the corresponding page as "related sub assets". If you want to have separate records for embedded images, you need to use an Asset Handling Set for cataloging that has the PDF Image AssetStore, the PDF AssetStore and the format **Embedded PDF Image** (provided by the PDF Filter) acti-

vated. A subcategory for each page of the PDF file is then automatically created and the images' records are assigned to these categories. The record name of an embedded image consists of the word **Image** and its internal PDF ID number.

QXP AssetStore (optional, Mac OS only)

The Cumulus QXP AssetStore module enables Cumulus users to catalog pages within QuarkXPress documents. In addition to creating a record for the entire QuarkXPress document, it creates records for each page of the QuarkXPress document.

The Cumulus QXP AssetStore is designed specifically for use in conjunction with QuarkXPress. To employ the functionality of the Cumulus QXP AssetStore, QuarkXPress must be running in the background while accessing your QuarkXPress page assets (e.g. for cataloging or previewing.)

QXP Server AssetStore (optional)

The QXP Server AssetStore module enables Cumulus users to catalog pages and layouts within QuarkXPress documents. In addition to creating a record for the entire QuarkXPress document, it creates records for each page and each layout of the QuarkXPress document. The QXP Server AssetStore module is available for OS X, Windows and UNIX.

SCORM AssetStore

The SCORM AssetStore module enables Cumulus users to catalog resources contained in a SCORM (Sharable Content Object Reference Model) package. (No properties to be defined.)

The SCORM AssetStore automatically creates categories when cataloging files. In the Categories master category under a category named **Scorm,** a category is created for

each cataloged SCORM file, named after the respective file (e.g. sample.scorm). If a SCORM file contains another SCORM file, a subcategory named after this additional file will also be created.

If any files contained within a SCORM file are archived with subfolder references, the SCORM AssetStore creates a category tree resembling this subfolder structure.

TAR AssetStore

The TAR AssetStore enables Cumulus to catalog and access assets compressed within TAR archive files. It automatically catalogs all files in a TAR file. In addition to creating a record for the entire TAR file, it creates records for each file included in the TAR file - even for files in a TAR file within another TAR file. The Cumulus TAR AssetStore supports Bzip2, gzip and uncompressed TAR files.

The TAR AssetStore automatically creates categories when cataloging TAR files. In the Categories master category under a category named **tar,** a category is created for each cataloged TAR file, named after the respective file (e.g. **sample.tar**). If a TAR file contains another TAR file, a subcategory named after this additional file will also be created.

You can define the character encoding used to create the TAR file that is to be unpacked by the TAR AssetStore. To know for sure, you should ask the person who packed it. If you aren't sure the character encoding used to pack the TAR file, you should use the default: Local Encoding

UNIX File System AssetStore

This Asset Storage module manages the access to files accessible from a UNIX computer. (No properties to be defined.)

URL AssetStore

This Asset Storage module manages the access to files accessible from FTP or HTTP servers. (No properties to be defined.) For more information, see "Using Vault".

Vault AssetStore

The Cumulus Vault Asset Storage module enables you to use the version control system Cumulus Vault. For more information, see "Working with Vault", and "Configuring Vault".

Windows File System AssetStore

This Asset Storage module manages the access to files accessible from a Windows computer. You can define the resolving method for assets stored on CD ROMs. If enabled, Cumulus checks for the CD-ROM label.

ZIP AssetStore

The ZIP AssetStore enables Cumulus to catalog and access assets compressed within ZIP files. It automatically catalogs all files in a ZIP file. In addition to creating a record for the entire ZIP file, it creates records for each of the compressed files in the ZIP file - even for files in a ZIP file within another ZIP file. The Cumulus ZIP AssetStore has been tested with ZIP compressed assets created with WinZip®, PKZIP® and WinRAR.

The ZIP AssetStore automatically creates categories when cataloging ZIP files. In the Categories master category under a category named **Zip,** a category is created for each cataloged ZIP file, named after the respective file (e.g. sample.zip). If a ZIP file contains another ZIP file, a subcategory named after this additional file will also be created. If any files contained within a ZIP file are archived with subfolder references, the ZIP

AssetStore creates a category tree resembling this subfolder structure. (No properties to be defined.)

NOTE: Password Protected ZIP Files

If the ZIP file to be cataloged contains a password protected file, Cumulus will ask you for the password. Cumulus remembers this password and if there is another password protected file within a ZIP file, it will try the password for that file. If it doesn't fit, Cumulus will also ask you for the password to that file. Then you can either type in the password and the file will be cataloged, *or* skip the password request and file will *not* be cataloged. The passwords are also requested for any preview of a password protected asset. Cumulus remembers passwords only for as long as the current session.

NOTE: Cumulus Internet Solutions and Password Protected ZIP Files

Users of Cumulus Internet Solutions who use a Web browser cannot get a preview of any password protected asset.

You can define the character encoding used to create the ZIP file that is to be unpacked by the ZIP AssetStore. To know for sure you should ask the person who packed it. If you don't know for sure the character encoding used to pack the ZIP file, you should use the default: DOS Latin US

Asset Processor Modules

Asset Processor modules enable Cumulus to perform processes on cataloged assets, e.g. to convert them.

DCS File Support

The DCS File Support module enables Cumulus to recognize CMYK Desktop Color Separation files so that it can effectively catalog and manage multiple-file DCS assets. This module supports DCS version 1.0. These DCS assets consist of one main file (which may contain a preview image) and the four standard color separation files.

When cataloging a DCS asset, this module creates a record for the main file only. It is important to be aware of this when viewing the Asset Information window, as the information such as file size, etc. only pertain to the main file. Although only one file is cataloged, Cumulus still manages all five. For example, if you move or copy the cataloged DCS asset with Cumulus, all five DCS files will be moved or copied. (No properties to be defined.)

Generic Asset Processor (optional)

Provided by the Cumulus External Tool Connector Option. Enables Cumulus to call external applications from within Asset Actions. It can be used for processing, packaging, and delivering tasks.

For each platform you specify the commands to be executed. (The same parameters have to be defined for the External Application used by the Generic Filter for thumbnail generation.)

External Tool Parameters for the Generic Asset Processor

The following variables have to be used in the command line for the input and output files: $INPUT and $OUTPUT. They will be replaced by Cumulus before executing the command line depending on the module task in the following manner:

Asset Processor Task	$INPUT	$OUTPUT
Processing	Quoted path of source asset.	Quoted path of destination asset.
Packaging	Space separated list of quoted paths of source assets.	Quoted path of destination asset.
Delivering	Quoted path of source asset.	- (will be deleted)

In case the application to be called expects a special file extension, you can specify the extension directly behind the variable:

```
$OUTPUT.jpg          "C:\Temp\CumulusTemporary.jpg"
```

In the same manner you can specify suffixes to append at the destination name:

```
$OUTPUT_step01.tiff    "C:\Temp\CumulusTemporary_step01.tiff"
```

To exactly specify the file name you can assign one:

```
$OUTPUT=result.png    "C:\Temp\result.png"
```

NOTE: Some applications require the proper file extension
(e.g. OUTPUT.jpg or OUTPUT.flv.)

Replacement Examples for Processing

```
"C:\Program Files\MyConverter\conv.exe $INPUT /opt1 -prm=2 $OUTPUT"
```

will be replaced by:

```
"C:\Program Files\MyConverter\conv.exe C:\My Assets\Selected.jpg /opt1 -
prm=2 C:\Temp\Cumulus01"
```

Replacement Examples for Packaging

```
"C:\Program Files\MyZipTool\myziptool.exe -compress -zipfile=$OUTPUT
$INPUT"
```

will be replaced by:

```
"C:\Program Files\MyZipTool\myziptool.exe -compress
-zipfile=C:\Temp\Cumulus02" ...
```

```
"C:\My Assets\Selected1.jpg" "C:\My Assets\Selected2.pdf" "C:\My
Assets\Selected3.doc"
```

Replacement Examples for Delivering

```
cmd /C copy "$INPUT C:\My Destination Folder"
```

will be replaced by:

```
cmd /C copy "C:\Asset Location\The Selected Asset.ext" "C:\My Destination
Folder"
```

Examples for Windows

Processing: Conversion of images to JPEG using IrfanView

```
"C:\Program Files\IrfanView\i_view32.exe $INPUT /convert=$OUTPUT.jpg"
```

Processing, Packaging: Compression of files using 7-Zip to 7z format:

```
"C:\Program Files\7-Zip\7z.exe a -t7z $OUTPUT.7z $INPUT"
```

Calling a batch script:

```
cmd /c "C:\My Scripts\myscript.cmd $INPUT $OUTPUT"
```

Examples for Mac OS / Linux / Unix:

Generate compressed tar file:

```
tar -czf $OUTPUT.tgz $INPUT
```

Generate compressed tar file with specified destination file name:

```
tar -czf $OUTPUT=FromProcessor.tgz $INPUT
```

MS PowerPoint Asset Processor

The MS PowerPoint Asset Processor enables the user to create PowerPoint presentations in PowerPoint 97-2003 format from selected PowerPoint assets (slides, presentations), image assets and previews of other asset formats within Cumulus. For more information on how to use the processor, see "Creating Presentations".

Office Open XML Presentation Asset Processor

The Office Open XML Presentation Asset Processor enables the user to create presentations in Office PowerPoint 2007 format from selected presentations (slides, presentations), image assets and previews of other asset formats within Cumulus. For more information on how to use the processor, see "Creating Presentations" .

OPI System Support

The OPI System Support module enables Cumulus to be OPI-aware. The Open Prepress Interface (OPI) is a technology that allows placing low resolution versions of image files into page layouts and letting an OPI print spooler automatically replace them with the high resolution versions of the files for printing. If the **OPI System Support** module is activated, Cumulus will be able to recognize OPI files and carry through the correct handling of high and low resolution versions of OPI files.

The module is able to read path name information and lets Cumulus manage both high resolution and low resolution files from OPI systems like Imation Color Central™, Nine Bits PrintDesk, 4-Sight OPI™ , HELIOS EtherShare OPI, and HELIOS Image Server.

Cumulus is also OPI-compatible with many other OPI systems that use EPSF or TIFF format files as their low resolution file, like Scitex® APR. With these OPI systems, low resolution files are handled as expected, but the path to the high resolution file might not be automatically recognized.

The **OPI System Support** module is used for asset access in two different ways:

* If used with a Cumulus Action, it provides access to OPI assets as set in the module's properties within the Cumulus Action. There you can define whether the action will access the high resolution or the low resolution file when being performed -

regardless of how the module is set up for the Asset Handling Set used with the action.

- If used along with an Asset Handling Set (e.g. for cataloging, previewing or copying OPI assets), it provides access to OPI assets as set in the module's properties for the Asset Handling Set. How to set up these properties is described below.

The module offers special support for the following versions of HELIOS and Imation OPI systems

- HELIOS EtherShare OPI version 1.0 up to 2.1
- HELIOS ImageServer 2.5
- HELIOS ImageServer UB
- Imation Color Central 2.1 up to 2.5

For both OPI systems you can define additional properties.

If you select the **OPI Support** entry in the list of Asset Processor modules and then select the **Properties** button, the OPI Support Setup window opens.

The OPI System Support Setup window has three sections:

- **General**
- **HELIOS**
- **Imation**

In the section **General** you can set up the module:

- to run in silent mode when accessing an OPI asset or not. If **Silent OPI File Access** is not activated, you will be prompted to choose a version when accessing an OPI asset. If **Silent OPI File Access** is activated, Cumulus uses the version chosen below when accessing an OPI asset (e.g. for previewing or copying).

- to use either the low resolution file or the high resolution file when in silent mode or when dragging and dropping an OPI asset.

Normally you choose to use the low resolution file. The chosen file version is also used in silent mode. If silent mode is not activated, you will be prompted to choose a version when accessing an OPI asset. Regardless of whether silent mode is activated or not, when you drag and drop assets you will never be prompted to choose the version – with one exception which refers to OS X only . Under OS X special functions for dragging and dropping OPI files are provided. These are as follows:

- Under OS X, if **Silent OPI File Access** is activated, you must use the ALT key when dragging to have the version dropped that is defined for silent mode.
- The exception to the rule that you will never be prompted to choose the version when you drag and drop assets: Under OS X, if **Silent OPI File Access** is not activated and you did not use the ALT key for dragging, you will be prompted to choose the version when dropping the asset into the Finder. If you have selected multiple assets, you will be prompted once and the chosen version will be taken for all.
- Under OS X you have an additional option to choose between high and low resolution files when dragging and dropping assets into other applications: keyboard shortcuts. To place the high resolution file press ALT+H and then start dragging. To place the low resolution file press ALT+L and then start dragging.

TIP: *Drag& Drop of High Resolution Files*
If you have chosen to use the low resolution files but in contrary to your normal workflow you want to drag & drop the high resolution files, you can proceed as follows: Select the records representing the assets and select the Show Location menu command (Apple / CTRL + R). This command locates the selected records' assets and displays them in OS X Finder or Windows Explorer. Now you can select the desired asset version in OS X Finder or Windows Explorer and drag and drop it from there.

For HELIOS OPI system it is recommended to catalog the high resolution file as the information on this file will then be available with the catalog.

For all OPI systems (except HELIOS) it is recommended to catalog the low resolution file as only the low resolution file leads to the high resolution file – and not vice versa. If you have cataloged the low resolution files, do not enable **Silent OPI File Access** along with the option **High Resolution File** for these OPI systems since this combination will not work.

In the section **HELIOS** you can set up special properties for HELIOS EtherShare OPI and HELIOS Image Server. Only if the option **HELIOS EtherShare OPI Aware** is activated will Cumulus catalog either the low resolution layout file or the high resolution file. Although the module recognizes layout files generated in the layouts folder it also supports a name extension for layout files. In the field **Layout file name extension** (default: .lay) you specify the name extension to identify OPI layout files. You should always specify the same name extension that is used by the HELIOS EtherShare OPI system. A file in the same folder as the high resolution file that has this name extension will be treated as the layout file for this high resolution file. The following two options are important to avoid duplication when cataloging a whole folder. They can be used to create only one record for a pair of high- and low resolution files when cataloging. The option **Catalog High Resolution Files Only** (default) allows you to catalog only high resolution files. This is useful to get the information (size, resolution) about those files into the Cumulus catalog. By choosing the option **Catalog Layout Files Only** you can build a catalog of only the layout files.

In the section **Imation** you can set up special properties for Imation Color Central. Only if the option **Imation Color Central Aware** is activated, will Cumulus read the IPTC information from the high resolution file while cataloging the sample file.

NOTE: This option can only work properly when the high resolution file and the sample file reside in the same folder.

If the option **Add Category for Sample Files** is activated, Cumulus will assign every ColorCentral sample file to a special category while cataloging. The category name can be specified in the field below this option (default: Imation Color Central). This option is useful when you catalog both the high resolution and the sample file of an image and you want to distinguish between the corresponding records.

PDF Page Merge AssetProcessor

The PDF Page Merge Asset Processor enables the user to create PDF documents from selected PDF page assets and image assets within Cumulus. (No properties to be defined.)

Pixel Image Converter

The Pixel Image Converter enables Cumulus to convert any cataloged pixel image into the different formats on the fly: e.g. JPEG, TIFF, BMP, GIF, ScitexCT, PNG, PCX, and PDF. (No properties to be defined.) For more information on how to use the Pixel Image Converter, see "Converting Image Assets" .

Pixel Image Crop Processor

The Pixel Image Crop Processor enables Cumulus to crop any cataloged pixel image on the fly, e.g. JPEG, TIFF, BMP, GIF, PNG, etc., and to resize the final output of the cropped section. The resulting image will be saved as a new file. For more information on how to use the Pixel Image Crop Processor, see "Cropping Image Assets" .

Pixel Image Crop Template Processor

The Pixel Image Crop Template Processor enables Cumulus to crop any cataloged pixel image, e.g. JPEG, TIFF, BMP, GIF, PNG, etc., and to resize the final output, by means of predefined templates. The resulting image will be saved as a new file. For more information on how to use the Pixel Image Crop Template Processor, see "Cropping Image Assets with Templates".

QXP Server AssetProcessor (optional)

The QXP Server Asset Processor converts QXP documents, layouts or pages to PDF using a QXP Server installed in the network. (No properties to be defined.) For more information on the parameters available for the conversion, see the QXP Server documentation.

Rename AssetProcessor

The Rename AssetProcessor renames assets according to a predefined rule within a Cumulus Action. It requires that at least one rule has been defined and saved as a renaming set using the Rename Asset dialog (Menu **Asset > Rename To > Batch**; for more information on how to configure a renaming set see The Rename Assets Dialog. The desired set must be selected in the module's properties.

Thumbnail Provider

The Thumbnail Provider is used with Cumulus Actions only. It provides the thumbnail stored in the asset's record for a Cumulus Action. Using the thumbnail that is stored in the record might be faster than having the asset converted, e.g with the Pixel Image Converter. (No properties to be defined.)

Watermark AssetProcessor

The Watermark AssetProcessor enables you to embed digital watermarks into the following pixel image formats: JPEG, TIFF, BMP, GIF, PNG, and PCX. You can embed visible text and image watermarks. For more information on the processor and on how to use it, see "Watermarking Assets" .

XSL Metadata Processor

The XSL Metadata Processor enables Cumulus to create metadata files based on XSL transformations. The XSL transformation is applied to a file that contains all metadata from the catalog for a processed record. Any XSLT style sheet can be chosen for the transformation. The output file is named the same as the asset with a chosen extension added and is saved at a chosen target location. (No properties to be defined.)

NOTE: Sequence of AssetProcessors in Asset Actions
The XML Metadata Processor should be at the end of the list of processors for processing in the Asset Action – otherwise no output will be written.

NOTE: Style Sheet Saved With Asset Actions
The XSLT style sheet is saved with an Asset Action. If you update such a style sheet, you need to update the Asset Action configuration as well by choosing the updated style sheet again.

ZIP AssetProcessor

The ZIP AssetProcessor enables Cumulus to compress cataloged assets into Zip archives. (No properties to be defined.) For more information on how to use the ZIP AssetProcessor, see "Creating ZIP Archives" .

Metadata Modules

The Metadata modules are used for retrieving and managing special metadata information.

Canon Raw Metadata Support

Most cameras supporting Canon CRW files create additional thumbnail files (THM files). The Canon Raw Metadata Support module enables Cumulus to capture metadata from these files and to manage these files. For more information, see "Canon DC Raw Image & Thumbnail File"

Cumulus Metadata Support

The module **Cumulus Metadata Support** supports the storing of an asset's metadata in a separate TAG file for each asset. This makes it possible for stored metadata to be used externally (e.g. by other applications). Only if the Cumulus Metadata Support module is activated, will Cumulus be able to create a TAG file for each asset cataloged. (For further information on TAG files, see "Assets/Records" and "Browse for Assets".) You can define the following properties for the Cumulus Metadata Support:

- **Never** – If a TAG file exists, Cumulus Metadata Support will read it, but no TAG files will be created.
- **Only if Metadata Exists** – If metadata in a TAG file exists, it will be updated.
- **Always** – A TAG file for metadata will be created and continuously updated.

For Directory Categories, Folder TAG files can be created. Remember, Directory Categories are automatically created and resemble the folder hierarchy in which the assets reside. The Folder TAG file for a Directory Category is called **Cumulus Metadata.tag**

and resides in the corresponding folder. If the Cumulus Metadata Support is activated and the option **Always** is enabled, a Folder TAG file will be created as soon as you change the Category information of a Directory Category.

Folder TAG files are also created if you Drag & Drop a category to your Desktop, or if you employ the menu item **Copy Assets Assigned to Category To** (for details, see "Copy Assets Assigned to Category To"). And note that if you use this way of copying assets, the TAG files associated to the assets themselves will not be copied even if the Cumulus Metadata Support module is activated.

HELIOS AssetProcessor (optional)

The HELIOS AssetProcessor enables you to convert cataloged assets into the following file formats: TIFF, JPEG, EPS, PNG, BMP, Scitex CT, Photoshop (PSD), and Macintosh PICT. Considering the ICC (International Color Consortium) profile you can select different color spaces and compressions supported by the OPI system. Rotation, flipping and cropping are also possible. The conversion produces a new file that can be stored wherever you want.

The HELIOS AssetProcessor can be used with Cumulus Clients under Windows or Mac OS X as well as with Cumulus Portals or Web Client and additional EJaPs or applications based on the Cumulus Java Classes. With the Cumulus Options, Web Client and Portals, all functions are also available on the Internet, e.g. prior to a download.

For details on how to use the HELIOS AssetProcessor, see the *Cumulus HELIOS Companion Administrator Guide*.

XML Metadata Prefiller

The XML Metadata Prefiller module enables Cumulus to capture additional metadata for an asset from a special XML file. When the asset is cataloged, the Prefiller looks for

an XML file called ".CumulusPrefill.xml" in the file hierarchy above the asset's location. If it is found, the metadata from this file is added to the asset's record. (No properties to be defined.)

NOTE: The ".CumulusPrefill.xml" file will be hidden on most platforms due to the dot at the beginning of its file name.

XML MetadataBridge

The XML MetadataBridge module enables Cumulus to retrieve additional information from an asset during cataloging and store this information within XMD Metadata files in XML format. The XMD Metadata files are stored in the same location as the original asset. The XML MetadataBridge also allows you to write metadata, which has been changed within Cumulus, back to these XMD Metadata files. These files store the metadata in XML format so that it can be viewed in a Web browser.

The XML MetadataBridge module supports the storing of an asset's metadata in a separate XMD file for each asset. This makes it possible for stored metadata to be used externally (i.e., by other applications). If you catalog assets from a location where you are allowed to save files, the XML MetadataBridge can create an XMD file for each asset cataloged. The file is named the same as the asset but with the extension .xmd added and is saved in the folder where the asset resides. XMD files hold all of the information that can be viewed in the Information window and more. For example, if a particular asset has been cataloged in different catalogs, this information is stored in that asset's XMD file. XMD files store the metadata in XML format so that it can be viewed in a Web browser.

You can define the following properties:

- **Never** – If an XMD file exists, the XML MetadataBridge module will read it, but no XMD files will be created.
- **Only if Metadata Exists** – If metadata in an XMD file exists, it will be updated.
- **Always** – An XMD file for metadata will be created and continuously updated.
- Under **XML Metadata Viewer**, it is also possible to specify an XML Style Sheet file for viewing your XMD files in an Internet Browser. The XML MetadataBridge writes its location as a 'Processing Instruction' in the head of the XMD file. When installing the MetadataBridge, the file **CumulusXMLMetaViewer.xsl** is installed by default and its path is displayed in the corresponding field. If you would like to define a different XML Style Sheet, type the file's path directly into the corresponding field or click **Browse** to navigate to it.

Writing metadata (e.g. to an XMD file) requires two preparatory steps. First the Asset Handling Set for accessing the asset must be set to allow the writing of metadata. Then each record field - with contents which should be written back as metadata - must have the **When Saving Assets** option enabled for its field linking.

NOTE: Assets in Multiple Catalogs

There is one XMD file for each asset. If the asset is cataloged in various catalogs, the XMD file contains which catalogs the asset is included in and all metadata of the asset contained in each of the various catalogs.

XMP Metadata Support

The XMP Metadata Support module enables Cumulus to manage XMP files (e.g. Adobe Sidecar). (No properties to be defined.)

XUSR MetadataBridge

The XUSR MetadataBridge module is used for the Cumulus User Manager application. It enables Cumulus to import user information from XML structured files. (No properties to be defined.)

Asset Format Support

Probably one of the first questions you had about Cumulus was "What kinds of assets does it support?" Plain and simple, Cumulus supports *all* kinds of assets, in one way or another.

Enhanced support is offered for most popular formats, meaning that Cumulus is aware of them and knows what information to extract from them. Others are supported only to the extent that they can be added to a catalog, assigned to categories, and searched, but no preview or automatic in-depth asset information is available. And in some rare cases, an asset's record will feature a thumbnail on one platform, but not on another. You can download an overview on Cumulus enhanced format support from Canto's website.

Cumulus uses what are called filters to help it catalog the contents of an asset. Cumulus tells these filters what information to look for in that asset type so that it can become part of the asset's record. Cumulus comes with a number of filters that can capture detailed information about particular assets. You can also create your own format support for assets that are not particularly supported.

To see the list of file formats with enhanced support:

1. Select Cumulus / Edit > Preferences.
2. Click **Asset Handling Sets**.
3. Click **Asset Formats**. The list of all supported file formats is displayed.

Active formats are indicated by a green marker to the left of the format. Formats that have been deactivated have a red marker to their left.

Formats that are indicated by *italics* are currently not supported (not installed on the machine you are working on), but are included in the list so they will be activated at that position when the filter is available.

When cataloging, Cumulus starts searching for matching formats at the lowest entry number. It employs the filters in the order in which the formats they support are found. If you are not satisfied with the result of cataloging certain asset types, check the order of the formats (and the filter that support these formats). The format entry that is supported by a filter that best suits your needs may come later in the order than other matching filters.

Use the arrow buttons to the right of the list to change the order of the entries.

NOTE: Record Field Linking
If the **Read One** option in the Record Field Properties is activated for the field link, only the metadata read by the first matching filter will be stored within the record.

If you only want to use a few of the formats on the list for the selected Asset Handling Set, you can disable the others to increase program performance.

Adding Formats to the Asset Formats List

To add new or not used formats to the Asset Formats list to have them available for Asset Handling Sets:

1. On the **Asset Formats** tab click **Add**.The Add Format dialog opens. It displays a list of all Cumulus modules that provide formats which are not included in the Asset Formats list. If you click the plus sign in front of a module's entry, the list expands and displays the formats supported by this selected module. You can either select a module's entry itself and all formats supported by the module will be added. Or you can expand the list and select a certain format to be added.

2. Select the format(s) you want to add and click **OK**.

New formats are placed at the end of the list by default. Use the arrow buttons to the right of the list to move the format, if necessary.

Changing Format Options

Some filters have options that you can change. The range of options depends on the filter.

To access a filter's options:

1. Select Cumulus / Edit > Preferences and then click **Asset Handling Sets**.
2. Click **Asset Formats**. The list of all supported file formats is displayed.
3. Select the entry for the desired format in the list. If the filter supporting it has options that you can change, **Properties** is activated.
4. Click **Properties**. The Filter Setup dialog is opened.
5. Make your selections and click **OK**.

Extending Generic Filter Options

Cumulus can catalog any digital asset. If **Catalog Unknown Formats** (below the list of asset formats) is activated and Cumulus encounters an asset for which no specific filter is available, then it uses its Generic Filter. You can expand the Cumulus Generic Filter's capabilities to create your "own formats." For assets that don't have specific format provided by Cumulus, you can define a thumbnail for the asset format by using the Generic Filter.

If you use formats that you've created on your own, check the list available on the Canto Website from time to time to see if a filter has been developed that supports this format and you could use.

To set up a new format:

1. Select Cumulus / Edit > Preferences and then click **Asset Handling Sets**.

2. Click the **Modules** tab and then on the **Filter** icon to see the list of installed filters.

3. Select the **Generic Filter** in the list and click **Properties**. The window to set up the properties for the new format appears.

4. Enter your format's file name extension in the **File Extension** field. Do not enter the period.

5. Type a name for the format in the **File Format** field. If your system is aware of the asset type, its name may be entered for you.

6. Enter the Mac OS file type in the **Mac OS File Type** field. The file type will always be 4 characters in length.

7. Enter the file format identifier (typically the mime type) in the **File Format Identifier** field.

8. Choose the kind of thumbnail you want to be displayed for the assets. You can use either the asset's Finder / Windows Explorer icon, a thumbnail generated by an external application, or an image that you specify.

   If you want to specify a thumbnail image to be used for the assets of the specified format, activate the **Static Thumbnail** option, which enables the **Browse** button. Then click **Browse** to select an image. You can use any JPEG file as a static thumbnail. The image is resized, if necessary, and pasted into the thumbnail image area. Each asset cataloged with this format will use this image as its thumbnail.

   If you want a thumbnail image generated by an external application, activate the **Call External Application** option, which enables the **Configure** button. Then click **Configure** to specify the external application. For details on the parameters, see below.

9. Click **OK** to save your new format.

SPECIAL TECH INFO: Generic Filter External Tool Parameters

The Generic Filter has got an additional option to generate the thumbnail and the preview by calling an external application, in the same way the Generic Processor works. The parameters are nearly the same: command lines for each platform. For this module the variables which have to be used are:

– `$INPUT` – will be replaced by the quoted path of the cataloged asset
– `$PREVIEW` - will be replaced the quoted path of a temporary file.

The called application has to generate a picture in JPEG or PNG format.

Examples

Generate a PNG image from EPS assets using GhostScript on Windows

```
"C:\Program Files\gs\gs8.61\bin\gswin32.exe" -sDEVICE=pngalpha
-dEPSCrop -dBATCH

-dNOPAUSE -dNOPROMPT -dQUIET -sOutputFile=$PREVIEW.png $INPUT
```

If your workflow already generates a JPEG preview for an asset and saves it beside the asset named `<assetfilename>_preview.jpg` then you can access this preview using the following command line and make a copy for Cumulus: `cmd`

```
/C copy $INPUT_preview.jpg $PREVIEW
```

To have the new format available for Asset Handling Sets you have to add it to the Asset Formats list:

1. Click the **Asset Formats** tab and click **Add**.The Add Format dialog opens.

2. Expand the **Generic Filter** entry by clicking on the plus sign on its left. The formats available are displayed.

3. Select the format you want to add and click **OK**.

New formats are placed at the end of the list by default. Use the arrow buttons to the right of the list to move the format, if necessary.

TIP: Cataloging & Files Extensions

⊞ If anything goes wrong while cataloging, check the file extension!

Cumulus Asset Actions

Cumulus Actions simplify daily workflow needs. An Asset Action refers to a combination of certain functions and can be saved under a chosen name. Whenever you wish to perform this combination of functions, all you need to do is select the corresponding action and it will be done. An Asset Action can include three different types of functions: Processing, Packing, Delivering

Firstly, you can have the selected assets processed, then you decide whether the result of this process should be packed into one file and finally, you define where this file should be delivered. By default the delivery destination is the file system and the only packing possibility is the ZIP AssetStore.

Processing

Defining a processing module for an Action is optional. Processing modules will always produce as many files as records were selected for the Action. For processing, a list of possible modules is provided from which you can choose the module you want to use. (For descriptions of the modules, see "Asset Processor Modules".) If you select more than one processing module for an Action, the sequence is important.

NOTE: The sequence of the processing modules must make sense. For example, having the Zip AssetProcessor as the first processing module and then using the Pixel Image Converter to produce JPEG files does not make any sense. However, doing it the other way around is fine. Then you will get one ZIP file for each selected record and each ZIP file will contain a JPEG image.

Packing

Packing modules pack the selected assets (or the files resulting from the processing) into one file. For example: if you have selected Pixel Image Converter for processing (to produce TIFF files) and then Zip AssetProcessor for packing, the result will be TIFF files for each selected record packed in one Zip file. Another example that might sound odd but also might make sense in certain circumstances: if you have selected the Zip AssetProcessor for processing as well as for packing, the result will be Zip files for each selected record packed in one easy to handle Zip file.

NOTE: The sequence of the packing modules must make sense. For example, having the Zip AssetProcessor as the first packing module and then using the PDF Page Merge AssetProcessor does not make any sense. However, doing it the other way around is fine. Then you will get one PDF compressed into a ZIP archive.

Delivering

Defining a delivering module for an Action is not optional. You have to define a delivering module for every Action.

Asset Handling Set

You can also select a specific Asset Handling Set to be used for the Action. If you don't specify one, the Asset Handling Set will be used that is defined in the User Settings of the user who uses the Action. As this Asset Handling Set might have some modules not activated that are needed for the action, we recommend selecting a certain Asset Handling Set. (We strongly recommend this for Actions that are set up to be used by different users.) The Asset Handling Set selected for an Action should be a shared one and should be available for those you want to perform the Action on. And it should correctly support the modules chosen for the Action.

See "Overview: Cumulus Asset Actions", for an overview of the options available for a Cumulus Action.

You can either change existing Actions or create new ones – if you have the appropriate permissions for changing or creating Actions. There are Actions for individual use and Actions that are shared with other users. Shared Actions are displayed in *italics* in

the list for selecting the one to be edited. You may have the right to define and customize your individual Actions only or may even have the right to edit all Actions.

Asset Actions are created and edited in the Preference dialog window (**Cumulus** / **Edit > Preferences > Asset Actions**.)

PRECONDITIONS: To view and modify Asset Actions, you must have the appropriate permissions (**Server Permissions > Asset Actions Permissions**.)

Creating an Asset Action

A new Asset Action is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > Preferences.

2. Click **Asset Actions**.

3. Under **Action**, select the Action to use as a basis for the new one.

4. Click **Duplicate**.

   The **Name and Settings** dialog opens.

5. Enter a name for the new Action, and optionally:

   • Activate the **Allow Sharing** option, if you want this action to be available to other users.

   • Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new Asset Actions).

   • Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new Asset Actions).

6. Click **OK**.

7. Define the new Action. (See "Overview: Cumulus Asset Actions", for an overview of the options available.)

8. Click **Apply** to save your changes.

Editing an Asset Action

To change an existing Asset Action:

1. Select Cumulus / Edit > Preferences.
2. Click **Asset Actions**.
3. Under **Action**, select the Cumulus Action you want to edit.
4. Make the changes.
5. Click **Apply** to save your changes.

See "Overview: Cumulus Asset Actions", for an overview of the options available for Actions. With Workgroup or Enterprise, Actions can only be defined by the Cumulus Administrator or by users who have the right to do this.

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Cumulus Actions by selecting the **Customize** entry in the submenu for selecting an Action. This entry opens the preferences for the current Action.

Setting A Default Asset Action

You can define one Asset Action to be the default. This default is not used with any standard function of this Cumulus version but may be used by any additional function, e.g. provided by a third party partner.

The default Asset Action is denoted by **bold** characters in the list for selecting the Action. To set the default Action:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Asset Actions**.
3. Under **Action**, select the Action you want as default. This should be a shared Action (denoted by *italics*).
4. Click **Set as Default**.
5. Click **Apply** to save your changes.

Overview: Cumulus Asset Actions

Asset Actions refer to a combination of certain functions. Asset Actions defined here can be selected when using the menu item **Asset > Perform Asset Action,** when emailing assets and in the Collection Basket.

Header (1 - 7)

1   *Displays the selected Asset Action.*

2   *Opens a list of available Asset Actions for selection. Shared Actions are displayed in italics.*

3   *Opens the Properties dialog for the selected Asset Action – providing two tabs. On the Description tab you may enter or modify language-specific display names and descriptions. The Sharing tab allows you to define whether you want to share the Asset Action with others. Additionally you may restrict the usage to specific users or roles.*

4   *Opens a dialog to create a new Asset Action by copying the selected one.*

5   *Opens a dialog to rename the selected Asset Action.*

   NOTE: *When renaming a shared Action remember to update users' permissions for this Action.*

6   *Deletes the selected Asset Action.*

7   *Sets the selected Asset Action as default.*

General Tab (8 - 17)

File Formats

8   *If activated, the asset action will be applied only to assets that match the file type(s) specified in the file formats list below. – If this option is not activated, the following items (9 - 13) do not apply.*

9   *List of file types that are handled by the asset action.*

10 *Opens a dialog to select more file types to add them to the list.*

11 *Removes the selected file type(s) from the list.*

12 *Defines what happens if the asset action is executed on assets that don't match one of the file types defined in the list above.*

13 *Select from the following options:*

•   Treat as error – *Executing the asset action on an asset that does not match a specified file type, or on a collections of assets containing non-matching items, aborts the asset action.*

NOTE: This setting is interpreted differently by different clients.
The Cumulus Desktop Client always offers the asset action, even for non- matching assets or collections that contain non-matching assets. Executing the asset action, however, results in en error.
The Cumulus Web Client and Cumulus Sites do not offer the asset action for non- matching assets or collections that contain non-matching assets.

- Skip erroneous asset – *Trying to execute the asset action on a collections of assets containing non-matching items, results in skipping the non-matching assets, while the asset action is properly executed on assets with matching file types.*
- Skip processors only – *Assets with non-matching file types are no processed, but downloaded (and packed, if applicable) anyway.*
- Skip processors and packers – *Assets with non-matching file types are neither processed nor packed, but downloaded anyway.*

On Error
Defines what happens if an error occurs during the execution of an asset action (e.g., due to a mis-configured asset processor or a wrong sequences of asset processors, etc):
14 *If an error occurs, the whole asset action is aborted.*
15 *If an error occurs, the erroneous asset is skipped, but the asset action is continued.*

Additional Properties
16 *Enables selecting a special Asset Handling Set to be used with the Action. If not enabled, the Asset Handling Set will be used that is defined in the User Settings of the user who uses the Action.*
17 *Displays the selected Asset Handling Set.*

IMPORTANT! *Make sure that the selected Asset Handling Set is available for those users you want to use the action and that it correctly supports the modules chosen for the Action.*

18 *Opens a list of available Asset Handling Sets for selection.*

Delivering

19 *Displays the selected delivering module.*

20 *Opens a list of available delivering modules for selection.*
    If you select the URL AssetStore, the resulting file(s) will be uploaded to FTP (and HTTP). To determine the URL, click **Properties** *(19.)*

21 *Opens a window to set parameters for the selected delivering module when used with the Action.*

   NOTE: *If the Delivery module is the File System AssetStore, You can have the asset that derives from an Asset Action cataloged automatically. Note that the new asset can be cataloged only to a catalog that is open in the current collection when the Action is performed. If no packing module is included, the new asset will be determined as a variant. To have automatic cataloging, activate the* **Catalog Resulting Files** *option in the* **File System Support Parameters** *dialog. The* **Settings** *button enables you to select a catalog as well as an Asset Handling Set for the cataloging and, with Enterprise only, a Permissions Template.*

22 *If checked, the delivering module will display dialogs (e.g. for choosing properties) when the action is performed.*

Process Tab
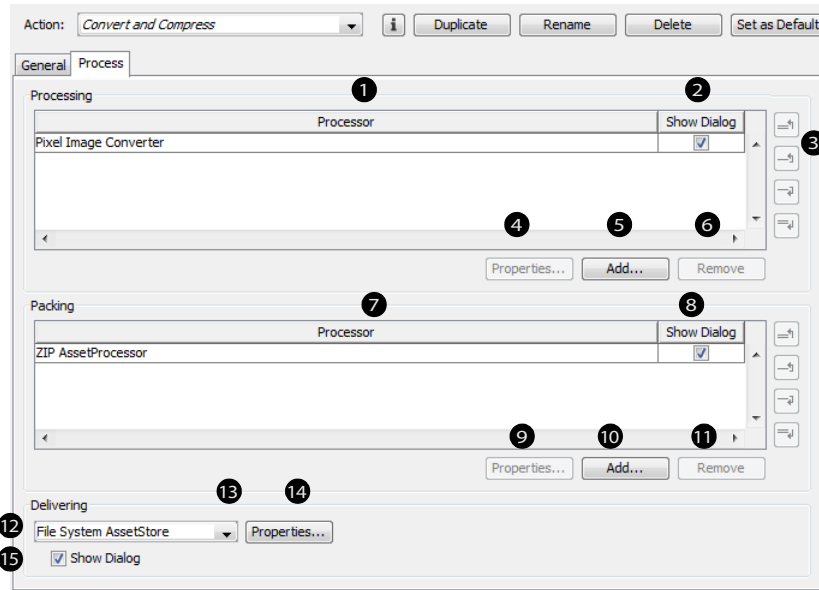
Processing

1   Lists the processor(s) selected for the Action.

IMPORTANT! *Make sure that the sequence of the processing modules makes sense.*

2 *If checked, the processor will display dialogs (e.g. for choosing properties) when the action is performed.*

3 *Use these buttons for ordering the sequence of the processing modules.*

4 *Opens a window to set the parameters for the selected processor for the action when used with the Action. (Disabled if no properties available.)*

5 *Opens a dialog to select the processor(s) to be added.*

6 *Removes the selected processor.*

Packing

7 *Lists the selected packing module(s).*

8 *If checked, the packing module will display dialogs (e.g. for choosing parameters) when the action is performed.*

9 *Opens a window to set parameters for the selected packing module when used with the Action.*

10 *Opens a list of available packing module(s) to be added.*

11 *Removes the selected module.*

12 *Opens a list of available file formats to be added to the list.*

13 *Removes the selected file format from the list.*

14 *Displays how files of formats that are not specified in the list are treated.*

15 *Opens a list of available options for not-listed files.*

Metadata Templates

Metadata Templates are used to add information to the metadata information that is stored on an asset or a category. To make use of such a template, you can either use it while cataloging (along with an Asset Handling Set or the Prefiller Utility) or apply the metadata information to records of already cataloged assets. For a description on how to use Metadata Templates to apply metadata information to the records of already cataloged assets, see "Using a Metadata Template". For a description on how to use Metadata Templates while cataloging, see "Employing the Metadata Editor".

For defining a Metadata Template you can select record fields that should be filled when the Metadata Template is employed. These record fields can be all available field types except Binary fields. Clicking the **Add** button reveals a list of all available fields (provided by filters or by currently opened catalogs). For each field added to the template, you can enter a value. For String fields you can also define whether you want the new text to replace the existing value or to be appended to the existing text. Clicking in a String field's entry in the column **Fill Mode** allows you to select the desired mode. For all other field types, the entered value will replace the existing value. For date field types, the current date is shown initially. illustrating the date format to be entered. A date may be entered manually in the given format or selected with a date picker.

To have a field filled when the Metadata Template is used, the **Use** option for the field must be enabled.

You can either change existing templates or create new ones – if you have the appropriate rights for changing or creating templates. There are templates for individual use and templates that are shared with other users. Shared templates are displayed in *italics* in the list for selecting the one to be edited. You may have the right to define and

customize your individual templates only or may even have the right to edit all templates.

Metadata Templates are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > Metadata Templates.)

Additionally, performing a copy operation on a record or a category creates a temporary Metadata Template prefilled with the respective item's current metadata which can be pasted to other items or saved as a new Metadata Template using the Bulk Edit window

PRECONDITIONS: To view and modify Metadata Templates, you must have the appropriate permissions (**Server Permissions > Metadata Templates Permissions**.)

Creating A Metadata Template

A new Metadata Template is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > Preferences.
2. Click **Metadata Templates**.
3. Under **Metadata Template**, select the Metadata Template to be used as the basis for the new one.
4. Click **Duplicate**. The **Name and Settings** dialog opens.
5. Enter a name for the new template and optionally
   - Activate the **Allow Sharing** option, if you want this template to be available to other users.
   - Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new templates).
   - Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new templates).
6. Click **OK**.
7. Define the new Metadata Template. (See "Overview: Metadata Templates", for an overview of the options available.)
8. Click **Apply** to save your changes.

Editing A Metadata Template

To change an existing Metadata Template:

1. Select Cumulus / Edit > Preferences.
2. Click **Metadata Templates**.
3. Under **Metadata Template**, select the template you want to edit.
4. Make the changes. (See "Overview: Metadata Templates", for an overview of the options available.)
5. Click **Apply** to save your changes.

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Metadata Templates by selecting the **Customize** entry from the list for selecting Metadata Template (e.g. in the Asset Information window). This entry opens the preferences for the current Metadata Template.

Setting A Default Metadata Template

You can define one Metadata Template to be the default template. This default is not used with any standard function of this Cumulus version but may be used by any additional function, e.g. provided by a third party partner.

The default set is denoted by **bold** characters in the list for selecting a set. To set the default set:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Metadata Templates.**
3. Under **Metadata Template**, select the template you want as default. This should be a shared template (denoted by *italics*).
4. Click **Set as Default**.
5. Click **Apply** to save your changes.

Overview: Metadata Templates

Metadata Templates are used to add information to the metadata information that is stored on an asset or a category. Each Metadata Template lists the affected fields, together with the respective values and the fill mode to be used. There are separate tabs for record fields and for category fields. Metadata Templates can be used while cataloging or for applying metadata information to records of already cataloged assets.

Header (1 - 7)

1   *Displays the selected Metadata Template.*
2   *Opens a list of available Metadata Templates for selecting one. Shared Metadata Templates are displayed in italics.*
3   *Opens the Properties dialog for the selected template – providing two tabs:*
    *On the **Description** tab you may enter or modify language-specific display names and descriptions.*
    *The **Sharing** tab allows you to define whether you want to share the template with others. Additionally you may restrict the usage to specific users or roles.*
4   *Opens a dialog to create a new Metadata Template by copying the selected one.*
5   *Opens a dialog to rename the selected Metadata Template.*

   NOTE: *When renaming a shared template remember to update users' permissions for this template.*

6   *Deletes the selected Metadata Template.*
7   *Sets the selected Metadata Template as default.*
8   *Tabs to switch between record metadata and category metadata. Both tabs provide the same columns.*

Fields (9 - 15)

*The **Fields** section contains a list of the fields that are included in the Metadata Template The list provides several columns*

9   **Use** *– Activate this option for each field that should be filled or modified when the Metadata Template is used.*
10   **Field Name** *– Name of the field that should be filled or modified.*
11   **Value** *– Displays the value that will be filled in. Click a value to modify it or enter a new one.*

NOTE: *For date field types, the current date is shown initially, illustrating the date format to be entered. A date may be entered manually in the given format or selected with a date picker.*

12 *If a field of type String List is selected, the arrow opens a list containing the values of the String List field.*

13 **Fill Mode** *– Defines how the new value will be applied (default: Replace). Depending on the field type, several possibilities are offered: Replace, Set if Empty, Add, Remove, Insert Before, Insert After, Clear Value. Click the Fill Mode entry for any field to get a list of available options.*

14 *Opens a list of available fields. Available fields are the fields that are provided by filters or by currently opened catalogs (except Binary fields). Select the field(s) you want to add and click* **OK***.*

TIP: *Prefill Record Fields*
The list of fields contains an entry **Fields of record XYZ***, where XYZ is the name of the currently selected record. Selecting this entry will add all valid record fields to the metadata template and prefill them with the values from the current record.*

15 *Removes the selected field from the template.*

TIP: String List Fields with Different Values

When adding fields that are contained in more that one of the catalogs you have access to, be carefully with string list fields that seem to be identical (same GUID), but have different string list values. Cumulus gives you the impression that you can select the catalog from which you want the field to be added via the Catalogs module. However, this is not the case — actually, Cumulus takes the field (and its values) from the catalog that was opened last at the server, not from the catalog you have selected. Therefore the metadata template will probably not include the string list field values that you want to be included (the ones from the catalog you have chosen as the origin of the field to be inserted). As a consequence, the new or modified Metadata Template will work only for the catalog from which Cumulus has taken the field values.
However, if you are in that situation to have two seemingly identical, but in fact different fields (same GUID, but different string list values), there is a work-around that helps to get exactly the field and the values you want to add to a Metadata Template:
Create a special user just for creating/modifying metadata templates. This user may have permissions for one catalog only — the catalog from which you want to take the field. Then log in as this user and add the respective field to the Metadata template. Because the user can access one single catalog only, the field and its values will always be taken from this specific catalog.

Print Templates

Cumulus provides enhanced print options for printing records. The different combination of print options can be combined and saved as Print Templates. Print Templates make it easy to select print options that are set up for certain views or tasks. Once Print Templates have been appropriately defined to meet differing demands, the user can easily select them for printing records.

If you have the appropriate rights, you can extensively customize most templates. There are Print Templates for individual use and templates that are shared with other users. Shared templates are displayed in *italics*.

A Print Template defines how records will be printed. Print Templates include definitions for the document layout (page size and orientation, as well as margins) and the layout of the records to be printed. To serve as print layout for the records, you can either use a Record View Set or define advanced print settings.

The advanced print settings allow you to specify how the printed records will appear on the page. They include options for:

* the grid to be used (e.g number of rows and columns)
* the thumbnail (e.g. alignment and resolution)
* the fields to be included in the print-out of each record (including font selection)
* the header and footer text (including font selection)
* PDF creation (PDF security settings and enabling Cumulus Web Client/Sites URL-link feature)

When defining advanced print settings for a Print Template, a Preview function enables you to check the result of your settings. You can see just what a page looks like before deciding to save the template.

Print Templates can be used when printing records (**File > Print**.)

Print Templates are created and edited in the Preference dialog window
(⚫ **Cumulus /**⊞ **Edit > Preferences > Print Templates**.)

PRECONDITIONS: To view and modify Print Templates, you must have the appropriate permissions (**Server Permissions > Print Templates Permissions**.)

Creating and Editing a Print Template

A new Print Template is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > Preferences.
2. Click Print Templates.
3. Under Template, select the Print Template to be used as the basis for the new one.
4. Click Duplicate. The Name and Settings dialog opens.
5. Enter a name for the new template and optionally –
   - Activate the Allow Sharing option, if you want this template to be available to other users.
   - Activate Copy display names only, if you also want to take over the language-specific display names from the original (not recommended for new print templates).
   - Activate Copy description only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new print templates).
6. Click OK.
7. Define the new Print Template. (See "Print Templates", for an overview of the options available.)

TIP: Preview Your Settings Before Saving

If you define advanced print settings, use the Preview function to check your settings before you save them.

8. Click **Apply** to save your changes.

TIP: Previewing a Print Template including Live Previews of Images

If you want to check the result of your settings with live previews of images, you should select these images before you open the preference dialog. Select at least as many images as needed to fill the intended grid cells of one page.

To change an existing Print Template:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Print Templates**.
3. Under **Template**, select the template you want to edit.
4. Make the changes. (See "Overview: Print Templates", for an overview of the options available.)

    TIP: If you define advanced print settings, use the Preview function to check your settings before you save them.

5. Click **Apply** to save your changes.

Setting A Default Print Template

You can define one Print Template to be the default template. This default is not required by any standard function of this version of Cumulus, but may be used by additional functions, such as those developed by third party partners. The default template is denoted by **bold** characters in the list for selecting a template.

To set the default template:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Print Templates.**
3. Under **Template**, select the template you want as default. This should be a shared template (denoted by *italics*).
4. Click **Set as Default**.
5. Click **Apply** to save your changes.

Overview: Print Templates

A Print Template stores a specific combination of print options. It can be used when printing records. Print Templates are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > Print Templates.

Header (1 -7)

1   *Displays the selected Print Template.*
2   *Displays a list of available Print Templates for selection. Shared Print Templates are displayed in italics.*
3   *Opens the Properties dialog for the selected template – providing two tabs. On the Description tab you may enter or modify language-specific display names and descriptions. The Sharing tab allows you to define whether you want to share the template with others. Additionally you may restrict the usage to specific users or roles.*
4   *Opens a dialog to create a new Print Template by copying the selected one.*
5   *Opens a dialog to rename the selected Print Template.*

NOTE: *When renaming shared templates, remember to update users' permissions for the template.*

6   *Deletes the selected Print Template.*

7   *Sets the selected Print Template as default.*

Document Settings Tab (9 - 10)

The Document Settings tab defines the layout for the entire document.

8   *Paper Setup settings define the paper size: either a standard size or a custom size for which the width, height and measurement unit can be defined.*

NOTE: *The **Units** selected here refer to all measurements of the template.*

9   *Orientation defines the orientation for the output (portrait or landscape).*

10   *Margins settings define the margins for the page layout.*

Layout Tab

The Layout tab defines the layout for the printed records. You can either use a Record View Set for the layout, or define advanced print settings.
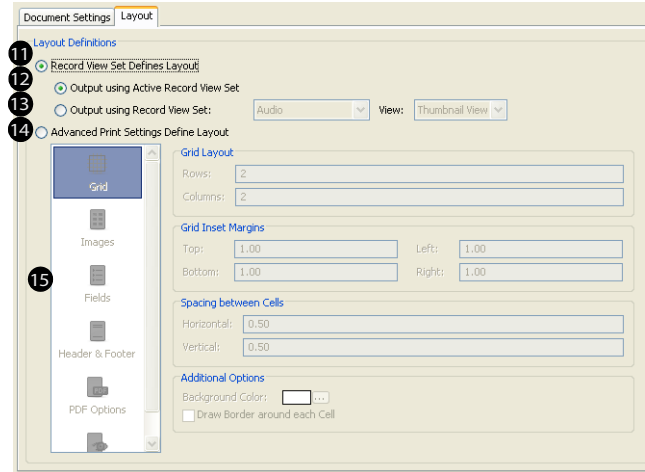
Layout Definitions

11 If activated, a Record View Set is used for the layout.

If **Record View Set Defines Layout** is activated, you can choose:

12 The current Record View is used for layout.

13 A specific Record View from a a specific Record View Set is used for layout. You can select the Record View Set and the view to be used.

NOTE: *If a Record View Set defines the layout* and if you have activated the print option **Print Entire Assets as Thumbnails** in the Printing tab and set the thumbnail size to 1024 in the Display tab of your User Settings, the records' thumbnails will be printed in high-resolution, so the printouts can serve as contact sheets. This may take a while as each of the thumbnails has to be created.

14 If activated, you can define Advanced Print Settings for the layout.
    If **Advanced Print Settings Define Layout** is activated, you can:

15 Select the item you want to define for layout.

Advanced Print Settings

If **Advanced Print Settings Define Layout** is activated on the Layout tab, you can define various layout options. The options are grouped by topic items and represented by icons.

Select the corresponding icon to define your layout.

- **Grid**

The grid determines how many records can be printed on one page.

Grid Layout
The number of columns and rows defines the amount (and size) of cells. Each cell contains a record. The grid shrinks to fit into the space left by the defined margins and spacing.

Grid Inset Margins / Spacing between Cells
For an overview of the margins and spacing, see "Margin Settings" .

Additional Options
- **Background Color:** *Determines the background color for the entire pages except the areas around the image and for the field information. (See also "Background Colors" .)*
- **Draw Border around Each Cell:** *Activate this option to have a frame drawn around each cell.*

- **Images**

Each image, regardless of size, is scaled in proportion to fit to one cell.

Printed Image Options
- **Alignment**: *Determines the alignment point for the image with respect to the cell.*
- **Background Color**: *see "Background Colors"*
- **Outer Margin**: *see "Margin Settings" .*

- **Use entire assets at**: Determines whether the entire asset should be used for printing and the highest resolution an image should be printed with. (The resolution for the printout cannot be higher than that of the original.)
Using the thumbnails is faster but using the entire assets lets you choose the dpi and so you can decide on the quality. Using the entire assets also lets you choose the JPEG quality.
- **Use thumbnails**: Determines whether the thumbnail should be used for printing an image.
- **Apply Asset Action**: Activate this option to select an Asset Action to be performed, e.g. to watermark printed thumbnail
- **Draw border around each image**: Activate this option to have a frame drawn around each image.

- **Fields**

Fields Shown
Under **Fields Shown** define the fields which values you want to have included in the printout.
To add fields click **Add**. This opens a list of available fields.
To define the display properties of a field, select the field and click **Properties**.

Additional Properties
Properties concerning the layout of all displayed fields are set under **Additional Properties**.
- **Alignment**: Determines the display position for record field values – depending on **Show Field Names** activated or not. If **Show Field Names** is activated, the alignment point is the ending of the longest field name.
- **Align to Image**: Determines the display position with respect to the image.
- **Margin to Image**, **Outer Margin** and **Line Spacing**: see “Margin Settings” .
- **Background Color:** see “Background Colors”
- **Show Field Names**: Activate this option to have the field names displayed along with the field value.

NOTE: Space for Displaying Field Information
Each image is scaled in proportion to fit to one cell. Only the space left in a cell is used to show field information. Take this into consideration when selecting the fields and defining their display properties. The image takes precedence over the field information. If an images fills a cell, the record field information will not be shown.

- **Header and Footer**

The header and footer are printed at the top or bottom of each page throughout the print output. Headers and footers can include individual text and automatic text – for example, page numbers, the date, the catalog's name, or the user name. The text can be formatted.
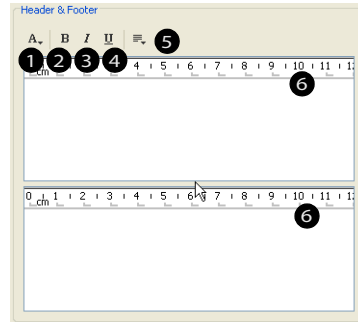
1 Opens a dialog for defining the font attributes for the selected text.

2 Applies bold formatting to the selected text.

3 Applies italic formatting attribute to the selected text.

4 Applies underline formatting to the selected text.

5 Open a menu to select a placeholder for inserting automatic text or a small image at cursor position in the header or footer text.

Automatic text is provided for common header or footer items, such as running total page numbers (Page 1 of 10), time and date. You can also include the name(s) of the catalog(s), the Login name of the user who uses the Print template or the name of the computer running your Cumulus Server.

NOTE: *You can also define your own placeholders for headers and footers. If you enter a word beginning with the % character (e.g., %project), Cumulus will open a dialog that asks you to fill this placeholder when a print process is started that uses this template.*

6 *Ruler that displays the tab stop positions and right document margin. The measurement unit for the ruler is the unit selected in the Document Settings.*
To insert a tab stop, click on the position where you want it.
To move a tab stop, drag the tab marker to the right or left on the horizontal ruler.

- **PDF Options**

Cumulus requires no additional software to generate print output as PDF. The generated PDF documents can even include links to access the records via Internet. If you have a Cumulus Web Client installation, you can take advantage of the URL-link feature.

To allow the creation of a PDF document, you must activate the **Allow PDF Printing** option in a Print Template. This enables a user to choose the **Print to PDF** option when the template is selected for printing. If the user chooses **Print to PDF** and the **Allow changes to PDF settings when printing** option was set in template, the dialog **PDF Print Settings** opens where several PDF options can be determined. The further PDF Print Options set in the template serve as pre-settings which can be changed in this dialog.

Chart on PDF options interrelations
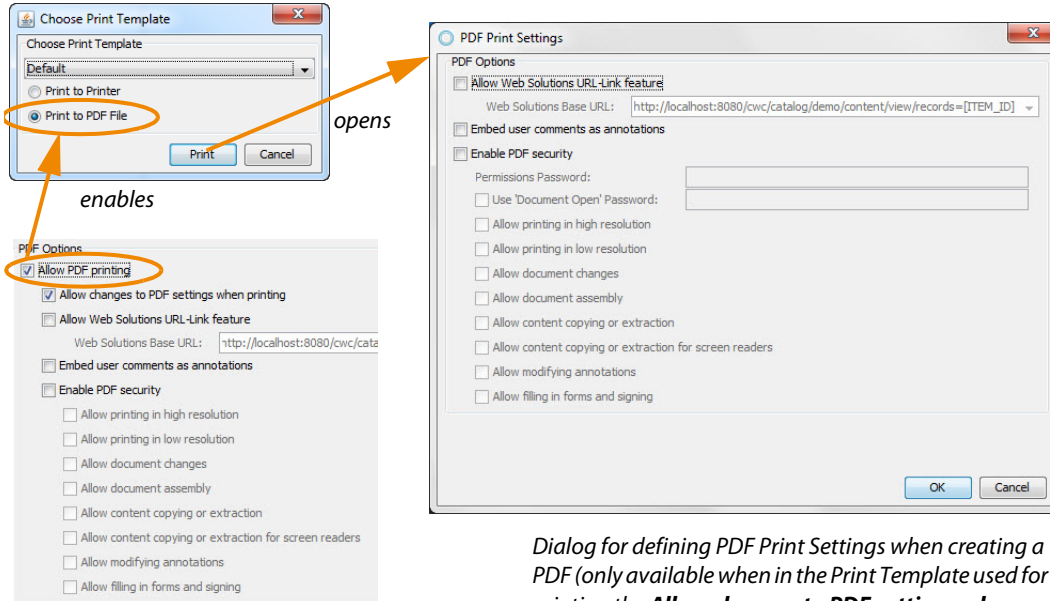
The Print Template determines whether a PDF can be created in general. And it can have PDF options set that serve as pre-settings for the final PDF Print Settings.

*Dialog for defining PDF Print Settings when creating a PDF (only available when in the Print Template used for printing the **Allow changes to PDF settings when printing** option is activated.)*
The PDF options set in the Print template serve as pre-settings for this dialog.

For PDF creation the following options can be pre-set in a Print Template:

- **Allow Web Solutions URL-Link Feature**
  If the records derive from catalog(s) that are published on the Internet, you can use this option to include links to the records in the PDF.
  - In the field **Web Solutions Base URL** enter the path to your Cumulus Web Client installation application:
    http://[Web server address]/webclient for Web Client
    (e.g.: **http://123.45.67.89:8080/webclient**).

- **Embed user comments as annotations**
  If activated, user comments contained in the selected records are embedded into the generated PDF file as PDF annotations.

- **Enable PDF Security**
  When creating PDF files you can use password security to add restrictions that can prevent a file from being opened, printed or edited. Passwords can only be set when creating the PDF document. (For details, see "Record Printing to PDF with Cumulus".) For details on the PDF security options that can be pre-set with a Print Template, see table below.

  PDF security options that can be pre-set in a Cumulus Print Template are:

PDF Security Option	If the option is activated, users can
Allow printing in high resolution	print the document in any resolution
Allow printing in low resolution	print the document at resolution no higher than 150-dpi
Allow document changes	change the document (including assembling and filling in forms as well as adding digital signatures)

PDF Security Option	If the option is activated, users can
Allow document assembly	assemble the document (insert, rotate, or delete pages as well as create bookmarks or thumbnail pages), even if **Allow Document Changes** is not set.
Allow content copying or extraction	copy and extract document's contents (text and graphics)
Allow content copying or extraction for screen readers	use screen reader devices for copying or extracting document's contents only. Visually impaired users are allowed to read the document with screen reader devices in any case. This option adds the permissions to copy and extract.
Allow modifying annotations	can add and edit comments as well as form fields and digital signatures
Allow filling in forms and signing	fill in forms and add digital signatures only.

- **Preview**

*Provides a preview reflecting the current status of the print template. Use this function to check your settings before you save them (by clicking **Apply** or **OK**.)*

TIP: *Resize the Preference window to see the preview sized to your needs.*

- **Use live previews of selected records**: *Activate this option to see the defined template with live previews of images. However, depending on the images' sizes and resolutions this may be time consuming.*
- **Use entire asset**: *Activate this option to have the preview generated from the entire asset instead from the thumbnail. (Only available if the **Use entire assets at ...** option is selected in the **Images** section.)*

TIP: *Previewing a Print Template including Live Previews of Images*
If you want to check the result of your settings with live previews of images, you should select these images before you open the preference dialog. Select at least as many images as needed to fill the intended grid cells of one page.

• **Background Colors**

Background colors are defined by settings on the Grid, Images and Fields tab.

Grid *Image Fields*
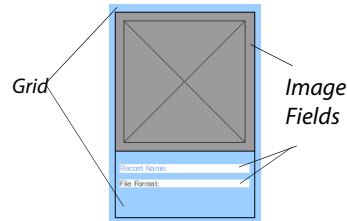
Margin Settings

The following example shows a page layout whose grid is set to two columns and two rows. Which makes four cells printed on a page. The grid shrinks to fit into the space left by the defined margins and spacing. The size of the cells depends on the size of the grid. Each image, regardless of size, is scaled in proportion to fit to one cell. The space left in a cell can be used to show field information.

- **Example**
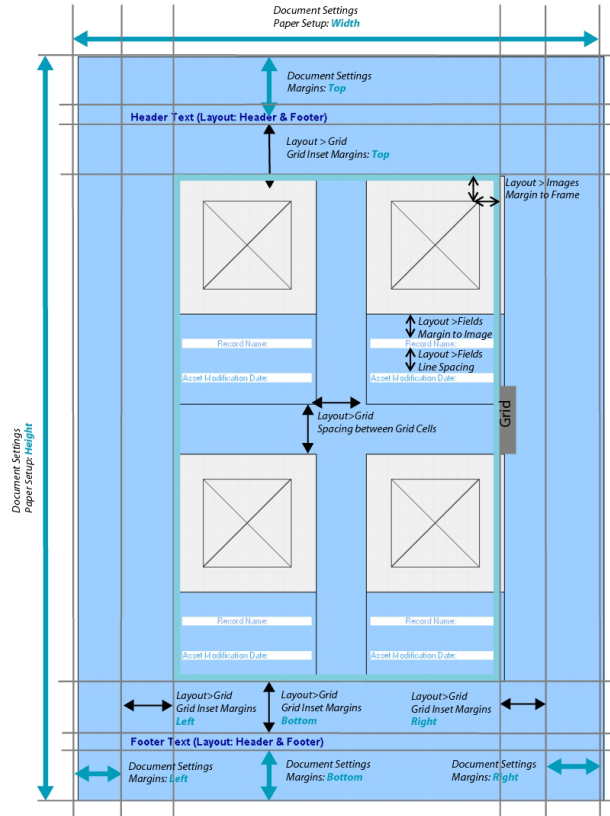
This example indicates the margins and spacing you can define by arrows. The height of the header and footer is defined by the text (font and lines) entered in the Header & Footer section.

Record Printing to PDF with Cumulus

For printing records Cumulus offers the possibility to print to PDF. To generate print output as PDF no additional software is required. The PDF documents can even include links to access the records via the Internet. If you have an installation with a Cumulus Web Solution, you can take advantage of the URL-link feature.

To make use of the Cumulus PDF printing feature you have to use a Print Template for printing that uses the advanced print settings which are set to allow printing to PDF.

If you select a Print Template for printing records that allows PDF printing, you can choose to have the output saved as a PDF file.

If the **Print to PDF File** and the **Allow changes to PDF settings when printing** options were set in template, clicking on the **Print** button opens the **PDF Print Settings** dialog. The various options are pre-set as defined in the current Print Template. Only the password options are not pre-set to prevent them to be set by mistake or/and nobody can remember the passwords.

Web Solutions URL-Link Feature

If the records derive from catalog(s) that are published on the Internet, you can use this option to include links to the records in the PDF. Activate the **Allow Web Solutions URL-Link Feature** option and in the field **Web Solutions Base URL** enter the path to your Cumulus Web Client application:
http://[Web server address]/webclient for Web Client
(e.g.: **http://123.45.67.89:8080/webclient**)

PDF Security

PDF security can be compared with home security. Just as you lock your doors to prevent others from entering your house without permission, you may use the various security features to "lock" PDF documents. For example, you can add passwords to restrict users from opening a PDF document, or they can prevent users from printing or editing a document.

A PDF file can have two kinds of password: a Document Open password and a Permissions password. If you are restricting printing and editing, you should add a Document Open password to enhance security.

- Opening the document with the correct Permissions password allows full access to the document. This unlimited access includes the ability to change the document's passwords and access permissions.
- Opening the document with the correct Document Open password allows additional operations to be performed according to the set PDF security options.

With **Enable PDF Security** activated but Document Open and Permissions passwords not specified, the document will be encrypted, with user-level access, and a random Permissions password is generated; the user will not be prompted for a password, but nobody can have full access to the document.

With **Enable PDF Security** activated but only the Document Open password specified, a random Permissions password is generated, the document will be encrypted and the user will be prompted for a password. Again, nobody can have full access to the document. If both passwords are specified, the document will be encrypted and the user will be prompted for a password; depending on the password entered, the user can have full access, or only restricted access to the document.

For details on the other options, see "PDF Security Option".

Crop Templates

Optional feature! May not be available with your Cumulus configuration.

Crop Templates are used for generating renditions of image assets that are distributed via the Media Delivery Cloud (MDC), or via Media Delivery on Premise (MDO).

Additionally, crop templates are used with the Pixel Image Crop Template Processor to convert assets (see Cropping Image Assets with Templates).

There are 2 types of crop templates:

- Focus Areas crop templates are used to automatically crop each asset delivered via the MDC or MDO. They define the output parameters (size and aspect ratio) of the resulting rendition, and additionally the position of the Region of Interest within the result. The cropping functionality takes into account these values and the Region of Interest defined on individual assets to determine the proper crop area with an algorithm.

- Crop templates for manual cropping define cropping rules, or constraints, such as the aspect ratio or the size of the cropped area, as well as output parameters (size and aspect ratio of the resulting rendition). Such templates must be applied manually to individual asset. At the same time, the user specifies the exact position of the crop area on the asset (and it's size and aspect ratio, if they are not defined in the selected template).

Crop Templates are created and edited in the Preferences dialog(Cumulus / Edit > Preferences > Crop Templates.)

Configured Focus Area crop templates are automatically synchronized to MDC with every request sent to MDC (e.g. by Trigger Action or Scheduler task),.

PRECONDITIONS: To view and modify Crop Templates, you must have the appropriate permissions (**Server Permissions > Crop Templates Permissions**.)

Creating and Editing Crop Templates

A new Crop Template is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Crop Templates**.
3. Under **Crop Template**, select the one you want to be the basis for the new one.
4. Click **Duplicate**. The **Name and Settings** dialog opens.
5. Enter a name for the new template and
   - Activate the **Allow Sharing** option to make the template available for the Media Delivery Cloud (MDC) and Media Delivery on Premise (MDO), or if you want it to be available for other users.
   - Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new crop templates).
   - Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new crop templates).
6. Click **OK**.
7. Define the settings of the new Crop Template (see Overview: Crop Templates for an overview of available options).
8. Click **Apply** to save your changes.

To change an existing Crop Template:

1. Select Cumulus / Edit > Preferences.
2. Click Crop Templates.
3. Under Crop Template, select the one you want to edit.
4. Make the changes. (See "Overview: Crop Templates" for an overview of available options.
5. Click Apply to save your changes.

Overview: Crop Templates

Crop templates are a means to determine the generation of renditions of images that will be delivered via the Media Delivery Cloud and the Media Delivery on Premise.

Additionally, crop templates are used with the Pixel Image Crop Template Processor to convert assets (see Cropping Image Assets with Templates).

In a crop template, you can define

- the size and the aspect ratio of the area that shall be cropped in an image,
- the size and aspect ratio of the resulting cutout, and
- where Region of Interest defined on an image shall be placed within the resulting rendition.

NOTE: A Region of Interest can be defined on the preview of a file in the Cumulus Web Client.

To set up Crop Templates, select Cumulus / Edit > Preferences and click Crop Templates.

Header (1 - 7)

1   *Displays the selected Crop Template.*
2   *Opens a list of available Crop Templates. Shared Crop Templates are displayed in italics.*

3   Opens the Properties dialog for the selected template – providing two tabs. On the Description tab you may enter or modify language-specific display names and descriptions. The Sharing tab allows you to define whether you want to share the template with others. Additionally you may restrict the usage to specific users or roles.

4   Opens a dialog to create a new Crop Template by copying the selected one.

5   Opens a dialog to rename the selected Crop Template.

> NOTE: *When renaming a shared templates, remember to update user permissions for this template, as needed.*

6   Deletes the selected Crop Template.

7   Sets the selected Crop Template as default.

Crop Area (8 - 12)

8   **Focus area –** *If activated, the "Region of Interest" specified for an image asset is taken into account by the cropping process and included in the resulting image. – For assets without a specified Region of Interest, the whole image is considered as Region of interest.*

9   **Position region of interest in result** *– If activated, you can define the approximate position of the Region of Interest within the resulting cutout from the original image (top, bottom, right, left, center, etc.). If not activated, the region of interest is always centered.*

The following options apply to manual cropping only!

10 **Enforce aspect ratio** *– If activated, the cropped area always has the specified aspect ratio. Size and position within the image must be specified manually.*
You can freely define the aspect ratio.

11 **Enforce crop size** *– If activated, the cropped area always has the* **Width** *and* **Height** *defined here. The actual position of the cropped area within the image must be specified manually.*

12 **User defined** *– Aspect ratio, size and position of the area to be cropped must be specified manually.*

Crop Editor Option(13)

(Only relevant for manual cropping - not available if Focus area *is selected!)*

13 **This template can have multiple parameter sets** *– If activated, you can define multiple parameter sets for this template, using the crop editor of the Cumulus Web Client. Each parameter set is identified by the template ID and an additional number.*

14 **Group** *– Crop templates can be ordered in groups. Selecting a Group from the drop-down list of available groups, or creating a new group, immediately assigns the current crop template to this group.*

A crop templates can be assigned to one group only. Removing the last, or only, member from a group also deletes the group itself – you can't have empty groups.

15 **This template is master in it's group** *– This option is activated by default for new templates. Deactivate it to make the current template a non-master.*

A group can have any number of master and non-master templates. Non-master templates are restricted in that they can only be used with a specific asset, if a master template of the same group has already been applied to that asset before.

Output Size of Cropped Area (14-16)

16 **Same as cropped area** *– If activated, the size of the resulting cutout (in pixel) is identical with the size of the cropped area.*

17 **Set manually** *– If activated, the size of the resulting cutout (in pixel) must be defined manually. If the cropped area is larger in size, it will be scaled down.*

18 **Enforce output size** *– If activated, the resulting cutout will always have the **Width** and **Height** defined here.*

*Additionally, you may activate the **Keep the aspect ratio** option. The resulting image will have the same aspect ratio as the cropped area. In this case, the defined values for **Width** and **Height** will be adapted accordingly. – Only available if either the **Enforce aspect ratio** or the **Enforce crop size** option is selected*

Sub-Pane Filters

Sub-Pane Filters provide enhanced support for managing related assets. The panes of the split view display certain assets only. Assets that are related to the assets selected in the main pane. Which assets are displayed is determined by the option selected in the pane's display drop-down list. This option defines how they are related. Sub-Pane Filters make it easy to set up such options. Each Sub-Pane Filter is a list option in the sub-panes' display list. Cumulus provides various pre-configured Sub-Pane Filters that should suffice most needs but you can also create your own Sub-Pane Filters.

Sub-Pane Filters are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > Sub-Pane Filters.)

PRECONDITIONS: To view and modify Sub-Pane Filters, you must have the appropriate permissions (**Server Permissions > Sub-Pane Filters Permissions**.)

Once you have set up the Sub-Pane Filters as needed, you assign them to users. So you can provide individual menus to your users. The availability of Sub-Pane Filters for users is defined with the User Manager in each user's properties. (**File > Administration > Server Console > User Manager > User/Role Properties > Sub-Pane Filters**.)

Creating and Editing a Sub-Pane Filter

A new Sub-Pane Filter is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Sub-Pane Filters**.
3. Under **Filter**, select the Sub-Pane Filter to be used as a basis for the new one.
4. Click **Duplicate**. The **Name and Settings** dialog opens.
5. Enter a name for the new filter and optionally
   - Activate the **Allow Sharing** option, if you want this filter to be available to other users.
   - Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new sub-pane filters).
   - Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new sub-pane filters).
6. Click **OK**.
7. Define the new Sub-Pane Filter. The settings define what will be displayed in a sub-pane for related assets view.

   Choose the relation between the selected record(s) and the records displayed in the sub-pane by selecting a relation type from the drop-down list. For details on relations types, see "Relation Types".)

Then choose the level of relation.

- **First Level only**: Only directly related, contained or referenced assets are displayed. (Example use: to see the assets contained in a ZIP file only and not the assets that may be contained in these assets.)
- **Last Level only**: (Example use: Remember, an image can be a variant of a source but it itself is also the source of another variant. But you don't care whether the selected record in the main pane is a variant of another variant. You are only interested in the top level variant source (the origin) and that's what you want to see in the sub-pane.)
- **All Related Assets**: The records of all related assets are displayed regardless of whether the relation is direct or indirect.

If you want to have only Pages and Slides or Video shots displayed in the sub-pane, activate the **Further …** option and select **include only** from the drop-down list. Then activate the asset type that you want to be displayed only.

If you don't want to have Pages and Slides or Video shots displayed in the sub-pane, activate the **Further …** option and select **exclude** from the drop-down list. Then activate the asset type that you don't want to be displayed.

If you want the displayed result to be based on selected records only, you can include a record query in the settings of the Sub-Pane Filter. To do so, activate the **Use Additional Query** option. The **Use Query** and **Use File** buttons are enabled. Click **Use Query** or **Use File**. A dialog for selecting the corresponding query will open. Select the query you want to apply as filter option and click **OK/Select**.

NOTE: Make sure to select a query that does not contain placeholders!

The query is saved with the filter settings and the search conditions of the query are displayed. Note that the data of the query is saved with the Sub-Pane Filter

and if you change the query later on, the Sub-Pane Filter will not be changed accordingly.

NOTE: ⊞ If you cannot open the default folder for storing queries, it may be due to its folder properties. If the folder properties are set to **Hidden**, this folder cannot be addressed by the Select dialog. Then you either have to change the folder properties or save the queries to another location that you can access.

8. Click **Apply** to save your changes.

To change an existing Sub-Pane Filter:

1. Select **Cumulus** / ⊞ **Edit > Preferences**.
2. Click **Sub-Pane Filters**.
3. Under **Filter**, select the one you want to edit.
4. Make the changes.
5. Click **Apply** to save your changes.

Setting A Default Sub-Pane Filter

You can define one Sub-Pane Filter to be the default. This default is not required by any standard function of this version of Cumulus, but may be used by additional functions, such as those developed by third party partners. The Sub-Pane Filter is denoted by **bold** characters in the list for selecting a filter.

To set the default Sub-Pane Filter:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Sub-Pane Filters.**
3. Under **Filter**, select the one you want as default. This should be a shared one (denoted by *italics*).
4. Click **Set as Default**.
5. Click **Apply** to save your changes.

Permissions Templates

Permissions templates enable you to assign, remove or explicitly set individual asset or category permissions for users or entire groups at once.

Optional feature! May not be available with your Cumulus configuration.

A Permissions Template includes permissions for records and categories. Depending on the context in which a template is used, either the record or category permissions will be used. With selected records, the defined record permissions will be used; with categories, the defined category permissions will be used.

IMPORTANT! Permissions Templates refer to individual record or category permissions only. Remember that these are always added to the permissions a user has in general for all records and categories of the catalog. A user's permissions cannot be reduced by individual record or category permissions. If a user is given an Application permission for the records or categories of a catalog, he/she will have this permission – no matter whether this permission is set to be removed in a Permissions Template used. Only an individual record or category permission can be removed by a Permissions Template.

Permissions Templates can be used in the Properties dialog window for records or categories. With records, they can also be used when cataloging assets or updating records. For cataloging, a Permissions Template is used when the cataloging user has access to at least one Permissions Template. Users who have access to more than one Permissions Template are prompted to select one for the cataloging process.

Permissions Templates can also be used for auto-cataloging. This requires that the catalog contains the Category field **AutoSync Permissions Template**.

Permissions Templates are created and edited in the Preference dialog window (Cumulus / Edit > Preferences > Permissions Templates.)

PRECONDITIONS: To view and modify Permissions Templates, you must have the appropriate permissions (Server Permissions > Permissions Templates Permissions.)

Creating and Editing Permissions Templates

A new Permissions Template is created by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > Preferences.
2. Click **Permissions Templates**.
3. Under **Permissions Template**, select the one you want to be the basis for the new one.
4. Click **Duplicate**. The **Name and Settings** dialog opens.
5. Enter a name for the new template and optionally
   - Activate the **Allow Sharing** option, if you want this View Set to be available to other users.
   - Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new permissions templates).
   - Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new permissions templates).
6. Click **OK**.
7. Define the new Permissions Template.
   - Add the user(s) and/or role(s) to which you want to assign the record/category permissions by clicking the appropriate button (**Add User** or **Add Role**). (The **Add User** button is available only if you have the Browse for Users permission.)

These buttons open a corresponding dialog.

To add users, you can search for available users. The possible search criteria depend on the authentication method (see above). Default search criteria is the login name. Enter the search value (a matching string) and click **Find**. The result of this search is listed below. Select the user(s) you want and click **OK**. The users are added.

When adding roles, Cumulus will list the available roles. Select the role(s) you want and click **OK**. The roles are added.

- Select the user/role you want to assign permissions to.
- Activate the permissions you want to be set with this template. Then define for each activated permission whether it should be added to or removed from the permissions already given. (See "Overview: Permissions Templates", for an overview of the options available. For more information on the permissions available with Cumulus, see "Catalog Permissions Tab" .)

8. Click **Apply** to save your changes.

To change an existing Permissions Template:

1. Select **Cumulus** / **Edit > Preferences**.
2. Click **Permissions Templates**.
3. Under **Permissions Template**, select the one you want to edit.
4. Make the changes. (See "Overview: Permissions Templates", for an overview of the options available. For more information on the permissions available with Cumulus, see "Catalog Permissions Tab" .)

5. Click **Apply** to save your changes.

TIP: Shortcut to Preferences

If you have the appropriate permissions, you can easily access the preferences of Permissions Templates by selecting the **Customize** entry in the list for selecting Permissions Template. This entry opens the preferences for the current Permissions Template.

Setting A Default Permissions Template

You can define one Permissions Template as the default template. This default is not used by any standard function of Cumulus, but it can and might be used by custom program functions, such as those added by third party partners.

The default set is denoted in the templates list by **bold** characters. To set the default set:

1. Select **Cumulus** / **Edit > Preferences**.
2. Click **Permissions Templates.**
3. Under **Permissions Template**, select the one you want as default. This should be a shared one (denoted by *italics*).
4. Click **Default**.
5. Click **Apply** to save your changes.

Overview: Permissions Templates

Permissions Templates are used to set record and category permissions for selected records or categories. They can be used in the Properties dialog window for records or categories. With records, they can also be used when cataloging assets or updating records.

To set up Permissions Templates, select Cumulus / Edit > Preferences and click **Permissions Templates**.

Header (1 -7)

1   *Displays the selected Permissions Template.*

2   *Opens a list of available Permissions Templates. Shared Permissions Templates are displayed in italics.*

3   Opens the Properties dialog for the selected template – providing two tabs. On the Description tab you may enter or modify language-specific display names and descriptions. The Sharing tab allows you to define whether you want to share the template with others. Additionally you may restrict the usage to specific users or roles.

4   Opens a dialog used to create a new Permissions Template by copying the selected one.

5   Opens a dialog used to rename the selected Permissions Template.

   NOTE: *When renaming a shared templates, remember to update user permissions for this template, as needed.*

6   Deletes the selected Permissions Template.

7   Sets the selected Permissions Template as default.

Permissions (8 - 16)

8   Indicates type: User or Role

9   Lists the names of users or roles the template will affect.

10   Opens a dialog used to select users. (Available only if you have the Browse for Users permission.)

11   Opens a dialog used to select roles.

12   Removes the selected user/role from the list.

• **Record & Category Permissions, Asset Permissions**

13   Activates the permission to be set. If a permission is not activated in a template it will not be set when the template is used. Then the existing permission remains untouched.

14   If activated, the permission will be added to the existing permission when the template is used.

15   If activated, the permission will be removed when the template is used.

NOTE: *The permission will be removed only if it was set as individual record or category permission.*

- **Table Specific Permissions**

16 Use for advanced configurations only.

For more information on the permissions available with Cumulus, see "Catalog Permissions Tab" .

Cumulus

This chapter describes how to set the catalog settings to suit your needs and offers some suggestions for effective cataloging strategies, also it covers some catalog maintenance issues.

The topics of this chapter include:

Managing Catalogs

Catalog Settings

Fundamental changes can be made to each catalog by modifying its settings. These settings have no effect on catalogs other than on the one for which they are set. It's important to consider a catalog's settings when the catalog is new, *before* you add records to it.

PRECONDITIONS: To modify a catalog's settings, you must have the appropriate Administrator permissions (**Permissions > Administrator Permissions > Modify Catalog Settings**.) To view a catalog's settings, you must have the appropriate Administrator permissions (**Permissions > Administrator Permissions > View Catalog Settings**.)

To access the settings of a catalog:

1. Make sure the collection window containing the catalog is the active window in Cumulus. If you have more than one catalog opened in the active collection window, the Catalog Settings window provides a list from which you can select the catalog you want to modify.

2. Select Cumulus / Edit > Preferences.

3. Click **Catalog Settings**.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to modify under **Catalog**.

   The settings for the selected catalog are displayed in the Catalog Settings window.

The Catalog Settings allows to precisely configure the settings for a catalog. The available options are divided into the following sections:

- **General** – Catalog location and name, sharing options and options on a central location for the assets.
- **Record Fields** – Displays the record fields that the catalog contains. You can add or delete fields and customize selected fields. This allows you to organize the information that can be stored on an asset in its record. Remember, metadata retrieved from assets while cataloging can only be stored if the corresponding record fields are included in the catalog.
- **Category Fields** – Displays the category fields that the catalog contains. You can add or delete fields and customize the fields.
- **Relations** – Displays the asset relation types available with the catalog. You can edit, add and remove relation types.
- **Mirroring** – Displays the current mirroring settings for the catalog. You can activate mirroring and define the database that serves as the mirror. (For more information on mirroring, see "Database Mirroring" .)
- **Workflows** – Display the workflows available with the catalog. You can add workflows stored at the Cumulus Server, update workflows that have been modified at the Cumulus Server, and remove workflows from the catalog.
- **Permissions Summary** – Shows what permissions each user or role has for the catalog. You can only view the information, for editing you have to employ the User Manager of the Server Console.

Additionally, the Catalog Settings window provides buttons for saving the settings of the current catalog as a catalog template, and for copying permissions and triggers from another catalog to the currently selected one.

See "Overview: Catalog Settings Window" for an overview of the options available from this window.

Overview: Catalog Settings Window

The Catalog Settings window provides several tabs for different groups of options. The options are valid for the active/selected catalog only. They have no effect on other catalogs.
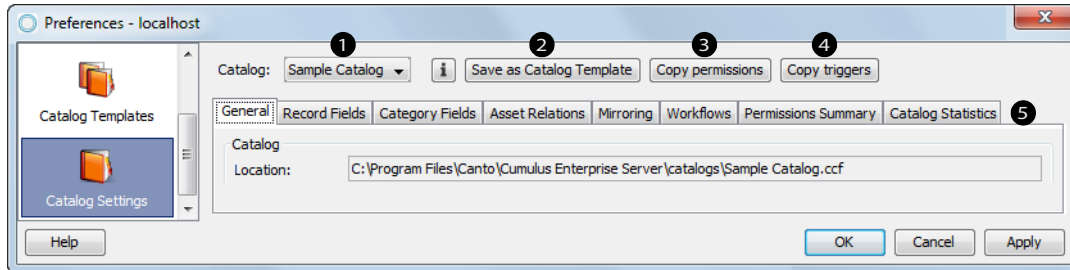
1   The catalog whose settings are currently displayed. You can select any catalog available to you.
2   Button to save the settings of the current catalog as a catalog template.
3   Button to copy the permissions settings from a different catalog to the current one.
4   Button to copy the trigger settings from a different catalog to the current one.

NOTE: *Copying permissions or triggers from a different catalog overwrites the respective setting of the current catalog!*

5   Row of tabs for different option groups (details see below).

General Tab

Catalog

1 Catalog file name and path (not editable).

2 Catalog name. Defaults to file name, can be changed. (*See "Renaming Catalogs"*, for details. Note that catalogs cannot be renamed while set to use the Cumulus Vault in ***Always and Exclusive*** mode.)

3 Displays the catalog format

4 Displays the catalog size (actual size/maximum size).

5   If activated, the name of a new category must differ from any existing category name.

6   If activated, journaling is employed for the catalog. (*See "Journaling Catalogs"*)

> **IMPORTANT!** *Do not employ journaling and mirroring for the same catalog! Use one of these mechanisms depending on how the catalog is used.: (See "Securing Catalogs", for more information.)*

Sharing

7   If activated, the catalog is available to Cumulus Clients.

8   If activated, the catalog is available via the Web, e.g. for the Cumulus Web Client.

IMPORTANT! *The* Allow Web Access *option does not affect the availability of catalogs for applications based on the Cumulus Integration Platform(CIP), such as Cumulus Portals!*

Copy Asset to Central Location

9   *If activated, a Central Asset Location (i.e. a dedicated storage space) is used for newly cataloged assets, according to the selected mode. (If not activated, cataloged assets remain wherever they are stored.)*

10   *Displays the selected Asset Storage Module and location*

11   *Opens a dialog for selecting the Asset Storage Module and the location.*

12   *Opens a menu for selecting how asset are copied to the Central Asset Location.*
     *– **As Set in Asset Handling Set** – the Asset Handling Set employed for cataloging decides whether assets are copied to the selected Central Asset Location, or not.*
     *– **Always** – Assets are always copied to the selected Central Asset Location, regardless of the Asset Handling Set settings.*
     *– **Always and Exclusive** – Assets are always copied to Vault and their asset storage location is Vault exclusively. (This option is available only if Vault is selected as Central Asset Location.)*

NOTE: Duplicates control with Central Asset Location!

For controlling duplicates with Central Asset Location activated, the record fields Original Asset Identifier, Original Asset Name and Original Asset Reference are required. You have to add these fields to catalogs with Central Asset Location activated if you also want duplicates control.

Record Fields Tab and Category Fields Tab

1 Field name.

2 Field type.

3 Overview on how the field is used for sorting and searching.

4 Overview on whether the user may edit the content of the field. Checkboxes can be activated/deactivated directly.

5 Overview on whether a field is a mandatory field, or whether the field value is checked by a validator. Checkboxes are for display only!

6 Overview on the value mode

7 Opens a menu for selecting the columns to be displayed on this tab.

8 Opens a dialog for defining common properties that apply to all fields in general, e. g. for enabling subscriptions, and configuring the Solr integration. (Record Fields tab only.) For details, see Enabling Subscriptions and Apache Solr integration

9 Opens dialog for defining field properties. For details, see Overview: Field Properties.

NOTE: Catalog Name, Record ID and Category ID are so-called virtual fields. These fields are meant to be used for display and processing purposes only. Therefore you cannot define their properties.

10 Opens dialog for selecting a field to be added.

11 Removes the selected field from the list.

Enabling Subscriptions

Enabling subscriptions in a catalog allows users of the Cumulus Web Client to sub-scribe to individual files in order to get notified each time the metadata of these files are modified. You can administrate which metadata fields are taken into account for notifications.

To enable subscriptions for a catalog:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select Cumulus / Edit > **Preferences**.
3. Click **Catalog Settings**.

   The **Catalog Settings** window is displayed. If the active collection window con-tains more than one catalog, select the catalog you want to edit under **Catalogs**.
4. Click **Record Fields**.
5. Click **Common Properties**.
6. In the **Common Properties** window, select the **Subscriptions** tab and activate the **Enable Subscriptions** option.
7. Additionally, select the metadata fields that are to be taken into account.
   It is strongly recommended to restrict the metadata fields that are taken into account to such fields that are relevant to users or to tasks they have to perform.

   NOTE: Cumulus can not create notifications for changed table fields. Therefore, do not select table fields!

8. Click **OK** to close the **Common Properties** window. This brings you back to the fields list.

NOTE: Web Client only

Files can only be subscribed employing the Web Client. The Desktop Client does not provide this function.

Apache Solr integration

Cumulus indexes the content of string fields for faster searching. However, indexing string fields with lots of data (e.g. the Document text field) and also searching in such indexes can be very time- and resources-consuming. With the (optional) Extended Search Indexing feature, an external indexing and search service, Apache Solr, can be integrated into Cumulus. Solr adds the power of distributed servers to Cumulus, thus making indexing and searching of Cumulus content scalable and, consequently, increasing the overall performance.

To use Solr, the following prerequisites must be met:

- Catalogs on which Solr shall be used must be migrated to the Cumulus 11 catalog format.
- A valid Solr license must be available.
- A Solr installation must be set up and accessible within the network. If you need assistance, contact Canto Professional Services.

To enable Solr integration for a catalog:

1. Make sure the collection window containing the catalog is the active window in Cumulus.

2. Select Cumulus / Edit > **Preferences**.

3. Click **Catalog Settings**.

   The **Catalog Settings** window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **Record Fields**.

5. Click **Common Properties**.

6. In the **Common Properties** window, select the **Apache Solr Integration** tab

7. Activate the **Enable Solr Integration** option.

8. In the **Base URL ...** field, enter the URL obtained by Solr.

9. Click **OK** to close the **Common Properties** window. This brings you back to the fields list.

Usage of the Solr index can now be activated for each string field individually via its Properties.

NOTE: Solr integration for table fields
To use of the Solr index for string fields inside of tables, you must enable the Solr integration for each table separately, with an individual base URL for each table!

NOTE: Mirroring and backup of catalogs employing Solr index
Mirroring: When mirroring a catalog that uses the Solr index, the mirrored catalog uses the same Solr instance as the original catalog. When using the mirrored catalog, it might be possible that the Solr indexes need to be rebuilt.
Using a Backup: All Solr indexes need to be rebuilt.

Asset Relations Tab

*Shows the types of asset relations available for the catalog. The asset relation types **Contained** and **Referenced** are available by default in any catalog and can not be removed. These relations are detected and set automatically. The relation types **Alternates** and **Variants** are also available by default in any catalog but can be removed. In addition to these types you can add asset relations types of your own – so called custom relations. (For more information on how Cumulus deals with asset relations see* Managing Related Assets*.)*

1 Order number. Can be changed. (See 10)

2 Name of the relation type

3 Description of the relation type.

4 Opens a dialog to localize the name and description of the selected relation type. (For details see Localizing Relation Types.)

5 Opens the Properties dialog for the selected relation type. (For details see Properties of a Relation Type.)

6 Opens a dialog to add a relation type that already exists in an other catalog or catalog template managed by your Cumulus Server.

7   Opens a dialog to add a new custom relation type. (For details about the properties set, see *Properties of a Relation Type*.) TIP: With Web Client, a custom icon can be displayed for a custom relation. For details see *Custom Icons* and watch the video tutorial *Configuring Asset Relations*.)

8   Removes the relation type from the current catalog. Already set relations will be kept but the relation type cannot be assigned any longer.)

9   Opens a menu for selecting the columns to be displayed on this tab.

10   These buttons change the selected entry's position in the list.

See how creating a custom relation type works …

and how a custom icon is set for the Web Client
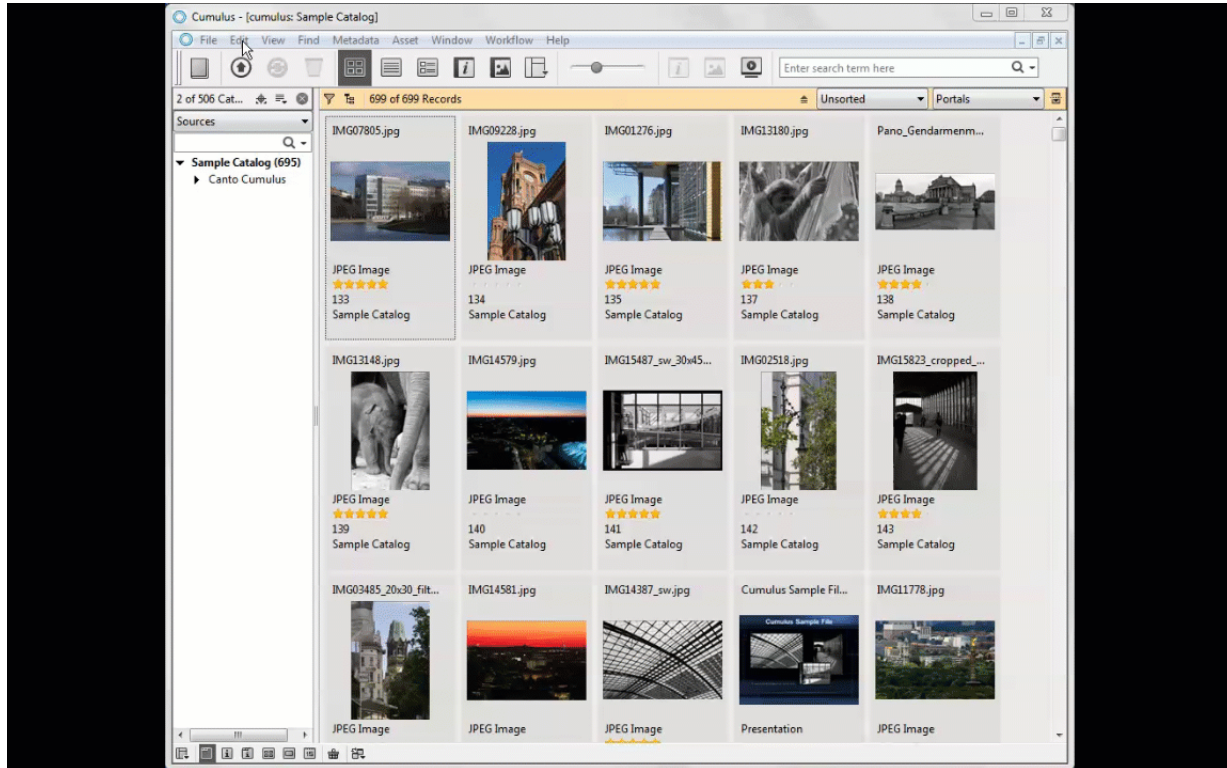
Mirroring Tab

IMPORTANT! *Do not employ journaling and mirroring for the same catalog! Use one of the mechanisms depending on how the catalog is used.: (See "Securing Catalogs", for more information.)*

1 Activates mirroring for the catalog. (See "Setting up a Catalog for Mirroring")

2 Selects the database system used for mirroring the catalog.

3 Defines the actual database used for mirroring the catalog. The displayed fields depend on the on the selected database system.

4   Displays information on the actual mirroring process.

For more information on mirroring, see "Database Mirroring" .

Workflows Tab

Shows all workflows applied to the catalog. You can add new workflows that are stored at the Cumulus Server, remove existing workflows or update them, if their definition has been modified with the Workflow Manager at the Cumulus Web Server Console.

Applying a workflow to a catalog copies the respective settings to the catalog. For each workflow, 3 fields are added to the catalog:

1 ***<workflow name> - Workflow Activities***
2 ***<workflow name> - Workflow Assignments*** *and*
3 ***<workflow name> - Workflow State****.*

As soon as a workflow is assigned to a catalog, it is available to Cumulus users.

NOTE: Updating Workflows

Workflows that are applied to a catalog reside there independent of the original definition stored in the Workflow Manager at the Cumulus Server. Thus, editing a given workflow definition in the Workflow Manager does not affect the actual workflow in a catalog. To make modifications to a workflow effective, you must explicitly update the workflow assigned to the catalog to the new definition.

1 Indicates whether a workflow definition is still up-to-date, or whether there is a newer version available at the Cumulus Server.
2 Name of the Workflow.
3 Date when this workflow version was defined first.
4 Date when this workflow was last modified with the Workflow Manager at the Cumulus Web Server Console.
5 Updates the selected workflow. This button is only active if the workflow definition has been updated at the Cumulus Server.
6 Opens a dialog for selecting workflow definitions stored at the Cumulus Server and applying them to the catalog.
7 Removes the selected workflow from the catalog. This also deletes the respective fields from the catalog.

Permissions Summary Tab

Shows what permissions each user or role has for the catalog.

NOTE: *You can only view the information, for editing you have to employ the User Manager of the Server Console.*

1 List of users (and roles, if Cumulus runs in role mode) the permissions of whom are to be displayed. Initially, no user is displayed in this list. However, available roles are always displayed.

2   Opens a window to search for users and add them to the list.

3   Displays the permissions the above selected user/role has for the catalog.

4   Displays the sets, actions, queries, and templates available for the above selected user/role with that catalog.

Employing a Central Asset Location

A Central Asset Location is a single storage location used to store specific digital assets. Employing a Central Asset Location ensures your assets remain accessible to all, and can more easily be accounted for. Cumulus lets you choose between different types of Central Asset Locations:

- *File System* – Any standard file system location can be used as a Central Asset Location. The most common example is a network file server. This type is supported by the Asset Storage Modules for the operating systems.

- *Internet (FTP) Servers* – If you need to keep files accessible from an Internet FTP server, you can choose an FTP server as Central Asset Location. This option is less popular for works-in-progress because of performance and other limitations associated with this type of server access; but when archiving assets, this option can be ideal. This type is supported by the URL AssetStore.

- *Cumulus Vault* – This type provides asset check in/out and version control services not available with the other two types. The file system on the Vault Server machine physically stores the assets kept in the Vault, but Cumulus Vault controls access to the files, which enables it to offer these advanced services not available when using the file system directly. This type is supported by the Vault AssetStore.

- *Amazon S3* – If you want to employ a cloud service, you can choose an Amazon Simple Storage Service (Amazon S3) bucket as Central Asset Location. You need an Amazon Web Services account and must be signed up for Amazon S3. Amazon's CloudFront can be employed for best possible performance as well. This type of Central Asset Location is supported by the Amazon S3 AssetStore (optional) that provides versioning.

A Central Asset Location is chosen as a catalog property setting. Each catalog can have its own Central Asset Location. What the best choice is depends on how the catalog is used.

PRECONDITIONS: To set up a Central Asset Location for a catalog, you must have the appropriate Administrator permissions (**Permissions > Administrator Permissions > Modify Central Asset Location** (option for the Modify Catalog Settings permission.)

To configure a catalog to employ a Central Asset Location:

1. Make sure the collection window containing the catalog is the active window in Cumulus.

2. Select **Cumulus** / **Edit > Preferences**.

3. Click **Catalog Settings**.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **General**.

5. Under Copy Assets to Central Location, enable **Use Central Asset Location**.

   The next step is to choose where to store the copies and which Asset Storage module you want to use.

6. Click **Browse**. The Choose an Asset Storage Module dialog opens.

7. Select the desired module and click **OK**. The next steps depend on the selected module:

   • Selecting the **URL AssetStore** opens a dialog for entering a URL.
   Enter a valid URL of an existing FTP directory and click **OK**.

- Selecting a **File System AssetStore** opens a dialog to select a folder. Browse for the folder you want the asset to be stored in and then click **OK**. A further dialog appears offering options for the automatic creation of subfolders:

  None: All cataloged assets are stored in the same folder

  By Date: Subfolders are created on a daily basis. Assets cataloged on the same day are stored in the same folder. If two or more assets have identical file names, a unique identifier will be added to the file name.

  By Unique Identifier: Every cataloged Asset gets it's own folder and unique path where it is stored within the Central Asset Location.

  Select the desired option and click **OK**.

- Selecting the **Vault AssetStore** opens the **Select Remote Module** dialog. Select the computer running the file system or the Vault Server from the **Computer** field. Your next step is to decide whether you want the assets to be stored directly in the folder of the Vault Server or in a subfolder nested in the Vault Server folder. Such a subfolder is called a Vault Folder.

  Select the desired option. If you decided on **Use Vault Server Directly**, your next step is to click **OK**.
  If you decided on **Use Vault Folder**, the list for selecting this folder is activated. Then your next step is to select the Vault Folder you want the asset to be stored in and click **OK**.

  NOTE: If a catalog is set as exclusive for a Vault Folder this folder cannot be used as a central asset storage location for any other catalog. If you want a catalog to be set as exclusive, you have to create a new Vault Folder for it.

- Selecting the **Amazon S3 AssetStore** opens a dialog to define the Amazon S3 location where the assets should be stored.

Select the credential used to authenticate and authorize calls that Cumulus makes to Amazon Web Services (AWS). You can also add a new credential by clicking the ⬚ button to the right of the Credentials field. This opens the list of available credentials which allows you to add or edit credentials. (For a description on how a credential is defined, see "Amazon S3 AssetStore (optional)" .) Define the bucket to store the assets. Either select it from the drop-down-list or enter the name. The listed buckets depend on your Amazon account permissions.

Click **OK** to save the chosen location.

8. Select the mode for copying assets to the central asset storage location chosen above. The mode determines when the Central Asset Location is used:

   • **As Set in Asset Handling Set** – the Asset Handling Set employed for cataloging decides if assets are copied to the selected Central Location.

   • **Always** – Assets are always copied to the selected Central Location, regardless of the Asset Handling Set used.

   • **Always and Exclusive** (available with Vault AssetStore only) – Assets are always copied to Vault and their asset storage location is exclusively Vault.

9. Click **Apply** to save your changes and select the next catalog you want to set up for a Central Asset Location.
   OR
   Click **OK** to save your changes and close the Preferences window.

When users catalog assets to this catalog from now on, the asset can be copied or will be copied to the selected Central Asset Location.

NOTE: Central Asset Locations and Asset Handling Sets

Every Asset Handling Set that is to be used with a Central Asset Location (for cataloging or access), must be configured with the Central Asset Location's corresponding asset storage module activated. So, activate the Mac OS and Windows AssetStore modules for file system locations, the URL AssetStore for FTP locations and the Vault AssetStore for Vault locations.

Copy Triggers and Permissions between Catalogs

Having spent time and effort to fine tune user/role permissions settings and catalog triggers for a specific catalog, you may want to reuse these settings in other catalogs, too. To do so, you just have to copy them from one catalog to another.

PRECONDITIONS: To copy permissions and triggers from one catalog to another, you must have the View Catalog Settings permissions (in order to see the Catalog Settings tab in the Preferences window), as well as the following permissions: Modify Catalog Category Permissions, and Manage Catalog Triggers.

To copy permissions or triggers between catalogs:

1. Open both the source catalog and the target catalog in the same collection window.
2. Select **Preferences > Catalog Settings**.
3. From the **Catalogs** drop down list, select the target catalog.
4. Click **Copy permissions** or **Copy triggers**.
5. Select the source catalog (the catalog the permission/triggers of which you want to copy), then click **OK**.

The trigger/ permissions settings are copied from the source catalog to the target catalog.

NOTE: Caution! The settings in the target catalog will be completely overwritten with the settings from the source catalog!

Administering Catalog Fields

Catalogs fields is where the information is stored. The tasks of a Catalog Administrator include:

- Customizing Field Properties
- Defining Field Formulas
- Administering Field Linking
- Adding Fields
- Creating a Custom Field
- Editing a String List Field

Customizing Field Properties

The properties of a catalog field can be extensively customized. You can define:

- whether the field can be edited
- whether the field values should be based on formulas
- whether the visibility of the field is restricted, and to which users or roles
- whether and how the field is indexed for sorting and searching
- whether and how the record field is linked with the asset and its metadata fields
- and whether string fields support multiple languages

To access the properties of a record field:

1. Make sure the collection window containing the catalog is the active window in Cumulus.

2. Select Cumulus / Edit > **Preferences**.

3. Click **Catalog Settings**.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **Record Fields** or **Category Fields**. This displays a list of the current record or category fields included in the catalog.

5. Select the entry for the field whose properties you want to change.

6. Check the **Sorting**, **Contain Search** and **User Editable** options for the field and activate the desired options. (See "Record Fields Tab and Category Fields Tab", for all available options.)

7. Click the **Properties** button. This brings up a dialog in which you can set the properties for the field. The properties depend on the field type. (See "Overview: Field Properties", for all available options.)

8. Define the properties as you want them.

9. Click **OK** to close the Field Properties window. This brings you back to the fields list.

TIP: Editing Field Properties of Multiple Record Fields At Once

Certain field properties can be activated or deactivated for multiple fields at once. On the record fields list, select the fields and use the alternate (right) mouse button to open a context menu. The menu options match the field properties you can (de)activate for multiple fields at once.
Selecting a menu item opens a submenu that offers **Enable** and **Disable** options. Select the desired option and the field property will be enabled/disabled for your selection of fields. If your selection of fields includes a field type that does not have the selected property, this field will just be ignored.

Editing Language-Specific Field Names

The names of fields as they are shown in the user interface (also known as display names) may be translated to different languages, in order to have them displayed in the language of the application or the preferred language, respectively. The names of the fields provided by Canto are already translated in several languages.

To edit language-specific names of a field:

1. Open the **Properties** window of the field which display names you want to edit.
2. Click the ⌗ button to the right of the **Field Name** field.
   The **Name Editor** window appears.
3. Edit the Name fields for any desired language. Optionally, add a description in the respective language.

If a description exists, an info icon is displayed next to the name of the field in Info View, Info Window and Info Pane. Hovering the cursor over this icon will reveal the description in a tool tip.

4. Click **OK.**

   The language-specific field names are changed accordingly.

5. If you are editing names of a multilingual field, you will additionally be asked whether you want to apply your changes to all additional languages. It is strongly recommended to do so in order to keep the names of the multilingual fields consistent in all languages.

6. Click **Yes** to apply your changes to all languages.

Example: The following table shows the display names of the multilingual field **Headline** as used in the user interfaces (UIs) of different languages. In addition to the field in the base language, multi language fields comprehend one extra field for each language enabled. To view or edit the content of these field, they must be added to View Sets, either individually or in any desired combination.

The base language of the field in this example is English; it is set to support two additional languages (German, French).

	English Field	German Field	French Field
Display Name in the English UI	Headline	Headline (German)	Headline (French)
Display Name in the German UI	Überschrift (Englisch)	Überschrift	Überschrift (Französisch)

	English Field	**German Field**	**French Field**
Display Name in the French UI	Titre (Anglais)	Titre (Allemand)	Titre

NOTE: To quickly remove a language-specific name of a field and replace it with the technical name of the field, just select the languages you want to change and click **Reset Name**, or select **Reset Name** from the shortcut menu.

Defining Field Values

The values of fields can either be defined by the user, or can be based on formulas. If defined by the user, a field can have an initial value and you can allow users to edit it or even force them to edit it (mandatory fields).

Initial Value for Fields

To add a default text to a field (e.g. the Notes field) of all newly cataloged assets in a certain catalog, you must enable the option **Initial Value** for the field and enter the desired default. If the asset's metadata already contain a value for this field, the initial value will be ignored.

With a string list field, select an initial value from the list of predefined terms that is displayed when you click the ⊡ button next to the field.

The default value of a boolean field is "no value". Activating the **Use initial value** option sets the initial value to "not activated", additionally activating the **Active** option sets the initial value to "activated".

NOTE: Changing the settings for the initial value only takes effect on records created after the change. Existing records are remain unchanged!.

Mandatory Fields

If the **Mandatory Field** option is activated for a field, the field must be filled with metadata when the metadata are edited. If windows or views which allow the editing of metadata contain empty mandatory fields, these fields are marked with a special icon and a validator pane is displayed at the bottom of the Information Window or Information View. Changes to the metadata can only be saved if all required fields are filled in.

The **Mandatory Field** option is available for the following field types: Data Size, Date, Date Only, Integer, Label, Length, Long, Rating, Real, Resolution, String, String List, Time Only.

NOTE: With automatic cataloging the mandatory option attribute is not considered valid but as soon as a user edits any metadata of a record that includes an empty mandatory field and is going to save the changes, a message reminds him/her when the record is saved.

Table Fields

Table fields are special field type that can include other metadata fields. The properties of Table fields differ from other field types.

This field type serves as the basis for the statistics and commenting available in Cumulus, and can serve as the foundation for new capabilities. For more information on Table fields, contact Canto.

Overview: Field Properties

The Field Properties window reflects the field type. Most properties are the same for all field types, but certain field types, e.g. Audio fields, cannot be used for indexing, and an initial value would not make sense. That's why the properties dialog for such field type does not provide these settings.

General Tab
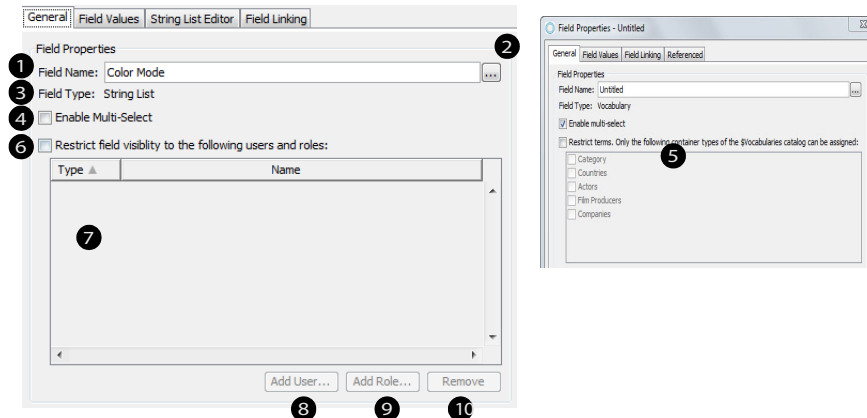
Field Properties

1   **Field Name**. *Name of the field. Can be edited.*

2   *Opens the Field Name Editor to enter/edit the display names and, if desired, descriptions of the fields in other languages. Language-specific names will be displayed according to the*

selected application language. The according field description will be displayed as the field's tool tip in the information window, information view and information pane. Useful in multilingual environments. (See "Editing Language-Specific Field Names")

3 **Field Type** (display only)

4 **Enable Multi Select** (with String List Fields and Vocabulary Fields only)

- *String List Fields: If activated, the users can select multiple values for this field in the Info View or the Information window.*
- *Vocabulary Fields: If activated, the field can contain multiple values (terms).*

NOTE: *Whether this option is activated or not influences the available indexing options. If activated, the field can be indexed for contain-searching but not for sorting.*

5 **Restrict terms ...** (with Vocabulary Fields only)
   The container types available in the special $Vocabularies catalog are displayed. Select the container type(s) to serve this field. (See Configuring Controlled Vocabulary for details.)

6 **Restrict field visibility ...**
   If activated, the visibility of the field is restricted to the users (and roles, if Cumulus runs in role mode) specified here.

   *Click the appropriate button, **Add User** or **Add Role** (note that the Add User button is available only if you have the Browse for Users permission), to open a corresponding dialog. For adding users, you can search for available users. The possible search criteria depend on the authentication method (see above).*

   NOTE: *Field visibility can not be restricted for users or roles with the "Modify Catalog Settings" permission. Such users/roles always can see all fields.*

7 *List of the users /roles which are allowed to see the field.*

8 **Add User** – *Opens a dialog to search for users and add them to the list.*

9 **Add Role** – *Opens a dialog to select roles and add them to the list.*

10 **Remove** – *Removes selected users/roles from the list.*

Indexing

The options available depend on the field type.

11 **Index for sorting/searching** – *If activated, the field can be used for sorting and searching. (Equivalent to the Sort/Search check box in the Field List column.)*

12 *Sorting of records can be set to respect the rules of the language of the Cumulus Client (application language). For any language activated here, a specific sorting index is created that will be used for sorting, if the Client runs is this language. This applies to fields without multiple language support. For Fields that have multiple language support enabled, refer to no. 18!*

13 **Index for contain-searching** – *If activated, the field can be used for searching by means of the operators "contain" or "doesn't contain." (Equivalent to the Contain-Search check box in the Field List column.)*

14 **Favor speed over size** – *If activated, searching the contents of String fields can be accelerated up significantly. Use this option with care because it enlarges the catalog size. The optimization of the search index requires more memory in the catalog and therefore activating this option is only recommended for fields with little data content.*

15 **Use segmented index** – *If activated, the indexing process can be accelerated significantly.*

NOTE: *Activating the* **Use segmented index** *option only takes effect with fields containing large amounts of text (e.g., Document Text), and with a Cumulus Server running on a machine with several CPUs.*

16 **Use Solr index –** *if activated, indexing (and searching) of the field is performed by an external service, Solr. – This is recommended only for string fields with extensive content in large catalogs, and works only if Solr integration is properly configured and enabled via the* **Common Properties**).

17 **Index for word-searching** – *If activated, Cumulus provides an additional search function for the Find window, the Advanced Find window, and for Quicksearch. You can search for whole words, not just for matching strings. Enclose the word you are searching for in single quotation marks and Cumulus will only find the records that contain the exact word.*
For example, searching for **copy** *will always find records containing the words* **copy** *as well as* **copyright**, **copyhold**, **copyfree** *and so on. If* **Index for word-searching** *is activated, searching for* **'copy'** *will find records containing the word* **copy** *only*

18 *Only when multiple language support is enabled: If activated, Cumulus provides language-specific sorting of records for all languages enabled under the Languages tab.*

Additional Options for Record Fields

19 *Field will be included in the Record pane's drop-down list for sorting.*
20 *Field will be offered as search criterion in the drop-down lists of Find windows and filter definitions.*

Additional Options for Category Fields

Additional Options
21 ☑ Include field in find options
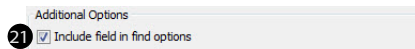
21 *Field will be offered as search criterion in the drop-down lists of Find windows.*

Field Values Tab

Field values can either be defined by the user, or they can be based on formulas. On this tab, you can define the value mode for each field and the respective properties.
A *Drop-down list to toggle the **Field Value Mode** between **User generated field values** and **Formula based field values**.*

User Generated Field Values

Which properties are actually available depends on the field type.

1 **Use initial value** – If activated, the field will be filled with an initial value (as defined here). (*See "Initial Value for Fields"*, for details.)

2 **Allow user to edit** – If activated, users are allowed to edit the field contents. (Equivalent to the User Editable check box in the Field List column.)

3 **Mandatory field** – If activated, the field must be filled with a value when metadata are edited. In the Information window or view, empty mandatory fields are marked with a special icon and a validator pane is displayed. Changed metadata can only be saved if all required fields are filled in. (For details, *see "Mandatory Fields"*.).

4   **Restrict to specific values** – If activated, the content of the field must match certain criteria, depending on the type of the field; either a defined regular expression (string fields), or specific values (fields that contain numbers and dates).

5   **Customize** – Opens a dialog to specify a regular expression (string fields) or specific values (fields that contain numbers and dates) to be used as validators for the field content.

6   **Restrict edit to the following Users and Roles** – With Cumulus Enterprise or permissions add-on products only:

The **Allow User to Edit** property is enhanced by the option to restrict editing to specified users and roles only. If the **Restrict Edit** option is activated, you must add those users to the list you want to permit editing the field. Click the appropriate button (**Add User** or **Add Role**. Note that the Add User button is available only if you have the Browse for Users permission.) These buttons open a corresponding dialog. For adding users, you can search for available users.

The possible search criteria depend on the authentication method (see above). Default search criteria is the login name. Enter the search value (a string) and click the **Find** button. The result of this search is listed below. Select the user(s) you want and click **OK**. The users are added. When adding roles, Cumulus will list the available roles. Select the role(s) you want and click **OK**. The roles are added.

Formula Based Field Values

1 Edit field to compose the formula that defines the field value.

2 If activated, you can define the fields that will trigger an update of the formula field if their values had changed. Thus you can make the value of a formula field dependent of other values.

3 Displays the field(s) or subtable entries of fields on which the value update of the formula field depends.

4 Decide what happens if a formula error occurs:

5 The value is left untouched.

6 The value is cleared.

7 A fallback string value you define is used.

For details on how to compose formulas, see "Defining Field Formulas" .

String List Editor Tab

This tab is provided for String List fields only. See "Editing a String List Field", for details.

Languages Tab (String Fields only!)

Multiple Languages

The contents of string fields may be kept in more than one language. This is especially useful in multilingual environments, e.g. to provide image captions in several languages.

For each additional language, a new field is introduced to the catalog. However, these fields are not visible in the Record Fields tab or the Category Fields tab of the preferences dialog, but only from within the properties of the base field.

Language-specific fields may be selected for display in Record View Sets, e.g. to provide different view sets for different languages, or to display information in different languages simultaneously.

*If multiple languages are enabled, Cumulus can be configured to display the field contents in the application language of the user interface (as defined via **File > Administration > Switch Application Language**), or in a specific language. If no language field corresponding to the specified language can be found, the base language of the field is used instead.*
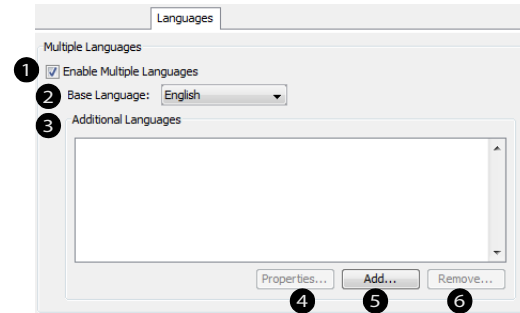
1 If activated, the content of the field may be kept in more than one language.

2 Displays and allows to specify the base language. This is the language where already existing content will be kept once the field has been enabled for multiple languages and to which extracted metadata will be added while cataloging. And the base language is used as fall back, e.g. if a specified language cannot be found.

3   Displays all specified languages for which sub-fields are introduced.

4   Opens a dialog for defining properties for the selected language-specific sub-field.

5   Opens a dialog to select one or more additional languages for which a sub-field is intro-
     duced.

6   Removes selected languages from the list, and sub-fields from the catalog.

TIP: *You may easily check which fields are configured for multiple language support. Just
have the* **Multilingual** *column displayed on the Record Fields tab or the Category Fields
tab (see "Record Fields Tab and Category Fields Tab"). Multilingual fields show an acti-
vated checkbox.*

Field Linking Tab

Linking

1 When cataloging assets, the selected record field will be filled automatically. (Read One: only the first matching field will be used).

2 When updating records, the selected record field will be filled automatically. (Read One: only the first matching field will be used).

NOTE: *Do not activate this option if you want to keep the additional information you have entered.*

3 Before updating records, existing values will be removed from the selected record field. Allows to refresh the field's contents from new asset values, without accumulating unnecessary metadata in the field.

4   Any changes in field contents will be written back to the asset, if the file format and the filter for the asset format support this function and if **Always** or **Silently** is enabled under Writing Metadata to Assets in the Asset Handling Set used.

NOTE: *In order to write back IPTC information edited in Cumulus, this option must be activated for IPTC fields.*

Link Matching Fields

5   *List of fields with the same GUID (globally unique identifier) or name and type that can fill data into the record field. If activated the asset field will fill the record field.*

6   *Activates/deactivates the selected field for matching.*

7   *If a new Filter module provides any matching fields, these fields will be added and activated automatically.*

Also Link Following Fields

8   *List of fields that are also linked. Use the Add/Remove buttons to add/remove fields to/from this list.*

9   *Opens a dialog to select the field to be added.*

10 *Removes the selected field from the list.*

Referenced Tab
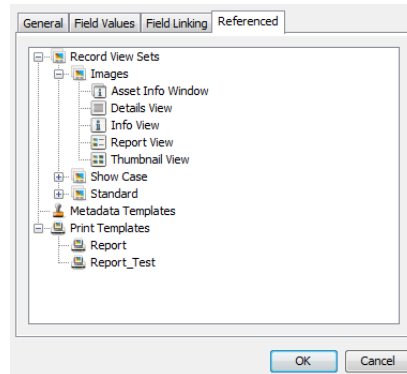
Provides an overview of the View Sets (and their views and windows), Metadata Templates and Print Templates that bear a reference to the field in order to display or use it.

A reference to the field may be removed from or added to any of these items via a shortcut menu.

Defining Field Formulas

Cumulus field values can be determined by formulas that are authored as part of a field's properties. A formula can be as simple as the concatenation of two field values into a single string, or as complex as if-then decision making.

Formulas can be assigned to record and category fields. Values for existing records and categories are calculated (or recalculated) when the record or category's metadata is saved after an edit. Formulas are executed during cataloging operations for newly created asset records and categories.

Field formulas offer many significant benefits:

Metadata display versatility

Used in conjunction with "display only" metadata fields you add to your catalogs, field formulas enable you to provide users with data displays formatted in more meaningful ways.

Example: A video's Duration field might contain the value "25.566." Even when displayed using the field's label, the user sees "Duration: 25.566," which could be more clear. A simple field formula can round that value and display it with adjacent strings that tell a more complete story: "Length: 26 seconds."

Another usage example would be to combine the values of the fields *Horizontal Pixels, Vertical Pixels* and the appropriate resolution field to provide a single line of commonly used information:

"2400 x 1200 @ 300 DPI"

This single formula, applied to the properties of a string field you add to your catalog, saves you a full 5 lines of vertical space in your thumbnail display. The added string field ensures that each field's original value remains intact.

Calculations

Field values can be calculated to provide useful, searchable metadata values that would not otherwise exist in your catalogs without manual data entry. Example: say you have a field for *Cost Per Use*. Another field, *Times Used,* tracks how many times you've used the particular asset. A third field, *Total Cost of Use,* uses a simple multiplication formula to offer a sum of the total costs associated with the asset.

Workflow monitoring and guidance

Field formulas can combine the values of several status fields into one resulting field that can be used for Live Filtering, or as a trigger for Scheduler actions, or by the person in charge to decide on further actions.

Metadata Write-back Flexibility

The flexibility of the Cumulus architecture makes it possible (and easy) to use metadata taxonomies and field types that cannot be written back to assets because of the "string only" limitation of most metadata standards. You can circumvent this limitation in many cases by using formulas in conjunction with Cumulus's Field Linking. By adding special "metadata write back" fields to your catalogs, you can add formulas that concatenate the contents of several fields (or fields with data types incompatible with write-back operations, such as string lists) and "field link" them for write-back to your assets.

Generate printer-friendly reports

Setting up formula-filled fields that you use on print templates offers you a great way to output metadata in formats suitable for review by others. Formulas enable you to combine metadata fields that would otherwise be "report hostile," such as string lists, Booleans, and labels and ratings, into strings that fit nicely onto printed

pages. Formulas also enable you to manipulate metadata that you intend to export from Cumulus for use in other systems.

Syntax Overview

A field formula is an expression that returns a single value, which can be of type *number, real, boolean, string, date, date only* or *time only*. The constant value *null* can also be returned to represent an empty field value.

When applying operators on two values of different types, one or both values are converted into a compatible type. Example: ("Cumulus " + 7.5) results in the string "Cumulus 7.5" because 7.5 is converted to a string before the + operator is applied.

If an error occurs, the field's value is set according to settings you determine while authoring the formula. (See "Multiplying the Values of Two Catalog Fields," below, for details.) If no error occurs, the resulting value is automatically converted to match the field's type.

The arithmetic operators available are a subset of those available in programming languages such as C, Java, or JavaScript.

Function Reference

The Cumulus formula editor includes an in-line help reference that describes each function and how it can be used (see "In-line Help").

Additionally, a field formula syntax overview is provided as HTML page. This document assembles the most recent information on all functions, including the formal syntax. For a detailed description see Field Formula Syntax.

Formula Examples

The following formula examples rely on specific catalog fields. If using these formulas in your catalogs, make sure you substitute the same field names with fields from your own catalogs.

Adding Text Labels, Formatting Output and Rounding Numeric Values

Catalog field: *disp_Duration (String)*

```
"Length: " + String(fieldValue("Duration") , "%.1f")+ " seconds"
```

Duration field value: 3.467

Output: "Length: 3.5 seconds"

This formula takes the *real* value in the catalog's Duration field, rounds it to a single decimal place, and surrounds the resulting value with text strings.

The `"%.1f"` portion of this formula will be familiar to those who have worked with the `printf` function available in many programming languages. Cumulus supports the following `printf` formatting options:

Data Type	Supported	Example
String	s	%-20.20s
Integer	d, l, o, u, x, X	%d
Real	e, E, f, g, G	%5.2f

In addition, you may use the new line escape character "\n" within a string to force a line break where needed:

```
"Vertical: " + fieldvalue("Vertical Pixels") + "\n" +
"Horizontal: " + fieldvalue("Horizontal Pixels")
```

Multiplying the Values of Two Catalog Fields

Catalog field: *disp_Megapixels (String)*

```
fieldvalue("Horizontal Pixels") * fieldvalue("Vertical Pixels") /
(1024*1024) + " megapixels"
```

Horizontal Pixels field value: 3456

Vertical Pixels field value: 2304

Output: "7 megapixels"

This formula multiples the values of the Horizontal Pixel and Vertical Pixel fields, divides that value by 1,048,576 in order to get the number of megapixels in an image, and appends that value with a text string that describes the result.

If-then Decision Making

Catalog field: *disp_Orientation (String)*

```
(fieldvalue("Horizontal Pixel") == null || fieldvalue("Vertical Pixel") ==
null) ? "N/A" : ((fieldvalue("Horizontal Pixel") > fieldvalue("Vertical
Pixel")) ? "Landscape" : (fieldvalue("Horizontal Pixel") <
fieldvalue("Vertical Pixel") ? "Portrait" : "Square"))
```

Horizontal Pixels field value: 2400

Vertical Pixels field value: 1200

Output: "Landscape"

This formula compares values found in the Horizontal Pixel and Vertical Pixel fields. If the Horizontal Pixel value is larger, the image is determined to be "Landscape." If smaller, it's "Portrait." If the two values are the same, the image is "Square."

The Field Formula Editor

The field formula editor can be found on the **Field Values** tab of the Field Properties windows for record fields as well as for category fields. To open the field formula editor, select **Use Formula based field values** from the **Field Value Mode** drop-down list.

NOTE: Fields using formula based field values cannot be edited by users!

The Formula area is where you define your formulas.

Take advantage of the drop-down lists provided by the **Fields** and **Functions** buttons to save time and help you avoid syntax errors due to simple typos.

By default, the value of a formula field is newly calculated every time the record has changed, i.e. every time any field value has been changed. This not only can be very time consuming, but is completely unnecessary in may cases. Therefore, you can restrict the re-calculation of a formula field in such a way that it is only performed if specific fields or sub-table entries of a field have changed.

Use the **Add** button to select the field(s) on which you want the update of the formula field to depend. The **Auto Detect** button supports you by searching for all fields contained in the formula itself and adding them to the list.

NOTE: For technical reasons, the auto detect function can not be perfectly reliable. Make sure to check the results of the auto detection and correct them manually, if necessary.

Such dependencies of formula fields not only can speed up your system. Moreover, It makes it easy to determine the order in which fields are calculated. This is helpful e.g. if work flows are to be defined within Cumulus

Finally, choose your preferred option for error handling. An error occurs when for whatever reason your formula cannot be executed. Errors can include syntax issues in the formula itself, or problems evaluating field data used in the formula.

When you click **OK** the Field Properties window is closed, and your formula is saved and activated.

In-line Help

An in-line function and syntax reference is built into the formula editor. This feature provides a handy reference that will save you time and help you avoid syntax errors.

Three types of in-line help are available:

- Syntax reference – See an example of the syntax used with a function.
- Usage reference – See information about the purpose of a function, the value it returns, and a usage example.
- Autocompletion – See a menu list of functions whose names match characters you've typed.

To activate in-line help:

1. Click to place your cursor within the function's name in the formula editing field.
2. Type CTRL p (syntax reference) or CTRL q (usage reference). The usage reference help window that appears may be resized as needed.

   Both windows disappear when another key is pressed or the mouse is clicked in the Formula editing field itself. (Hint: Escape, Shift, CTRL or ALT are good keys to use to dismiss the window because they don't introduce any new characters into the Formula field.)

3. For function name autocomplete assistance, type the first few characters of a function's name and press CTRL-Spacebar to see a list of functions whose names match the characters you've typed.

Administering Field Linking

Some asset formats (e.g., JPEG) can store metadata. Cumulus can read, store and manage this metadata by linking it to record fields. The record fields are provided by the Cumulus application, the Asset Storage modules, Metadata modules, and the filters.

You can decide when the linking should happen (when cataloging assets and/or updating records), and whether changes to the metadata should be written back to the asset. Changed metadata can only be written back if this function is supported by the file format, the filter and Asset Storage module used for accessing the asset.

If the record field's type is String, you can also decide whether the linking applies to all or only the first matching asset field. If the **Read All** option is activated, the values of the linked fields are read consecutively. Under **Link Matching Fields**, all fields which "feed" the field are listed – fields that have the same GUID (Globally Unique Identifier) or name and type. If the **Read All** option is activated, Cumulus will fill the record field with the data from all activated modules. If a module is deactivated, its data are "ignored" by Cumulus.

NOTE: Field Linking Checks for Field Types
In addition to its own type, a field may be linked to certain other field types only.
– Integer fields accept: String, Boolean, Real
– Real fields accept: String, Boolean, Integer
– Boolean fields accept: String, Integer, Real
– Date fields accept: String
– String List fields accept: String
– String fields accept: Boolean (true, false), Integer, Real, Date, String List (exact string matching)
– Binary fields accept: Audio, Picture

Automatic Creation of Folder Categories

The fields linked to the Categories record field are responsible for the automatic creation of folder categories in a catalog. The master category below which such a folder category is created is defined in the **Category Target** column. You can change the default target by clicking into the field and selecting another master category.

If you don't want automatically created folder categories in a catalog, you have to deactivate the corresponding modules.

To avoid the automatic creation of folder categories you have to change the default linking of the **Categories** field:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select Cumulus / Edit > **Preferences**.
3. Click **Catalog Settings**.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.
4. Click **Record Fields**.
5. Select the field named **Categories** and click the **Properties** button.
6. Click **Field Linking**.
7. Select the module which to be deactivated (the one that should not create categories during the cataloging process. e.g. Windows or Mac OS File System Asset-Store).
8. Click **Deactivate**.

9. Click **OK**. This brings you back to the fields list.

10. Click **Apply** to save your changes. If you now catalog assets employing this module, no directory categories will be automatically created and assigned to the record.

Adding Fields

To store information in addition to, or different from the default settings, you can add fields to the catalog, either by activating them from the list of fields that Cumulus supports or by defining a custom field.

In any catalog, you can additionally update fields stemming from catalog templates. This is useful if the definition of a field in a template was changed, e. g. by adding more values to a string list. See Updating Fields With Modified Definitions From Catalog Templates.

To add a record or category field:

1. Make sure the collection window is the active window in Cumulus.
2. Select Cumulus / Edit > Preferences.
3. Click Catalog Settings.

   The Catalog Settings window is displayed. Select the catalog you want to edit under Catalogs.

4. Click Record Fields or Category Fields. This displays a list of the current record or category fields included in the catalog.
5. Click the Add Field button. This opens the Add Field dialog.

   This dialog displays all fields provides by Cumulus that can be added to the selected catalog, i.e. all fields that have not yet been added to it.

   NOTE: For fields stemming from Catalog Templates – and for such fields only! – you can decide whether to display the fields that have not yet been added to the

catalog, or all fields contained in the templates, by activating the **Show all fields from catalog templates** option.

The display of available fields is organized in two tabs, **Modules** and **Fields**.

- The **Modules** tab presents the fields sorted by their sources and provides the sections **Catalogs, Catalog Templates**, **Modules** and **Languages**.

  – **Catalogs** expands to a list of all available catalogs. Clicking the plus sign in front of a catalog's name displays all fields of that catalog that are not included in the catalog you want to edit. Either select the name of a catalog to add all contained fields, or select the individual fields you want to add.

  When a field from an existing catalog is added, all field-specific settings from the source catalog are preserved.

  NOTE: If the catalog that you are editing is listed itself, this catalog contains table fields (e.g. Asset Usage History). Table fields introduce a second level into the catalog, as they themselves contain fields. The fields contained in a table field can also be contained in the top level of the catalog, or in any other table field. At any level of the catalog – top level or table field level – all fields are listed which are contained in this catalog, but not in the current level.

  – **Catalog Templates** expands to a list of all available catalog templates. Clicking the plus sign in front of a catalog template's name displays either the fields of that catalog template that are not yet included in the selected catalog, OR all fields from that template, depending on the state of the **Show all fields from catalog templates** option. For adding fields, make sure the option is not activated. Either select the name of a catalog template to add all contained fields, or select the individual fields you want to add.

– **Modules** expands to a list of all Cumulus modules that provide fields. Clicking the plus sign in front of a module's name displays the fields supported by the respective module that are not included in the selected catalog. Either select the name of a module to add all fields supported by that module, or select the individual fields you want to add.

– **Languages** expands to a list of all languages configured for string field values. Clicking the plus sign in front of a language name displays the fields that support values in the respective language that are not included in the selected catalog. Either select the name of a language to add all respective fields, or select individual fields to be added.

Additionally, all language independent fields that are not included in the catalog are listed and can be added.

- The **Fields** tab displays a list of all the fields that are not yet included in the catalog. For fields stemming from catalog templates, it depends on the state of the **Show all fields from catalog templates** option whether all these fields are displayed, or just the fields that are not yet included in the catalog.

A third tab, the **Custom Field** tab, enables the definition of your own custom fields so you can store information in addition to fields that Cumulus supports. (For details, see Creating a Custom Field.)

6. Select the field(s) you want to add.

7. Click **OK**. This brings you back to the fields list.

8. Click **Apply** to save your changes.

If you want newly added fields to be shown in a view, you must customize the corresponding view set and add this fields.

TIP: Copying String List Fields From One Catalog to Another

Copying a string list field with predefined values from one catalog to an other catalog would result (correctly) in having identical fields (same GUID, same list of values) in each of the two catalogs. However, if you then change the values of that string list field in one of the catalogs, but not in the other one, you end up having two seemingly identical fields (same GUID) in 2 different catalogs, but which in fact are not identical, because they have different list values. This could yield unwanted results in certain circumstances, e.g when you add such a field to a metadata template. (For details see String List Fields with Different Values.)

Therefore, make it a rule to copy string list fields from one catalog to an other only if you really want to have identical fields. And if for any reason you must change the field list definitions later, make sure to modify them the same way in all catalogs that contain the field in question.

On the other hand, if you want to have similar fields (as opposed to identical fields), i.e. fields with more or less different string list values in different catalogs, don't copy a field from one catalog to an other, but rather create a new field in the second catalog, thus ensuring that each of the fields has its own GUID.

Even then you may end up having (different) fields with identical names in different catalogs, which is confusing enough. Try to avoid this annoyance by giving your fields names that are truly unique and descriptive for all concerned catalogs.

Updating Fields With Modified Definitions From Catalog Templates

The **Add Field** dialog can as well be used to update a catalog, or multiple catalogs, with modified field definitions derived from catalog templates. Especially if you want to update field definitions in multiple catalogs in a consistent way, it is strongly advised to first modify the field definitions in a catalog template, then import the modified field(s) from the template into the catalogs.

To update record or category fields from a catalog template:

1. Make sure the collection window is the active window in Cumulus.
2. Select **Cumulus** / **Edit > Preferences**.
3. Click **Catalog Settings**, then select the catalog you want to edit under **Catalogs**.
4. Select the **Record Fields** tab or the **Category Fields** tab.
5. Click **Add Field**. The **Add Field** dialog is displayed.
6. Make sure the **Show all fields from catalog templates** option is activated (checked).
7. Select the **Modules** tab and expand the **Catalog Templates** node and, if necessary, the respective template node(s).
8. Select the fields that you want to update, or select an entire template.
9. Click **OK**. You will be prompted to confirm the update of the catalog fields.
10. In the **Preferences** dialog, click **OK** or **Apply** to finally make the changes take effect.

Creating a Custom Field

To set up a catalog to store information in addition to fields that Cumulus supports, you can define your own custom fields.

NOTE: Same Custom Field for Multiple Catalogs
If you have created a custom field for one catalog, you can easily copy this field to another catalog. If multiple catalogs are opened in the same window, Cumulus will display the custom record fields of all these open catalogs in the list of the Fields tab. You can select a custom field of another catalog and add it to the current catalog. We recommend using this way of adding the same custom field to several catalogs, as only then will the field have the same GUID (Globally Unique Identifier) in different catalogs. And only when the GUID is the same, a custom field can be used for searching in different catalogs. Another advantage is that fields of the type String List already include the entries that have been made.

With a standard Workgroup Edition you can create custom record fields only. An Enterprise Edition or an corresponding add-on product enables you to create custom category fields, too.

To add a custom field:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select Cumulus / Edit > Preferences.
3. Click **Catalog Settings**.

The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **Record Fields** or **Category Fields**. This displays a list of the current record or category fields included in the catalog.

5. Click the **Add Field** button. This brings up a dialog in which you can add a new field.

6. Click the **Custom Field** tab.

7. Enter a name for the field and select the type of field.

8. Click **OK**. The new field is added to the list of fields included in the catalog.

9. Define the field properties.

   • In the list you can activate certain options
     – Sorting
     – Contain Search
     – User Editable: If this is not checked, the field contents cannot be modified.

   • In the Field Properties dialog you can define more options for the field. Select the field's entry in the list and click the **Properties** button. The options available from the Field Properties dialog depend on the field type. For details, see "Overview: Field Properties" .

10. Click **OK** to close the Field Properties window. This brings you back to the fields list.

11. Click **Apply** to save your changes.

If you want this field to be shown in a view, you have to customize the corresponding view set and add this field.

Editing a String List Field

To edit the entries of a String List field, the Field Properties dialog for the field must be displayed. The String List Editor tab lets you view and edit the terms of the selected String List.

Each term has an ID and can be stored in multiple languages. This is only important when working in a multilingual environment. If you want users who open the catalog with another language version of Cumulus to see the term in this language, you have to store the translation of this term. Depending on the language version of Cumulus, the term in the corresponding column will be displayed.

The String List Editor tab lets you edit an existing entry, add a new term or delete an existing term by using the corresponding buttons. Save any changes you make with the **OK** button of Field Properties window. They are valid as soon as you click the **Apply** button to save your Catalog Settings.

NOTE: When you edit a String List field that is contained in several catalogs, it is strongly recommended that you edit it in the same way in all containing catalogs. Otherwise you end up with seemingly identical fields (same GUID) in different catalogs, which in fact are not identical (different list values). This may yield unwanted results, e.g. when you try to add such a field to a metadata template. (For details see String List Fields with Different Values.)

To create a new term for a String List field:

1. Click **Add**.
2. Enter the new term in the dialog that appears and click **OK**.

The new term appears in each language field of the list.

If you are working in a multilingual environment, you can now double-click the field for a language and enter the translation for the term. A user will only have the terms of one language displayed. The language a user gets displayed initially depends on the language defined during the installation, but can be changed by the user anytime (see "Switch Application Language", for details).

To edit a term of a String List field

1. Select the entry for the term you wish to edit.
2. Double-click the term in the language you want to edit in and type the new term in the field.

   The term will be changed in all records that use it when you have saved the changes and closed the Properties window.

You can define the sorting of the terms of a String List field. You can select different sorting modes for a String List field:

- **Alphabetical** (default sorting mode)
  The terms of the String List field will be displayed sorted alphabetically according to the rules of the language of the application (e.g the Cumulus Client). This sorting mode is useful for e.g. keywords.

- **Content**
  The terms of the String List field will be displayed as sorted in this list – independent from the language defined for the user. This sorting mode is useful for e.g. sta-

tus descriptions. Use the arrow buttons to the right of the list to change the order of the entries.

- **Language Specific**
  This mode allows you to define different sort orders for different languages. This sorting mode is useful for e.g. country selection where depending on language, different countries should appear on top of the list.

The sorting mode displayed for the String List field in the Select Mode field is the active mode, once you click **OK** for the Field Properties dialog.

If you want to define a sorting mode other than alphabetical:

1. Select the Sorting Mode.

2. In case you decided on the Content sorting mode, use the arrow button on the right to define the order of the terms.

3. In case you decided on the Language Specific sorting mode, select a language and then use the arrow button on the right to define the display order of the terms of the selected language. Repeat this for each language.

You can delete an entry that you no longer need and replace it with another entry.

To delete an entry:

1. Select the entry you wish to delete.

2. Click **Remove**.

   Cumulus prompts you to assign a new entry to those records or categories and displays a list of terms (in the language that is defined for you as Cumulus user).

3. Select a replacement entry from the list and click **OK**. The new entry is assigned to all records previously associated with the deleted entry. This may take a while, depending on the number of records that require reassignment.

Administering Asset Relations

Asset relation types are catalog specific. Therefore they are administered via the Catalog Setting of the Preferences dialog. The Catalog Settings provide a Relations tab where you localize, edit, add, and remove asset relations types. (For details see Asset Relations Tab.)

Properties of a Relation Type

The properties of a relation type are:

- **Name** – Name of the relation type
- **Description** – Describes the relation type.
- **Label Master Asset** – Describes the relation from the master asset to its sub assets.
- **Label Sub Asset** – Describes the relation from a sub asset to its master asset.
- **Treat as master** – If activated, the sub assets will be displayed and can be searched for by Cumulus Web Client.
  Default: activated for the asset relation type **Referenced** only; not activated for all other relation types.
- **Restrict edit to the following users and roles** – If activated, the visibility of the field is restricted to the users (and roles, if your Cumulus runs in role mode) specified here.
  Click the appropriate button (**Add User** or **Add Role**. Note that the **Add User** button is available only if you have the Browse for Users permission.) These buttons open a corresponding dialog. For adding users, you can search for available users.

Localizing Relation Types

If you are working in a multi-language environment, you might want to translate the names and descriptions of asset relation types into other languages.

To translate a relation type's name and descriptions:

1. Make sure the collection window containing the catalog is the active window in Cumulus.

2. Select Cumulus / Edit > Preferences.

3. Click **Catalog Settings**.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **Relations**. This displays a list of the current relation types included in the catalog.

5. Select the relation type you want to localize.

6. Click **Localize**. This opens a list containing the languages supported by Cumulus.

7. On the entry of the language you want to localize, click on the field you want to translate and replace the default text with your translation.

8. Click **OK**. This brings you back to the relation type list.

9. Click **Apply** to save your changes.

Preparing Catalogs for Special Purposes

Cumulus catalogs can serve various purposes. For some special purposes catalogs require special preparations.

Optimizing Standard Metadata Format Support

Cumulus supports the standard metadata formats IPTC, EXIF and XMP. To prepare a catalog to support these standards Cumulus offers wizards. See "Prepare Catalog", for details.

Configuring Web Links

The Cumulus Client offers a function that enables users to get Web link URLs for selected records, their assets, thumbnails or previews (Asset > Configure Web Link URL.) The links will work only if your Cumulus installation includes Cumulus Portals or Sites and the catalogs containing the records are set to be accessible via the Web (Catalog Settings > General). The catalogs must:

* contain the following record fields (provided by the Cumulus application module):
  – Asset URL enabled (allows users to get links for the assets)
  – Preview URL enabled (allows users to get links for the previews)
  – Thumbnail URL enabled (allows users to get links for the thumbnails)
  Note that if a catalog does not contain one of the corresponding fields the respective links cannot be created by any user.

Also following prerequisites must be met:

* The function is available to users only if at least one Base URL for Web Access is defined in the Cumulus Server Settings (Server Console > Remote Admin> Settings). (See "Cumulus Server Settings" for details.)

- In order to be able to configure Web link URLs, a user must have permission to write metadata for the catalog containing the respective records.
  - If using the User Manager in advanced mode the following Application Permissions for records:
    – Modify Items
  - If using the User Manager in simple mode the following permissions:
    – Write Metadata

Configuring Controlled Vocabulary

Controlled vocabulary schemes provide a way to organize knowledge for subsequent retrieval. Any Cumulus catalog supports controlled vocabularies once a custom field of the type Vocabulary was added. This type of field only accepts predefined values (= vocabulary terms) as input.

Both record fields and category fields can be of the type vocabulary. Users can add vocabulary terms as metadata to records, but controlled vocabulary terms can also be used to build the categories in Cumulus catalogs, or to provide additional information on the categories.

The $Vocabularies Catalog

The predefined values that are needed for vocabulary fields – the vocabulary terms – are stored in a special catalog, $Vocabularies. This catalog has no records, but only categories. Each category of the $Vocabularies catalog represents a term of the vocabulary. Therefore, adding terms to or removing terms from the vocabulary is a matter of creating or deleting categories in the $Vocabularies catalog.

Cumulus categories have their own metadata. The metadata fields of a category in the $Vocabularies catalog can be used to store various additional information on a vocabulary term – a definition, information about the scope, or the terms that must not be used, a thumbnail, whatever.

However, there is one category metadata that is especially important: the Container Type. With the controlled vocabulary feature, the Container Type of a category is used to distinguish different vocabularies within one single $Vocabularies catalog – terms (categories) with the same Container Type belong to the same vocabulary. The Container Type is also used as a means to precisely control which terms can be entered into a given vocabulary field, and which not (see below).

A vocabulary administrator can add terms and their metadata either manually, or by import (for details see Importing and Exporting). Importing offers an easy way automatically maintain or update your controlled vocabularies, and to use common controlled vocabularies instead of developing your own. There are many different vocabulary schemes available in a broad variety of user environments and disciplines.

The $Vocabularies catalog must only be available to the user(s) who are in charge with maintaining the vocabularies. It must not be shared.

Preparing a Cumulus Catalog for Working with Controlled Vocabularies

- Adding vocabulary fields to Cumulus catalogs

  As said before, controlled vocabularies can be used with any Cumulus catalog that contains at least one field of the type Vocabulary. You can add as many such fields as you need.

  When adding a Vocabulary field to a Cumulus catalog, you can specify

  - whether the field can contain one single term only, or multiple terms (**Enable multi-select**);
  - whether the field accepts terms fro all available vocabularies, or from selected vocabularies only by selecting the respective container types (**Restrict Terms**).

.
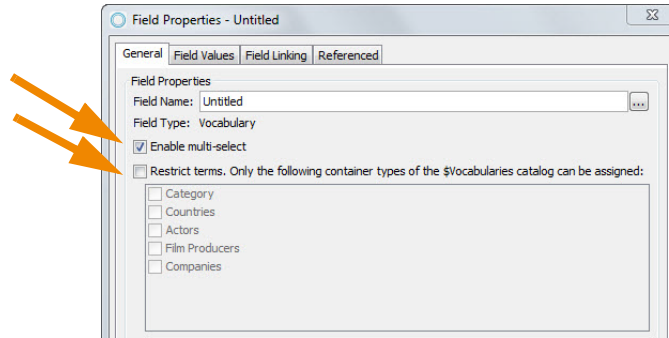
General tab of a Vocabulary field's properties in the Catalog Settings.

- Preparing View Sets

  In order to use controlled vocabularies, the respective fields in a catalog must be available to Cumulus users, which is achieved via Record View Sets and Category View Sets that contain these fields. The view sets must be shared. (For details see Record View Sets and Category View Sets)

  Additional information on vocabulary terms can be stored in the category metadata fields of the $Vocabularies catalog and can be made available to Cumulus users. Such information can be provided in the **Add Vocabulary Term** dialog, or as a tool tip that is displayed when the mouse pointer hovers over a vocabulary term in Cumulus Portals, Cumulus Web Client, or Desktop Client. For this purpose, you need to prepare at least one additional (shared) Category View Set that specifies the category fields of the $Vocabularies catalog that shall be displayed.

NOTE: Only metadata fields of type String, Date only, and Picture can be displayed as tool tips.

This category view set must be referred to as **Category View Set for details** in the display properties of any Vocabulary field that is enclosed in any view set to be

used with the Cumulus Web Client, or Portals, or the Desktop Client. If no Category View Set is selected here, the standard Category View Set is used.
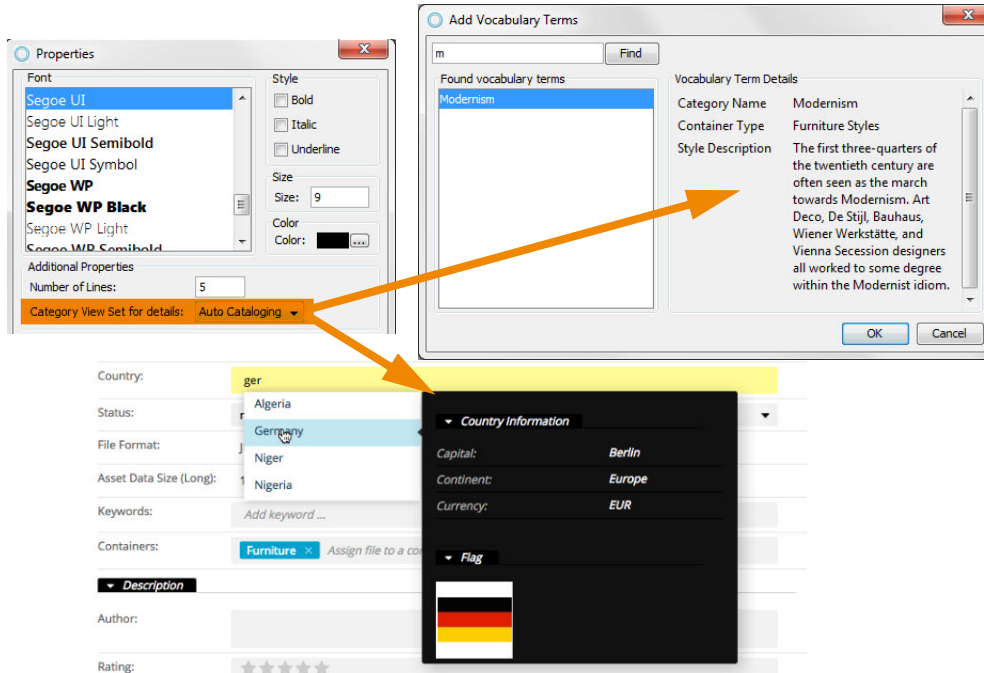
*The properties of a Vocabulary field in a Record View Set specify a Category View set that defines which additional information on a vocabulary term is displayed in the **Add Vocabulary Term** dialog, or the tool tip that is displayed when the mouse pointer hovers over a vocabulary term in Cumulus Portals, Cumulus Web Client, or Desktop Client.*

NOTE: With the **Dynamic Field Visibility** feature and the usage of separators you can refine and optimize the display of additional information even more, which is especially advisable if you employ multiple vocabularies that require different information on their terms. Thus you can ensure that only relevant information for a specific term is displayed. (See Dynamically Displaying Fields).

Securing Catalogs

To prevent an unforeseen technical mishap from damaging or destroying your catalogs you should have a strategy. Cumulus offers the following mechanisms to preserve catalog data in case of a failure:

- Backing up
- Journaling
- Mirroring

Canto recommends you to backup your catalogs regularly and in addition, to avoid losing changes made to a catalog after the most recent backup, employ *either* catalog journaling *or* mirroring as a second mechanism. Which mechanism is best depends on your needs.

The advantage of *journaling* is that you can immediately continue working after a failure.

Use *mirroring* for a catalog that is intended to serve as a 'caching engine' which for example saves data into an external SQL-compatible database Or with a second Cumulus Server, you can use *mirroring* for failover functionality and load balancing. The disadvantage of mirroring is that rebuilding a catalog from its mirror database might be very time consuming. (For a description on how to rebuild catalogs from mirrors, see "Repairing Catalogs" .)

IMPORTANT! Do not employ journaling *and* mirroring for the same catalog! Use one of the mechanisms depending on how the catalog is used.

For backing up your catalogs regularly, Canto recommends you to use the Cumulus Backup Manager and in addition, to have rotating backups, you should include the

catalog files in your regular system backup provided by your server platform. (For a description on how to use the Backup Manager, see "Backup Manager" .)

TIP: Avoiding Improper Shutdowns of the Cumulus Server

To avoid improper shutdowns of the Cumulus Server always stop the Cumulus Server before you make any changes to the operating system that might cause a shut down of the system (e.g. updates). Shutting down the Cumulus Server might take a while depending on the number and size of catalogs managed by the Cumulus Server. Do not interrupt the shutdown process!

Windows only: When stopping a Cumulus Server under Windows check that the Cumulus Server service has stopped. You can check this either via the Services Control Panel using the Refresh function (F5) or via the Task Manager (no **Cumulus Server.exe** in the processes list.)

UNIX only: When you are stopping a Cumulus Server under UNIX and **stop-cumulus.sh** runs into a time-out, use **status.sh** to check that the Cumulus Server has stopped.

The next sections give more details on the journaling and mirroring mechanisms and describe how to activate them.

Journaling Catalogs

Journaling Cumulus catalogs improves data security. A journaling catalog logs changes to a journal (special circular log files) before actually writing them to the catalog. Such a journal is used to repair any inconsistencies that occur as a result of an improper shutdown of the Cumulus Server or the computer running the Cumulus Server. In the event of an improper shutdown, a given set of changes may have either been fully committed to the catalog (i.e., written to the hard disk), in which case there is no problem, or the changes will have been marked as not yet fully committed, in which case the system will read the journal, which can be rolled up to the most recent point of data consistency. Every time a Cumulus Server opens a catalog the journals will be read and executed.

SPECIAL TECH INFO: Cumulus Catalog Journal

A Cumulus catalog journal consists of circular log files named as the catalog file with the extension **.redo**. These files are saved along with the catalog file in the same folder and can become quite large. Therefore, you must make sure that there is enough free disk space available. As rule of thumb: twice the size of the catalog file, or at least 5 GB is recommended.

IMPORTANT! Copying or Moving Journaling Catalogs
When copying, moving or backing up a catalog externally, the journal of the catalog (all 5 *.redo log files) must be included, e.g. copied or moved along with the catalog file.

IMPORTANT! Using Backup Files Created by Cumulus

If you want to replace a damaged catalog file of a journaling catalog with a backup file created by Cumulus, you must delete the journal of the catalog (all 5 *.redo log files) before you copy and/or rename the backup file.

You activate journaling for a catalog in the Catalog Settings (Cumulus / Edit > Preferences > Catalog Settings > General.)

Database Mirroring

Mirroring enables you to use the Cumulus database as a 'caching engine' that for example saves data into an external SQL-compatible database. In this role, a Cumulus catalog serves as a permanent cache.

Saving the data in an SQL database offers the advantage that any SQL analyses are possible. However, changes made to the catalog data from within the SQL database are not copied back to Cumulus and therefore should not be made. When a mirrored catalog is rebuilt, the SQL database serves as master. Each catalog requires its own SQL database.

Canto provides a plug-in that includes support for different SQL database systems. (The support for Oracle is available with Cumulus Enterprise only.) If you require support for another database system, contact Canto. Each database system requires it own JDBC driver. The JDBC drivers for most systems are pre-installed; except one: The official JDBC driver for MySQL must be downloaded from the MySQL website (www.mysql.com). Currently the driver is available under: http://dev.mysql.com/downloads/. The driver must be copied to the appropriate subfolder of the **esp** folder in your Cumulus Server installation folder. The subfolder **dbmirror** contains a folder named **lib**. Copy the downloaded driver into this **lib** folder (e.g to **..esp/dbmirror/lib**).

Cumulus catalogs of a second Cumulus Server installation can also serve as mirroring target databases. For more information, see "Using Cumulus Catalogs as Mirroring Target Databases".

A catalog is set up for mirroring on the Mirroring tab of a catalog's settings (Cumulus / Edit > **Preferences** > **Catalog Settings**.)

PRECONDITIONS: To set up a catalog for mirroring, you must have the appropriate Administrator permissions (**Permissions > Administrator Permissions > Manage Mirroring** (option for the Modify Catalog Settings permission.)

If you want to use mirroring, you should activate it directly after you have installed Cumulus, or after new catalogs are created. Note that once you activate the mirroring option for a catalog, the initialization can take some time, depending on the size of the catalog. (And the process cannot be paused – if interrupted, it must be started from the beginning.)

NOTE: Never set up multiple catalogs for mirroring at once!
Start the process for a subsequent catalog only after the previous catalog has been completely processed.

If mirroring is activated, the events to be saved in the SQL database are written in a task queue. For safety reasons, each task is saved in a temporary internal file. This file is deleted after the task is successfully processed. Storage locations for the queues and safety files are defined in the **server.xml** file found in the **conf** folder in the Cumulus Server installation folder. You define the basic or "root" folder for the files. This folder will house the subfolders for the queues—one subfolder for each queue (named as the unique identifier given for the queue). The default storage location is the Cumulus Server installation folder. If you want to use mirroring, you should define the storage location directly after you install Cumulus. The collection of these files can become quite large, requiring ample storage space. The required space depends on the SQL database system and the amount of data stored in each asset. There is a difference between the initial process and normal operation. As rule of thumb: twice the size of the mirrored catalog file is recommended.

Note that if you have a catalog mirrored to a SQL database, you should back up the target database and not the original Cumulus catalog. For information on how to repair a mirrored catalog using the target database, see "Repairing Catalogs".

NOTE: Mirroring catalogs employing Solr index

When mirroring a catalog that uses the Solr index, the mirrored catalog uses the same Solr instance as the original catalog. When using the mirrored catalog, it might be possible that the Solr indexes need to be rebuilt.

Error Management

Basic mirroring errors are written to the system log of the Cumulus Server (e.g. when mirroring could not be started.) Errors that occur while mirroring is running are logged as configured in the **log4j.xml** file, which is found in the **conf** folder in the Cumulus Server installation folder. Canto recommends you have one log file for all mirroring events and set up email notification for all errors that occur while mirroring.

If the SQL database addressed by mirroring is not available, an error will be logged and the Cumulus Server will try to process the current task again and again. As soon as SQL database is available again, the process is resumed automatically. However, if it cannot be resumed, the size of the task queue will grow with any change performed on the catalog.

TIP: Finding the Short ID of a Field

To find out the IDs of a field you can have them displayed in the list of fields in the **Record Fields** tab or the **Category Fields** tab of the Catalog Settings (**Edit > Preferences > Catalog Settings**).

BACKGROUND INFO: Performance

The performance depends on the SQL database system in use. During normal runtime testing, Canto did not experience performance delays or differences between different SQL database systems. The time needed for the initial process, however, depends on the SQL database in use. The time needed for the initial process is also influenced by the cache size available for the Cumulus Server (can be configured in the Server Console: **Remote Admin > Settings > Optimization.**)

Using Cumulus Catalogs as Mirroring Target Databases

Cumulus catalogs can also serve as mirroring target databases. This requires a second Cumulus Server installation. Then one Cumulus catalog can be mirrored to another Cumulus catalog of the other Cumulus Server installation. This offers failover function-ality and load balancing. A target Cumulus catalog at the secondary Cumulus Server is set to read only. With read-only applications (e.g. Web Publisher Pro) it can be used as a read-only replica and take load from the primary Cumulus Server. Note that Cumulus Triggers only work in the original catalog.

NOTE: Mirroring Cumulus 6 Catalogs
If you mirror a Cumulus 6 catalog, the target catalog will always be a Cumulus 7 catalog.

When using Cumulus as target database system, the following data are required to define the database serving as mirror:

* Server – IP address of the computer hosting the Cumulus Server
* User – Login name of the Cumulus Administrator of the Cumulus Server used as mirror.
* Password – Password of the Cumulus Administrator of the Cumulus Server used as mirror.
* Database Path – Path of the Cumulus catalog file

  NOTE: You can either enter the path of an existing catalog or have a new one cre-ated by entering its path.

Setting up a Catalog for Mirroring

Before you activate mirroring for any catalog, the location for queues and the task safety files should be configured. The location is defined in **server.xml** file, which is found in the **conf** folder in the Cumulus Server installation folder.

The initial process setting up a catalog for mirroring takes some time, depending on the size of the catalog file and the SQL database system in use. During this time, other users are blocked from accessing the catalog. For this reason, Canto recommends you deactivate the sharing option for this catalog before you start the initial process.

To set up a catalog for mirroring:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select **Cumulus** / **Edit > Preferences**.
3. Click **Catalog Settings**.

   The Catalog Settings window appears. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.
4. Click **Mirroring**. This displays the current settings for the selected catalog.
5. Activate the **Use Database Mirroring** option.

   The fields for the mirroring target database are activated.
6. Select the database system you want to use. Depending on the selected database system, the fields for defining the actual database are displayed.
7. Enter the data required. You must define a different target database for each catalog to be mirrored.

Example: With a MySQL 5 database, the following data are required:

- Server – IP address of the server hosting the SQL database
- Database – Name of the SQL database
- User – Login name of the SQL database user
- Password – Password for the SQL database user

NOTE: If the target database is another Cumulus catalog, you can either enter the path of an existing catalog or have a new one created by entering its path.

8. Click **OK** to start the mirroring. The field below the definition fields informs you on the status of the mirroring.

NOTE: If you want to set up multiple catalogs for mirroring, don't start the process for the next catalog before the current catalog has been completely processed.

To stop the mirroring for a catalog, deactivate the **Use Database Mirroring** option and confirm the action by clicking **Apply** or **OK**. Before you stop the mirroring you should consider that starting it again, will start the mirroring for the entire catalog from the beginning again.

New Catalogs

New catalogs can be created by the Cumulus Administrator only. The Cumulus Administrator is also responsible for providing catalogs to Client users.

Creating Catalogs

To create a new catalog you can log on to the Cumulus Server from any Cumulus Client and tell the Server where the catalog is to be stored and what you want to call it.

To create new catalogs:

1. Log on as Cumulus Administrator to the Cumulus Server.
2. In the Catalog Access window, click **New**.

   The **Create New Catalog** window and, on top of it, the **Browse** window appear.
3. From the **Look In** drop-down list, select the location where the new catalog shall be stored. (Only locations approved by the Cumulus Administrator are accessible).
4. In the **File Name** field enter a name for the new catalog, then click **OK.**

   The **Browse** window is closed. In the **Location** field of the **Create New Catalog** window, the location and the name of the new catalog are displayed. The file extension.ccf is added automatically.
5. From the **Select a Template** drop-down list, select a template.
6. Click **OK**.

The new catalog now appears in the catalog list of the Catalog Access window.

So far, the new catalog is only available to the Cumulus Administrator. In order to make a catalog available to other Cumulus users the Cumulus Administrator must share it.

Sharing Catalogs

In order to be available to Cumulus users, a catalog must be shared by the Cumulus Administrator. Catalog access can be shared to users of the Cumulus Desktop Client only, or granted to users of the Desktop Client, Cumulus Web Client and Cumulus Portals likewise. Sharing catalogs is performed via the Preferences window of the Cumulus Desktop Client.

To share a catalog:

1. Logged in as the Cumulus Administrator, select Cumulus / Edit > **Preferences**.
2. Click **Catalog Settings**.
3. Under **Catalog**, select the catalog that you want to share.
4. Select the **General** tab.
5. In the **Sharing** section activate **Share catalog**.
   This makes the catalog available to Cumulus Desktop Client users.

   Additionally, activate **Allow Web Access**.
   This makes the catalog available to users of the Cumulus Web Client.

   Click **Apply** to save your settings.

The selected catalog now is available to other Cumulus users.

NOTE: The **Allow Web Access** option does not affect the availability of catalogs for applications based on the Cumulus Integration Platform(CIP), such as Cumulus Portals!

Catalog Templates

You can define templates that you can use to create new catalogs, prepare existing catalogs for specific usage or even update older catalogs. There's no faster way to get new catalogs up and running, or to consistently replicate updates made to one catalog on another catalog. Create new, pre-configured image databases, video catalogs, PDF archives and more, from a single menu item – no more redundant catalog tweaking necessary!

PRECONDITIONS: To create and edit Catalog Templates, you must have the appropriate permissions (**Server Permissions > Catalog Template Permissions**.)

Creating and Editing a Catalog Template

To create a new Catalog Template you can save the settings of an existing catalog as Catalog Template or duplicate a template.

To create a new Catalog Template by duplicating an existing one and adapting its settings:

1. Select Cumulus / Edit > **Preferences**.
2. Click **Catalog Templates**.
3. Under **Template**, select the Catalog Template to be used as a basis for the new one.
4. Click the **Duplicate** button. The **Name and Settings** dialog opens.
5. Enter a name for the new template, and optionally
   - Activate the **Allow Sharing** option, if you want this view set to be available to other users.
   - Activate **Copy display names** only, if you also want to take over the language-specific display names from the original (not recommended for new catalog templates).
   - Activate **Copy description** only, if you also want to take over the descriptions specified for other languages from the original (not recommended for new catalog templates).
6. Click **OK**. The Catalog Template window is displayed.
7. Define the new Catalog Template.

8. Click **Apply** to save your changes.

To create a new Catalog Template by saving the settings of an existing catalog as Catalog Template:

1. Select **Cumulus** / **Edit** > **Preferences**.
2. Click **Catalog Settings**.
3. Under **Catalog**, select the Catalog to be used as a basis for the new Catalog Template.
4. Click the **Save as Catalog Template** button. The **Name and Settings** dialog opens.
5. Enter a name for the new template, and optionally
   - Activate the **Allow Sharing** option, if you want this view set to be available to other users.
   - Leave **Copy display names** activated, if want to take over the display names specified for other languages from the original.
   - Leave **Copy description** activated, if you want to take over the descriptions specified for other languages from the original
6. Click **OK**.

To change an existing Catalog Template:

1. Select **Cumulus** / **Edit** > **Preferences**.

2. Click **Catalog Templates**.

3. Under **Template**, select the template you want to edit. The settings for the selected template are displayed in the Catalog Template window.

4. Make your changes.

5. Click **Apply** to save your changes.

The Catalog Template Window

The Catalog Template window controls several important factors that come into play while managing assets. The options are divided into the following sections:

* **General** – Options for Catalog Templates
  – **Keep Category Names Unique** – Prevents the creation of new categories that share names with existing categories.
  – **Use Journaling** – Activates journaling for the catalog. ([See "Journaling Catalogs"](#))
  – **Use Template for Catalog Creation** – Makes the template appear in the **Get Catalog Template** dialog when creating a new catalog. So do not activate this option, if you want to use a Catalog Template for preparing other catalogs only.

* **Record Fields** – Displays the record fields that a new catalog will contain. You can add or delete fields and customize selected fields. This allows you to organize the information that can be stored on an asset in its record. Remember, metadata retrieved from assets while cataloging can only be stored if the corresponding record fields are included in the catalog. For details on how to add and configure record fields, see the corresponding descriptions in the chapter ["Catalog Settings"](#).

* **Category Fields** – Displays the category fields that a new catalog will contain. You can add or delete fields and customize the fields. For details on how to add and configure category fields, see the corresponding descriptions in the chapter ["Catalog Settings"](#).

TIP: Using Catalog Templates to Update Older Catalogs

You can use Catalog Templates to provide specific catalog fields for other catalogs. When adding fields to a catalog, click on Modules and you are also offered the fields of Catalog Templates.

Catalog Maintenance

Taking regular care of your catalogs ensures not only the best performance, but also your data security.

- [Catalog Size and Performance](#)
- [Compressing Catalogs](#)
- [Backing Up Catalogs](#)
- [Preparing Catalogs for Special Metadata](#)
- [Copying Catalogs](#)
- [Repairing Catalogs](#)
- [Renaming Catalogs](#)
- [Deleting Catalogs](#)
- [Dividing Catalogs](#)
- [Merging Catalogs](#)
- [Migrating Catalogs](#)

Catalog Size and Performance

The biggest factor affecting catalog size is the number of records in the catalog. There is no hard limit on the number of records that a catalog can hold, but catalog files cannot be larger than one terabyte in size.

As multiple catalogs can be opened in one window, an advantage of this is that it makes it easier to search for an asset. Workgroups with large catalogs can now split them into multiple catalogs and be able to open and search them in one Window. The beauty of smaller catalogs is that, the time required to repair, restructure or reorganize a catalog is reduced tremendously. Furthermore, if a particular catalog is being repaired or restructured, the assets in the other catalogs will be unaffected and can still be accessed.

Search times, however, are not affected by catalog size.

Record Size

The actual number of records you can fit into the catalog size limit depends on the individual records' sizes. Factors that determine a record's size include:

- **The type of asset the record represents.** Different asset types have different information that needs to be stored to identify them, so their records use varying amounts of catalog space. For example, a video clip uses space for frame rate and total frame number fields that a simple image doesn't require.
- **The amount of text in the record's Notes field**. All those characters in the Notes field have to be stored somewhere! If you add 1k worth of text, you add 1k to the record size. Multiply that times a thousand or so records and you have added an entire megabyte to your catalog's size.

- **The record's thumbnail size and quality.** Larger and higher quality thumbnail images take up more space. (See "Catalog Settings", for information on thumbnail settings.)

Typically, your catalogs will never reach the maximum size. If they do, you'll need to divide them. (See "Dividing Catalogs".)

Speeding Up Cataloging

As a catalog grows, the time required to catalog new assets increases. There are a few tricks for Asset Handling Sets that you can do to increase performance when cataloging large amounts of assets at once:

- Choose **Catalog Duplicates** on the Cataloging tab. This option prevents Cumulus from having to "think" too much about what it is cataloging. (See Client User Guide "Overview: Asset Handling Sets" for details.)
- Deactivate any asset formats that you don't need. (See Client User Guide "Asset Format Support" for details.)

Compressing Catalogs

Compressing a catalog reduces the actual size of the catalog file. This can be useful e.g. if you have deleted a huge amount of records (because deleting records does not alter the size of a catalog file). Smaller catalog files can speed up both cataloging and retrieval processes. Furthermore, they are easier to back up than bigger ones.

To compress a catalog:

1. Make sure the catalog you want to compress is the active window in Cumulus. If you have more than one catalog opened in the active window, you will be asked to select the catalog.
2. Select **File** > **Administration** > **Compress Catalog**. (Only active if the catalog is not yet compressed as much as possible.) A confirmation window is displayed.
3. Click **OK** to compress the catalog.

Backing Up Catalogs

The value and usefulness of a Cumulus catalog increases exponentially as the catalog grows. To prevent an unforeseen technical mishap from damaging or destroying your catalogs (and your work schedule), consider regular and frequent backups.

It is important to remember that backing up a Cumulus catalog *does not* back up the catalog records' associated asset files. Make sure that all your important files are included in your regular backups.

There are different ways of backing up a catalog:

• Any backup software program
• With the Cumulus Backup feature
• With the Cumulus Backup Manager

The first way may be the quickest and most convenient, particularly if you already use a backup software program. A Cumulus catalog, being just another file on your computer, can be copied to other volumes, or included in a network or automated backup. Catalogs should be closed before they are copied to other volumes to ensure that all changes are safely saved. However, you can back up an open catalog, if you employ the Cumulus Backup feature. The Cumulus Backup Manager is included in the Cumulus Server Console.

To back up a catalog using the **Backup** feature:

1. Make sure the catalog you want to back up is the active window in Cumulus. If you have more than one catalog opened in the active window, you will be asked to select a catalog.

2. Select **File** > **Administration** > **Backup Catalog**. The Backup window opens.

3. In the **Backup File Name** field, either
   – enter the name and path for the backup catalog (using the path and file naming conventions of the operating system your Cumulus Server is installed on)
   OR
   – click **Browse** to select a location for the backup catalog and then enter the name for the backup catalog. (The area you are allowed to browse is defined in the Cumulus Server Settings).

   NOTE: The name for the backup catalog file can be the same name as the original catalog file with the file name extension *.bak*. You may also choose the file name extension *.ccf*. There is no difference in format, but then you may need to choose a different name or a special backup location to avoid confusion with the original catalog.

4. Click **OK**. The catalog is saved in the format selected.

IMPORTANT! Using Backups of Catalogs Employing Solr Index
Before using a backup of catalog that employs Solr indexes, all Solr indexes need to be rebuilt.

Preparing Catalogs for Special Metadata

If you want to capture IPTC, XMP or EXIF data from assets (and to write back such data to assets), the catalog(s) managing these assets and the Asset Handling Set(s) to be used must be prepared. Cumulus provides special functions for this.

File > **Administration** > **Prepare Catalog** opens a submenu with options for preparing catalogs to manage different standard metadata formats.

Copying Catalogs

The Backup function described above is Cumulus' mechanism for copying catalogs in their ready-to-use state. You can also use the conventional ways of copying files on your computing platform to make copies of Cumulus catalogs. Remember, copying catalogs does not copy the associated asset files.

Repairing Catalogs

If a catalog becomes damaged, Cumulus may be able to rebuild it. When you try to open a damaged catalog, Cumulus asks to repair it. You can also initiate the repair process for local catalogs from within the program by selecting **File** > **Administration** > **Rebuild Catalog.** For repairing remote or mirrored catalogs, use the **Rebuild** button in the **Catalog Access** window when logged in as administrator (**File** > **Connect To**.)

Catalogs are most commonly damaged by an abnormal termination of the Cumulus Server that, for example was caused by an improper shutdown or a system crash.

After choosing the rebuild function, a dialog opens that asks whether you really want to do this. If you used the **Rebuild** button in the **Catalog Access** window, you are offered two options.

If you choose **Rebuild Locally**, the catalog is rebuilt locally on the information found.

If you choose **Rebuild from Mirror**, a window is displayed that contains all relevant information, if the catalog can provide it. If this is not the case, you must enter the information required to identify the mirror manually.

Enter the required information, if necessary, and click **OK**. Then Cumulus will rebuild the catalog with the data from the mirror and – if there is one – from the queue.

The rebuilt catalog becomes the master of the catalog from which it was rebuilt (the slave catalog), i.e., all further changes to the rebuilt catalog are automatically mirrored to this slave catalog.

NOTE: Catalog rebuilding is performed in the background. However, this process can affect the performance of the Cumulus system.

Where to Get the Queue ID?

Each mirrored catalog has an XML file (*.ccm) that contains the mirroring information. This file is stored in the same folder as the Cumulus catalog. It provides the information on the queue ID under **CUID**. In the following example the queue ID is {**FF9E643F-11BB-4E95-9B62-6BAFE841A5F8**}.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<ns:record xmlns:ns="http://www.canto.com/XML/ns/Package/1.0">
<ns:guid
ns:key="MMod">{FAB9CC52-C721-4720-A2D4-3450EABA88F2}</ns:guid>
<ns:int32 ns:key="UseM">1</ns:int32>
<ns:guid
ns:key="CUID">{FF9E643F-11BB-4E95-9B62-6BAFE841A5F8}</ns:guid>
<ns:record ns:key="MCnf">
<ns:string ns:key="Serv">dell470</ns:string>
<ns:string ns:key="DBas">test</ns:string>
<ns:string ns:key="User">thomas</ns:string>
<ns:binary
ns:key="Pass">8106DF418C242DD52F0D31C1E9012969BE05FF0C</
ns:binary>
</ns:record>
</ns:record>
```

Renaming Catalogs

Cumulus catalogs actually have two names:

- One is the name of the catalog file, as you see it from your computer's desktop. This is called the catalog *file* name.
- The other is the name of the catalog, as seen in the catalog window's title bar. This is simply called the catalog name.

When a catalog is first created, the catalog name defaults to the same name as the catalog file. Newly created catalogs are named the same as their file names by default, but the catalog name can be changed at any time.

Before you rename a catalog, be aware that a catalog's name is an internal reference within Cumulus. The catalog name is the name users will see when connecting to catalogs, and it also appears at the top of catalog windows. It's important to remember after renaming a catalog, that you must update the permissions of any users (or roles) that have restricted catalog access that includes access to the renamed catalog. This is because restricted catalog access permission is based on the names of catalog, so users will not be able to access renamed catalogs until those newly renamed catalogs are added back into the list of accessible catalogs for that user (or role).

Note that catalogs cannot be renamed while set to use the Cumulus Vault in Always and Exclusive mode.

To change a catalog name (what you see in the catalog window):

1. Make sure the collection window containing the catalog is the active window in Cumulus.

2. Select Cumulus / Edit > **Preferences**.

3. Click **Catalog Settings**.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **General**. You'll see a field labeled **Name**.

5. Enter a new name for the catalog in the **Name** field and click **OK**. The change is saved and the window closes.

You change a catalog's file name as you would any other file.

Deleting Catalogs

Unlike deleting records, deleting catalogs is not undoable. (Unless you have a disk utility program that makes recovering deleted files possible.) Cumulus has no built-in mechanism for deleting catalogs. Delete catalogs as you would any other file on your computer. Remember that assets are not deleted with catalogs. Catalogs must be closed to be deleted.

Dividing Catalogs

At some point you may wish to divide the contents of one catalog into smaller catalogs. Reasons for doing so include:

- The catalog has grown close to its maximum size (e.g. 1 terabyte).
- Your computer can no longer accommodate the number of records in the catalog effectively (processor or RAM limitations).
- The contents of the catalog have become too diverse to be usefully categorized in one catalog.

Like many operations in Cumulus, there is more than one way to divide a catalog. The first way is best suited to smaller numbers of records.

To divide a catalog using drag and drop:

1. Make sure the catalog from which you wish to divide is the active window in Cumulus.

2. Create or open the catalog you wish to move records into in a separate window. Arrange the catalog windows so that you can see both.

3. Search for the records you wish to move to the new catalog, using any of Cumulus' search options.

4. Click on or near a thumbnail in the original catalog and select **Edit** > **Select All** to select the records. (At this point you could cut and paste the records between the catalogs as one way of moving them, which would save you the step of deleting the old records in the old catalog.)

5. Click on the thumbnail of any of the selected records and drag the set into the new catalog window. A window is displayed allowing you to select whether the copied records shall maintain their category assignments (categories not yet existing in the target catalog will be created), or whether all category assignments shall be ignored.
The records are copied with or without category assignments, according to your selection.

NOTE: Cumulus doesn't consider copying records from one catalog to another as "cataloging assets." Therefore, the Asset Handling Sets have no effect on this action.

6. You can optionally delete the records from the old catalog by first clicking on the old catalog's window to activate it, and then selecting **Edit** > **Delete** before the selection of records has changed.

To divide a catalog containing a very large number of records, it may be easier to export the records from the old catalog and import them into the new catalog. (See "Importing and Exporting".)

After the export/import process is over, you can delete the records from the old catalog, as described above.

NOTE: Only with the drag & drop method you can decide on the handling of category assignments, The copy & paste and the export & import methods always preserve the category assignments of the copied records.

Merging Catalogs

Merging catalogs requires some forethought in order to be done properly. If both catalogs contain identical category structures, the process is easy and can be done in different ways:

- Drag and drop records between catalogs.
- Using Cumulus' export and import features.

"Dividing Catalogs," above, describes each process.

But if the category structures of the two catalogs differ, there are a few extra steps to take. (See "Importing and Exporting".)

Migrating Catalogs

With Cumulus 11, catalogs created with Cumulus 9 or 10 can be used without problems. However, if you want to use the Extended Search Indexing option with a catalog, this catalog must first be explicitly migrated to the Cumulus 11 catalog format.

A catalog's type and size is displayed in its Catalog Settings window (**Cumulus** / **Edit** > **Preferences** > **Catalog Settings** > **General** tab.)

Explicit catalog migration can be performed with catalogs that are opened at the Cumulus Server, as well as with catalog files that are disconnected from the Cumulus Serverin:

- Migrating a Catalog while opened at the Cumulus Server
- Migrating a Cumulus Catalog File

IMPORTANT! Once a catalog has been explicitly migrated to the current Cumulus version, it can no longer be opened with a previous version of Cumulus! Canto recommends you to backup the catalog before you start the migration process!

Migrating a Catalog while opened at the Cumulus Server

If you need to migrate a Cumulus catalog while it is opened at the Cumulus Server:

1. On the Cumulus Client, select **File > Open Catalog**.
   The **CatalogAccess** window is displayed.

2. Select the catalog you want to migrate and click **Migrate**.
   The migration process is started. A progress bar is displayed.

   During the migration process, the catalog is disconnected from the Cumulus Server and can not be used. Once the progress bar disappears, your catalog is migrated to the current Cumulus catalog format, connected with the Cumulus Server and ready for use.

The catalog will be migrated in place. The time needed for the migration depends on the size of the catalog file: the larger the catalog file, the more time is required.

Migrating a Cumulus Catalog File

To migrate a catalog created with an earlier Cumulus version, which is currently not opened at the Cumulus Server:

1. On the Cumulus Client, select **File** > **Administration** > **Migrate Catalog**. A window for selecting a catalog file is displayed.

2. Select the Cumulus catalog file you want to migrate and click **Open**.

3. Select a name and location for the migrated Cumulus catalog file and click **Save**. A progress bar is displayed indicating the status of the conversion.

   Once the progress bar disappears, your catalog file is migrated to the current Cumulus catalog format and saved in the location you selected.

Catalogs that are disconnected from the Cumulus Server can also be migrated to the current Cumulus version on the Cumulus Server machine, using the Cumulus Tool.

To migrate a catalog with the Cumulus Tool:

1. On the Cumulus Server machine, open a shell and type

   ```
   CumulusTool -migrate <catalog source file> <catalog target file>
   ```

In order to be used in Cumulus, the resulting new catalog file must be added to the Cumulus Server using the **Catalog Access** window.

NOTE: If problems occur during a catalog migration, try repairing the catalog using your former Cumulus version. Choose the Repair option under the Administration menu and then try the migration again.

Using Server Console Modules

The Server Console combines administration tools for Cumulus Workgroup and Enterprise. Some of the Server Console modules are specially designed for catalog management. You need the appropriate Administrator permissions to use these modules.

- Logging of Catalog Activities
- Activity Monitor

Logging of Catalog Activities

The Log Manager module presents a number of options from which you can enable a log file for a catalog and define its content.

PRECONDITIONS: To manage a log file for a catalog, you must have the appropriate Administrator permissions (**Catalog Permissions** > **Administrator Permissions** > **Manage Log Files**.)

To enable and define the logging of a catalog:

1. Select **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. The Server Console application is started. Log on as Cumulus Administrator to the Cumulus Server that manages the catalogs you want to have logged.

3. Select **Log Manager**. The Log Manager Properties window opens.

   In the field **Default Log Folder** you may enter another folder to serve as the default folder for log files.

4. In the field **Catalog**, select the catalog you want to have logged. You can only set the logging properties for catalogs for which you have the appropriate Administrator permissions: Manage Log Files.

5. Then define the logging properties for the selected catalog.

   • Click **Enable Logging** if you want the logging to be active.

   • In the field **Log Folder** you may enter another folder other than the default folder to serve as the folder for the log file(s) of the current catalog.

- If you want a separate log file for each day, enable **Daily Log File**. Daily log files have the advantage that you can delete those you no longer need.
- Select the columns you want the log file to contain as well as their sequence by clicking the arrow buttons. To delete a column just click the minus option in the list: –
- Select the events you want the log file to contain by check marking them.

6. Click **Save Changes**. The catalog's activities will be logged in a file named after the catalog. If you enabled **Daily Log File** the date is added to the name (year-month-day).

Activity Monitor

You can monitor catalog activities with the Activity Monitor module of the Server Console.

PRECONDITIONS: To monitor a catalog's activity, you must have the appropriate Administrator permissions (**Catalog Permissions > Administrator Permissions > Monitor activity**) for the respective catalog.

The Activity Monitor shows:

- the activity on the Cumulus Server
- information about any logged-in user, e.g. host address, catalog(s) the user is connected to, time of login, duration of session, etc.

Furthermore, the Activity Monitor allows to

- disconnect users (see Disconnecting Users from a Catalog)
- send a message to selected users (see Sending a Message to Selected Users)
- show server statistics (see Obtaining Server Statistics)

To access the Activity Monitor:

1. Select **File** > **Administration** > **Server Console**, OR connect to the Web Server Console via a Web browser.
2. The Server Console application is started. Log on as Cumulus Administrator to the Cumulus Server that manages the catalog you want to monitor.
3. Select **Activity Monitor** to open it in the right side panel.

The activity bar at the top of the window indicates the activity of the Cumulus Server (the Server Console of the Desktop Client additionally provides a **Server Statistics** button).

Below the activity bar, the **Connected Users** list is displayed with the following columns:

- **USER** – names of currently connected users
- **HOST** – name/IP address of the computers from which a user is connecting
- **CATALOGS** – the catalog(s) to which the user has been connected during the current session
- **TIME OF LOGIN** – date and time when the connection was started
- **DURATION OF SESSION** – in hh:mm:ss
- **CONNECTION ID** – unique ID of the current connection
- **VALID CONNECTION** – indicates whether the connection with the given connection ID is still valid (true), or no longer (false)
- **ADMINISTRATOR** – whether the user is an administrator: true or false
- **READ-WRITE** – indicates whether it's a red-write connection (true), or a read only connection (false)

Disconnecting Users from a Catalog

Before you configure catalog properties or perform catalog maintenance tasks, you should disconnect all users currently working with the catalog.

To disconnect users from a catalog:

1. In the Activity Monitor window select the user(s) to be disconnected and click **Disconnect User**.

   A dialog appears for you to specify how long Cumulus should wait before disconnecting, and to write an instant message to these users, letting them know why they're being disconnected.

Sending a Message to Selected Users

You may send messages to a single user or to multiple users at once. To send a message:

1. In the Activity Monitor window select the user(s) to which you want to send a message and click **Send Message**.
   The **Send Message window** appears.

2. Enter the text of your message and click **OK**. The message is sent.

The message is displayed in an information window on the desktop of the selected user(s). The user must click OK to close the information window.

Obtaining Server Statistics

With Server Statistics, you can obtain a lot of information about performance, work-load and capacity of the Cumulus Server. Such information can be useful to track down and identify the source of various performance problems that may occur with a Cumulus Server. If in doubt on how to act on these information, contact Cumulus Professional Service!

To display server statistics, either on the Web Server Console or on the Server Console:

1. When the **Activity Monitor** pane is displayed, select **Actions > Server Satistics** from the menu bar, OR
    rigth-click the **Activity Monitor** entry in the navigation pane and select **Server Satistics**, OR
    click the Server **Statistics Button** (Server Console only).

    The **Server Statistics** window is displayed.

The **Server Statistics** window is an information window that provides two tabs, **Measured Sizes and Numbers** and **Time-based Statistics**.

Server Statistics

SOURCE	AMOUNT	PERCENTAGE
Virtual Memory Size	773,360 KB	
▼ Memory In Use	348,612 KB	
▶ Catalogs	131,456 KB	38%
Connections	576 KB	0%
Sessions Temp Data Cached	544 KB	0%
Java VM	4,100 KB	1%
▶ Shared Server-side Sets	8,689 KB	2%
▶ Private Server-side Sets	749 KB	0%
User Data in Cache	75 KB	0%
Memory Used by CumulusTool Processes	0 KB	
▼ Sizes on Disk		
▶ Catalogs	133,409,472 KB	
Session Data Size	1,408 KB	
▼ Numbers		
Sessions	2	
Client Connections	3	
Users Cached	1	
CumulusTool Processes	0	
▶ Catalogs		

Save As...   Close

- **Measured Sizes and Numbers** – this tab provides information on memory usage, required disk space, and some characteristic numbers.
  - **Virtual Memory Size** – amount of memory needed by the Cumulus Server.

- **Memory in Use** – actual amounts and percentage values of currently used memory, specified by catalogs, connections, temporary cached session data, shared sets, private sets, and cached user data.
- **Memory Used by Cumulus Tool Processes** – amount of memory used by all currently active Cumulus Tool Processes.
- **Sizes on Disk** – amount and percentage value of disk size currently used for each catalog, and for Session Data.
- **Numbers** – of sessions, connected clients, cached users, and Cumulus Tool processes. Also for each catalog the numbers of free, used, and finalized Redo files.
- **Time-based Statistics** – this tab reveals how often the cache limit has been hit in each of the past 24 hours. If there is a significant number of page limit hits, you may consider to adapt the cache size of the Cumulus Server (via **Remote Admin > Settings > Optimization**; for details see Optimization (29 - 31).

Saving Server Statistics

The displayed server statistics values can be saved in JSON format, e.g. to communicate them to Cumulus Professional Service.

To save the server statistics values

1. Click Save As.

   A file named ServerStatistics.json is saved to your browser's standard download folder. (Depending on your browser, you may additionally be prompted to decide how to handle the downloaded file.)

Archiving Information

Many organizations maintain several catalogs: one catalog for production assets and a second catalog to manage archives. With Cumulus you can also take your assets off-line, update the file references, and still be able to search and retrieve them.

In general, archiving assets involves the following steps:

1. Copy and/or move the assets you wish to archive to the other media.
2. Merge the records you wish to archive into an archival catalog by first copying the categories and then the records. For more information, see "Merging Catalogs" .
3. Update all asset references in the archive catalog.
4. If desired, delete the records you archived from your production catalog.

IMPORTANT! Updating Asset References
Cumulus tracks the location of media assets through asset references. Whenever you move an asset, you must update the asset reference to reflect the new location.

Cumulus

For users working in a multi-language environment Cumulus provides full multi-language support. What does full multi-language support mean? In addition to providing the software UI in different languages, it means maintaining metadata in multiple languages.

Cumulus can store the translation of metadata in multiple languages and the user can work with the metadata in the matching language.

The following sections describe how Cumulus has to be set up for displaying and maintaining metadata in different languages and how the different Cumulus Clients deal with the multi-language support.

Setting Up
Multilingual Cumulus

Overview

Cumulus supports various languages in various ways.

- localized user interface (5 languages in addition to English)
- language specific writing and sorting capabilities
- localized names for all metadata fields shipped with Cumulus (11 languages)

(For details on which languages are supported see below.)

And in addition to that – or even on top of that – following can be localized to any language supported by Cumulus:

- the names and descriptions of catalogs, catalog fields, sets and templates can be localized to multiple languages
- the values of String fields and String List fields (multilingual metadata fields)

String fields need to be enabled for multi-language support. Once enabled, they let Cumulus users store their translations of metadata in multiple languages. The multilingual settings available with View Sets ensure the user can work with the metadata in the matching language.

Supported Languages
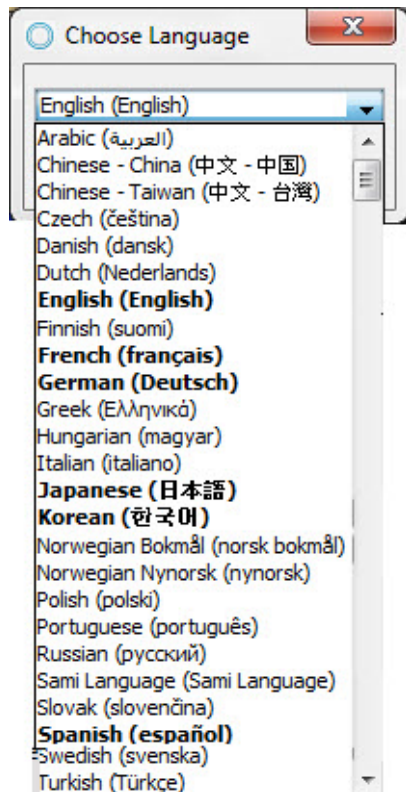
Cumulus can organize, share and manage any type of digital file in multiple languages. By default Cumulus supports following languages:

For languages marked in bold a localized user interface is provided. For all other languages, an English user interface is displayed, but specific writing capabilities for the selected language are supported. This applies to the category tree, input fields and Quicksearch function. And if localized names and descriptions of catalogs, catalog fields, sets and templates are available for the selected language, these are displayed.

By default the names of standard catalog fields are provided localized to following languages:

•Danish

•Dutch

•Finish

•French

•German

•Japanese

- Korean
- Norwegian Bokmål
- Portuguese
- Spanish
- Swedish

Localizing

Names, descriptions, String List values (list entries) are translated via the Preference window). For the translation of String field values the Information window can be used.

As the Preference window is only available with the Cumulus Desktop Client, names and descriptions as well as values of String List fields can only be translated with the Desktop Client. String field values can be translated employing any of the Cumulus clients – sufficient permissions provided. However, String fields have to be set up for supporting multiple languages.

Localizing Names and Descriptions

Open the Preference window to translate the names and descriptions of any catalog, set, template etc. or catalog field into any of the languages supported by Cumulus.

How to translate names and descriptions of catalog, sets, templates ....

1. In the Preference window select the type of item (e.g. Category View Set) on the left and then the desired set, template etc. from the drop-down
2. Click the info icon 🛈. The Properties window opens.
3. On the Description tab select the language and then enter a translation for the name and description.
4. Click **OK**. The Properties window is closed.

5. Click **Apply** to save your translations and/or changes.

For translating the names and descriptions of catalog fields (standard and custom), Cumulus provides the **Field Name Editor**.

How to translate names and descriptions of catalog fields ....

1. In the Preference window select **Catalog Settings** and then the desired catalog and click on the **Record Fields** or **Category Fields** tab.
2. Select the field and click Properties.
3. Click the browse button [...].
   The **Field Name Editor** is opened.
4. Double-click into the corresponding field of the desired language to enter the translation for the field's name and description.
5. Click **OK**. The Field Name Editor window is closed.
6. Click **Apply** to save your translations and/or changes.

Localizing String List Entries

The list entries of String List fields are edited and translated via the Preferences window. The editor provided on the String List Editor tab of the field's properties offers all supported languages.

Screenshot String List editor
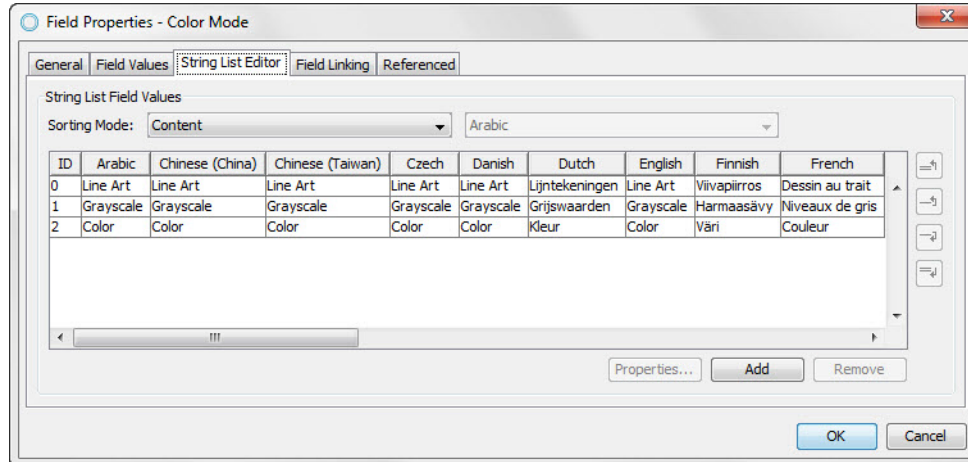
Double-clicking a field for a language lets you enter the translation for the list entry.
A user will only have the entries of one language displayed.

For a description on how to translate list entries see "Editing a String List Field" .

Localizing String Fields

String fields have to be enabled to support multiple languages. Then the required languages can be added to the field.

Preparing

On the Languages tab of the field's properties you can add languages after you have enabled the field for multiple languages. For each added language an additional subfield is created that has its own properties and can hold its own text content (value).

Screenshot Language tab
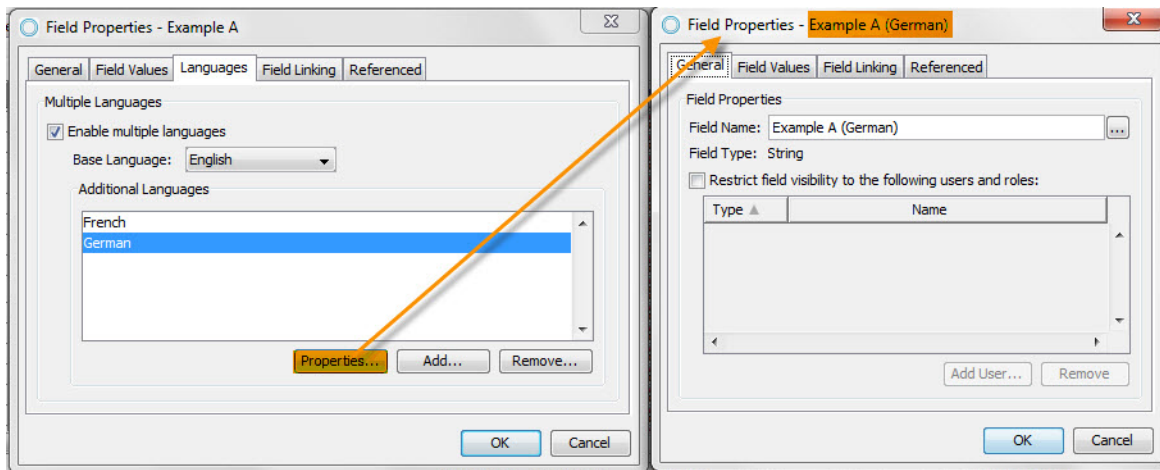
For more information see "Languages Tab (String Fields only!)" .

NOTE: String Fields & Language Specific Sorting
String Fields can have a language specific sorting index.
For more details, see "Overview: Field Properties" section "Indexing". (For fields without multiple language support see no. 12 in the overview and for fields with multiple language support no. 18).

Translating

The language specific subfields can be added to any view. Adding them to the Info window, for example, offers an easy way to translate the content (value). Another way can be to take advantage of the **Allow language switch for multilingual fields** option. (For more information on this option, see "View Sets").

Example for an Info window customized for translation:

Example of an Information window set up for translation. All sub-fields for languages are displayed so the translator can view all translations of all languages.

And as each language specific subfield has its own properties, the permissions can be set for each language separately – ensuring that only authorized users can provide the translated content.

So it is up to the administrator, to provide View Sets that meet the individual needs. (For more information, see "View Sets").

Language Specific View Settings

Further language specific setting define what a user will or can see in a multilingual environment.

View Sets

As View Sets define for each view which fields are displayed and how, they include multilingual settings. View Sets meeting the individual needs ensure that Cumulus users can work with the metadata in the matching languages. For multilingual environments with multilingual metadata fields, language specific View Sets are recommended.

The setting for certain views offer an **Allow language switch for multilingual fields** option. This option enables users to switch the language in which multilingual metadata fields are displayed. If this option is not activated, multilingual fields are always displayed in the language of the field that is included with the view.

When adding String fields to a View Set, the Modules tab includes a **Languages** node. It expands to a list of all languages configured for string field values. Clicking the plus sign in front of a language name displays the fields that support values in the respective language, but are not yet included in the view. You can either select the name of a language's to add all respective fields, or select the individual language-specific fields you want to add. (See also "Adding a Field to a Record View "and "Adding a Field to the Category Info Window".)

Category Pane

For the Category pane special multilingual setting are available in a Category View Set. You can:

- allow sorting of categories according to the rules of a specific language
- specify a preferred language for the display of categories

For more information, see "Category Pane and Multilingual Working Environment".

User Interface & Language

All Cumulus clients (Web Client, Portals and Desktop Client) provide a dynamic adaption to the user's language. Cumulus Desktop Client and Portals offer the possibility to select a language. Web Client and Portals detect the language the employed Web browser requests.

Even if no localized user interface is available for the selected or detected language, it can be utilized. This includes:

• Display names and descriptions of catalogs, catalog fields, sets and templates

• Sorting of records, categories and string list terms

• Names of categories

• Default View Sets (Portals only)

Cumulus Web Client

The user interface language of the Web Client depends on the language of the employed Web browser. Web Client tries to support the language the Web browser requests (preferred browser language). If a language is not available, English is used by default.

The names and descriptions of catalog field, catalogs, sets, templates etc. will be displayed in the language the browser requests – if available. Also the settings of the View Set defined for the Web Client will be utilized – if possible.

Exception: The **Categories** field is handled by a special Web Client implementation. It shows the assigned categories in two different fields: **Keyword** and **Category**. These two fields will only appear localized in the languages for which Web Client provides a localized user interface.

NOTE: Customized Tag Line and/or Welcome Text

If the tag line and welcome text are customized they are always displayed as entered via the Web Client Configurator, regardless of the language setting in the browser of the user. A customized tag line and/or welcome text cannot be localized. For more details, see chapter "Configuring Web Client" section "The Layout Tab – Login".

Cumulus Portals

By default, the language of the Portals user interface is dynamic. It depends on the language of the employed Web browser. Portals tries to support the language the Web browser requests. If a specific language is not available, the first configured language is used – by default: English.

Cumulus Desktop Client

Users of the Desktop Client can switch the user interface language and can be enabled to select the display language for field values.

Selecting User Interface Language

To change the current user interface language of the Desktop Client a menu option is provided: **File > Administration > Switch Application Language**. The user selects the desired language. Once the Cumulus application was closed and started again, the language switch takes effect. If the selected language is not available as localized user interface, the Cumulus user interface language will be English – but specific writing capabilities for the selected language are supported.

(See also "Switch Application Language" .)

Settings For Language Switching

If a View Set has the **Allow language switch for multilingual fields** option activated, users can switch the language in which multilingual metadata fields are displayed. If this option is not activated, multilingual fields are always displayed in the language of the field that was added to the view (See also "Customization Options for Record View Sets".)

To allow language switching in the Category pane, the **Preferred Language** option must be activated and set to **As defined in View menu** in the Category Pane preferences of the current Category View Set. If the **Preferred Language** option is not activated, multilingual categories are always displayed in their base language (defined in the field properties Language tab).

There is one more issue with the category pane.

Instead of coupling the language of the Category pane to the selection made in the View menu, you may as well select a language to always be used with the category pane, independent of the language used for other metadata fields. Activate the **Preferred Language** option in the Category Pane preferences and select the desired language.

Selecting the Display Language for Field Values

The Desktop Client user can select language in which multilingual metadata fields are displayed via the View menu. For more information see "Language for Field Values".

Cumulus

This chapter describes the Cumulus Server Console and covers some of the administrative actions that are performed with the Server Console utilities.

Cumulus Server Console combines utilities for different administrative tasks. It can be accessed either via the Server Console application installed along with your Cumulus Desktop Client, or as the Web Server Console via a Web browser from anywhere, if the Cumulus Web Solutions are installed on your Cumulus system.

Using the Server Console

Both the Web Server Console and the Server Console application provide almost the same look and feel. However, the Server Console application comprises only a subset of the configuration options and modules that are available in the Web Server Console.

Prerequisites

In order to work with the modules of the Server Console, you need appropriate Administrator permissions for each module. These permissions are set in the User Manager module for each user or role. As the Server Console modules Log Manager and Activity Monitor refer to tasks for catalog management, these permissions are set in the **Catalog Permissions** section. All other Server Console modules refer to administrative tasks concerning the Cumulus Server, therefore the permissions are set in the **Server Permissions** section.

Opening the Server Console Application

To open the Server Console application:

1. Start the Cumulus Desktop Client application on the machine that you installed the Server Console application on.
2. Select **File** > **Administration** > **Server Console**.
   The Login window opens.
3. Enter the name or the IP address of the Cumulus Server you want to administrate.
4. Enter the name and the password of the Cumulus Administrator or the user who has the permissions to perform the required administrative tasks.

5.   Click **Connect**.

The modules of the Server Console application are loaded.

Opening the Web Server Console

To open the Web Server Console:

1.   Open a Web browser and enter the address of the Web Server console into the address field:
     <servername or IP address>:8080/serverconsole
     The Web Server Console login window is displayed.

2.   Optionally, select a different language.

3.   Enter the name or the IP address of the Cumulus Server you want to administrate.

4.   Enter the name and the password of the Cumulus Administrator or the user who has the permissions to perform the required administrative tasks.

5.   Click **Login**.

The Web Server Console page is loaded.

The Server Console is divided into two areas: to the left, the navigation panel lists all accessible modules of the server(s) you are connected to, and to the right, the options of the selected module are displayed. In the navigation panel, the name of the logged-in administrator is displayed in brackets next to the server's IP address or name, e.g.: **localhost (cumulus)**.

Web Server Console only: If you select the server's IP address or name (instead of a specific module), the versions of the installed Cumulus Server and Web Solutions are displayed.

The Server Console provides its own menus.

- The **Server** menu lets you connect to additional Cumulus Servers that you want to administrate, or to quit the connection to a selected Cumulus Server.
- The **Actions** menu offers the (additional) functions available for the currently selected module, if any. These functions can also be accessed with a right/alternate mouse click on a module.
- The **Help** Menu connects to the Server Console related section of the Cumulus Help

Using Server Console with Multiple Cumulus Servers

If you have a Cumulus installation with more than one Cumulus Server, Server Console lets you administer these multiple Servers. Select **Server** > **Connect** to connect to another Cumulus Server. The panel on the left then provides entries for each server and its accessible modules. Next to each server name, the name of the logged-in administrator is displayed in brackets.

Modules of the Server Console

Which of the available modules are actually accessible depends on the configuration of the Cumulus Server as well as on your permissions. Some modules can be further expanded. Click the triangle icon to reveal further options.

Select the module that you want to administrate in the left pane of the Server Console.

The following modules are available (in alphabetical order, as in the Server Console):

- Activity Monitor – Displays information on the Cumulus Server activity and users connected to the selected catalog. Allows you to disconnect users, to send messages to selected users, and – on the Web Server Console – to display server statistics.
- Automatic Tagging Setup Enables you to configure the usage of the Cumulus Automatic Tagging feature.
- Backup Manager – Enables you to define rules for the automatic backup of catalogs and your Cumulus configuration files.
- CIP Configurator (Web Server Console only!) – Enables you to define catalog alias configurations (Cumulus Server, catalogs, and users) as well as basic settings for Cumulus Portals and the Cumulus Mobile App.
- FileSystem Companion Manager – Enables you to configure instances of the Cumulus FileSystem Companion, an optional component which listens to file system events and converts them into Cumulus actions.
- File System Versioning – Enables you to set up and configure asset versioning for any Central Asset Location on your file system.
- Log Manager – Allows you to activate the logging process for selected catalogs and set up log properties.

- **Mail Manager** – Enables you to configure Cumulus to work with your email server, to choose sending Cumulus Server notifications, and see the queue of mails to be sent and – employing the Web Server Console only – to configure the mail notifications.
- **Media Delivery Cloud Setup** – Enables you to configure the usage of the Cumulus Media Delivery Cloud.
- **Remote Admin** – Displays the Cumulus Server status and lets you stop or start the Server. The options of these modules let you view and edit the current Server settings and license status and provide a utility to ease the configuration of the File-Sharing.Info file.
- **Report Manager** – Enables you to configure and generate reports based on catalog statistics or on Cumulus Server activity.
- **RoboFlow Configurator** (Web Server Console only!) – Enables you to configure Canto RoboFlow and define workflows.
- **Scheduler Manager** – Enables you to define and schedule tasks to be automatically performed by Cumulus.
- **Set Manager** – enables you to export and import shared Cumulus items (Sets, Templates, etc.). And enables you to unload all individual sets.
- **User Manager** – Enables you to specify users and their access rights to certain catalogs and functions.
- **Vault Server** – Displays the current Cumulus Vault Server Setup and lets you configure and administer the Vault Server.
- **Video Cloud Setup** – Enables you to configure the usage of the Cumulus Video Cloud.
- **Web Client Configurator** (Web Server Console only!) – Enables you to configure Cumulus Web Client.

- [Workflow Manager](#) Enables you to configure asset-centric workflows.

Backup Manager

The Backup Manager allows you to automatically backup your Cumulus configuration files and catalogs – if the catalogs are based on the Cumulus database engine.

PRECONDITIONS: To work with the Backup Manager you must have the appropriate Administrator permissions for the Cumulus Server: Backup Administrator.

You can define jobs for the backup. These jobs include options for:

- Items to be backed up – You can either have a backup of your Cumulus configuration files, of all catalogs that are available at your Cumulus Server or just of selected catalogs.
- Destination for the backup files
- Time data when the backup should be performed

When you backup your Cumulus configuration files, a ZIP archive with all configuration files inside the **conf** folder will be created and stored at the chosen destination. Unless you activate the option **Append time of backup to file name**, this ZIP file will be overwritten by the next backup copy that is made due to the defined backup job.

- When backing up your Cumulus configuration files, you can additionally delete shared collections older than a specified number of days. This can help speeding up your Cumulus system.

  NOTE: Private collections will never be deleted this way.

It is not necessary to close a catalog to back it up. The backup can even be performed while clients are connected. When backing up a catalog, a temporary file is created for the catalog the moment the backup was started. This temporary file will be saved to the selected destination. under the catalog file name with the extension BAK. Unless you activate the option **Append time of backup to file name**, this BAK file will be overwritten by the next backup copy that is made due to the defined backup job.

When scheduling backups, remember to take into account the time that Cumulus needs for creating and saving the catalog backup files.

Email confirmations can be sent automatically after catalog back-up operations conducted by the Backup Manager, if the Mail Manager is set to send notifications.

IMPORTANT! It's important to remember that backing up a Cumulus catalog *does not* back up the asset files associated with its records. Make sure that all your important files are included in your regular backups.

When defining the destination for the backups, the **Select Destination Folder** dialog opens. It allows you to navigate in the Remote File Browser Sections that are defined in the Cumulus Server Settings of the Remote Admin module.

FileSystem Companion Manager

The Cumulus FileSystem Companion is an add-on which listens to file system events and converts these to Cumulus actions in a smart way. This allows Cumulus to automatically catalog assets and to create, update or delete records based on changes in the file system.

Optional feature! May not be available with your Cumulus configuration.

The FileSystem Companion is available for Windows and Linux file servers only (which however may be accessed from any client platform). It runs as a separate service, called an instance, on the respective server machine. Each of the instances of the service has its own configuration xml file specifying the unique name of the instance, the address of the Cumulus Server and the technical user which is used to connect to that Cumulus Server.

Beyond these basic settings, the instances of the Cumulus FileSystem Companion are configured via the FileSystem Companion Manager of the Cumulus Server Console. This comprises the specification of the folder(s) to be watched as well as the catalog, Asset Handling Set and Permission Template to be used, certain time out values and a list of items to be ignored by an instance of the FileSystem Companion. Last but not least, these instances can be activated/deactivated via the FileSystem Companion Manager.

IMPORTANT! The FileSystem Companion and the watched folders must be physically located on the same machine.
Do not use the FileSystem Companion with network shares mounted into the file system because this can result in erroneous behavior.

The following table shows which file system event results in which Cumulus action:

File System Event	Resulting Cumulus Action
CREATE	*catalog created asset*
UPDATE	*update existing record or catalog asset if no record is found*
DELETE	*delete existing record*
RENAME	*rename existing record as well*

However, there is no one-to-one relation between a file system event and a Cumulus action. Cumulus puts file system events in a queue and processes them with a configurable delay, thus allowing to collect multiple events for a file in a given time and finally applying an appropriate Cumulus action that is the result of a number of file system events. This time out, or delay, is helpful e.g. if an application creates, renames and/or deletes temporary files while processing an asset.

For example, if there a sequence of file system events like: CREATE, UPDATE, UPDATE, DELETE, the resulting Cumulus action would be IGNORE, because it is impossible to create a record before the newly created asset is deleted again.

As a special case, RENAME operations on the file system are always executed immediately in Cumulus, without any delay.

PRECONDITIONS: To use the functions of the FileSystem Companion Manager you must have the appropriate permissions for the Cumulus Server: Create, modify and delete shared FileSystem Companion instances. The create permission always includes the modify and delete permissions. The modify and delete permissions can be granted separately. (**Server Permissions** > **FileSystem Companion Instances**)

Configuring FileSystem Companion Instances

The FileSystem Companion Manager displays a list of existing configurations. You can create new configurations, as well as edit, delete and activate/deactivate existing ones. If the name of an existing FileSystem Companion instance and the name of a configuration match, the settings specified in the configuration take effect for the respective instance.

The following Information is displayed for each instance:

- **Status** – Running/Not Running/Deactivated
- **Name** – Name of the instance. Should match the name of an existing instance of the FileSystem Companion
- **Folders** – Number of and path to folders to be watched, and name of the catalog to which the file system events are synchronised
- **Event Queue Size** – Number of assets for which file system events are waiting to be processed

  The following columns provide information on inconsistencies found by the resync process running in the background. Usually, these inconsistencies are solved automatically within a certain amount of time.

- **Missing Records** – number of assets with no corresponding records
- **Missing Assets** – number of records with no corresponding asset
- **Checksum Problems** – number of reference inconsistencies

Existing or new instances are configured via the Edit Instance Configuration window.

Folders

A list of folders to be watched by the instance. The following information is displayed for each folder:

- **Folder** – Absolute path to the folder to be watched. All folders below this folder will be watched, too

  NOTE: This leads to a (technical) source category tree which is visible under **All** in the Category pane. This category tree must not be modified manually!

- **Catalog** – Name of the catalog to which file system events from the specified folder are synchronized. Catalogs can be selected via d drop-down list

  NOTE: It is not possible to apply system events from different folder paths to the same catalog!.

- **Asset Handling Set** – Name of the Asset Handling Set to be used with the Cumulus action. Can be selected via a drop-down list

- **Permissions Template** – Name of the Permissions Template to be applied. Can be selected via d drop-down list

Settings

In this section, several time out values can be specified.

- **Activity time-out** – Minimum delay between the receipt of a file system event and its conversion into a Cumulus action.

  NOTE: Usually, the actual time between a file system event and the resulting Cumulus action is larger than this value, depending on the load on the machine and the number of file system events coming in.

- **Timeout for record resync runs** – Resync thread waits at least that amount of time between checking for records without asset and assets without record
- **Timeout for category resync runs** – Resync thread waits at least that amount of time between checking the technical FileSystem Companion category structure for categories without matching folders on disk.
- **Timeout for delaying actions in resyncs** – Resync thread waits at least that amount of time after it has detected an inconsistency (for example a record in the catalog with missing asset) and before the according cleanup function is executed (in this example, deleting the record).

Exclusion List

A list of files, file types and folders which are to be ignored by the FileSystem Companion.

These settings must be notated in regular expressions!

File System Versioning

Cumulus supports asset versioning for assets stored in an asset versioning system like Cumulus Vault (see "Configuring Vault"), as well as for assets stored in a Central Asset Location on your file system.

The proper way to modify a versioned asset and to create a new version is to check the asset out first, then edit it, then check it in again. However, with file system based asset storage – and in contrast to Vault based asset storage – an asset may be revealed and modified directly within the file system, i.e. without previously been checked out from Cumulus. Cumulus therefore allows to check in and create a new version of a modified asset that has not been checked out before.

Prerequisites

Versioning of assets can be set up for any catalog which employs a file system based Central Asset Location (**Edit > Preferences > Catalog Settings > General > Use Central Asset Location**).

The following prerequisites must be met to make file system based versioning work for a catalog:

- The special fields for versioning (contained in the catalog template *Fields for Asset Versioning Control*) must be included in the catalog.
- The respective Central Asset Location must be configured as a Versioning Location (see Configuring the File System Versioning).
- The configured Versioning Location – that is, the server and/or the path – must be available on every machine on which the Cumulus Desktop Client runs. If the Web

Client is used, the Versioning Location must be available from the machine on which the Cumulus Web solutions are running.

Some Technical Background

Cumulus stores the versions of assets in hidden folders within the central asset location so that they can't be revealed by simply browsing the file system. Only the current version of an asset is always visible in the file system.

NOTE: In order to prevent the accidental destruction of a current version of an asset, Cumulus always keeps a second copy of that version in a hidden folder. Every time Cumulus generates a new version from a changed, but not checked-out asset, this hidden file becomes the penultimate version.

Cumulus can generate new versions of changed assets every time the respective records are updated. Records can be updated either manually (via **Metadata > Update Record**) or automatically, e.g. via the auto cataloging function for source categories, or a scheduler action.

Configuring the File System Versioning

PRECONDITIONS: You need to be logged in as the Cumulus Administrator to configure File System Versioning.

File system based versioning of assets can be configured via the Server Console.

Configuration

The following settings can be configured:

- **Create new version when record is updated (and asset was modified)**: This takes effect both with manual and automatic updates of the record.
  If this option is not activated, new versions must be explicitly created via the **Asset > Check In** menu command.
- **Reduce creation of new versions. Minimal time gap between versions**: If activated, at least the specified number of minutes must go by before a new version is created, even if the asset has been changed in the meantime. – Depending on the system load, the length of the task queue, etc, the effective gap may exceed the specified value.
  This is useful to avoid clutter whenever an application creates frequent updates of a file.

  NOTE: This setting only affects the creation of versions via an update record process. It does not affect the creation of new versions via checking in assets!

- **Restrict numbers of versions to be kept to**: If activated, only the specified number of versions are kept.
- **Always keep oldest version**: If activated, the oldest version – the "original" file – is never deleted.

Versioning Locations

Basically, any central asset location defined in any catalog can be configured for versioning. As a prerequisite, the location – that is, the server and/or the path – must be available on the machine on which the Server Console runs or – if the Web Server Console is used – on the machine on which the Cumulus Web Solutions are running.

To configure a central asset location for asset versioning:

1. Click **Add Location**.

   A window appears displaying any central asset location defined in any catalog that is not yet configured for versioning, and that is currently accessible.

2. Select the desired location, then click **OK**.

   A window appears asking whether all not yet versionable assets in the selected location shall be made versionable:
   Yes: Existing assets in the central asset location are made versionable.
   No: Existing assets are not made versionable; but new assets are always created as versionable. – You may transform not versionable assets to versionable ones anytime later via the **Prepare Assets in Location** button

3. Select the desired option. The location and the catalog to which the respective assets are cataloged are is displayed in the **Versioning Locations** list.

You may stop asset versioning for a location anytime via the **Remove Location** button. If you do so, you may also disable versioning for currently versioned assets (i.e. make them unversionable) and remove all existing versions.

SPECIAL TECH INFO: Autoversioning on Update

File system versioning checks the file modification date and the file size to decide whether it has to create a new version on update or check-in. Starting with Cumulus 9.2.4, the contents is no longer checked to increase the performance, especially on slow network shares. If you use a tool that does not change the file modification date and the file size and you need to employ the content check, contact Canto.

Mail Manager

The Mail Manager lets you configure Cumulus to work with your email server. It enables you to define and test your email server settings, choose to send Cumulus Server notifications, and see the queue of mail to be sent. Cumulus Server notifications include messages generated by the Cumulus Scheduler and Cumulus Server (e.g. syslog system messages, error messages or informations on successfully performed processes such as catalog backups.)

Additionally, you can administer email notifications as well as configure their look and feel.

PRECONDITIONS: To work with the Mail Manager you must have the appropriate Administrator permissions for the Cumulus Server: Mail Administrator

Overview: Main Panel

The Mail Manager module of the Cumulus Server Console or Web Server Console provides access to the central Cumulus mail configuration settings and the mail queue.

1   *Displays the central Cumulus mail configuration settings.*
2   *Displays the list of messages to be sent. Provides buttons for deleting selected messages or refreshing the list*

Mail Server Tab (3 - 14)

Server

The following settings define the mail server employed for sending emails from within Cumulus and its configuration.

3   *Address of the SMTP Server employed.*

4   *SMTP Port. It the port is set automatically according to the security settings. (Port 25 is the SMTP standard TCP port)*

5   *Security level for mail server communication. Options are:*
   – None: no security level defined
   – Secure SMTP (SSL): Secure Sockets Layer
   – Start-TLS – Transport Layer Security (TLS)
   For setting the security level ask your mail server administrator.

6   *Name of the mail server user account (used for authentication at the mail server)*

7   *Password of the mail server user account*

8   *Email address of the sender - either used for all mails sent or only for mails without a From address.*

9   *Options for the From address. If the option **For mails without From address** is activated, the address of the sender will be used by default.*

Notifications

The following settings define whether and how notifications are sent:

10 *If activated, notifications generated by the Cumulus Server and Scheduler are sent as mail messages to the email addresses defined below.*

11 *Defines the level of notifications that shall be sent via mail. Levels of notification include information, warning and error. The more severe levels are always included.*

12 *Mail address of the recipients of the notification. You can enter multiple addresses separated by commas.*

13 *Saves your settings and closes the window.*

14 *Sends a test mail messages employing the current settings.*

TIP: *The notification emails or other automatically generated email messages (e.g. URLs) might be very short and therefore might be identified as unwanted email messages (email spam or junk). Canto recommends you to send test mails and – if necessary – to request the recipients to include the From address in the safe senders lists of their local emails clients.*

Queue Tab

List of messages to be sent. Use according buttons for deleting selected messages or refreshing the list.

Configuring Email Notifications

Cumulus sends email notifications for certain events, such as password changes, Web down- and uploads. To administer these various email notifications Cumulus provides *templates* and *template classes* – one class for each situation that can trigger an email notification. The general layout (including header and footer) is defined by a *theme*. An email *template* defines the subject and text body.

How Does it Work

Notification emails can be sent with, or without employing the theme. If the theme is used, Cumulus assembles the entire email by putting the appropriate body text, as defined in the template, in between the header and footer texts, as defined in the theme.

Notification emails can be sent either in HTML format, or as plain text mails. If you prefer HTML mails, make sure that the entire mail is enclosed between the <html> and </html> tags. This means:

- Using the theme: header text must start with `<html>`, footer text must end with `</html>`
- Without theme: body text must start with `<html>` and end with `</html>`

Theme

The theme defines the layout of an email notification, or more precisely, its header and footer. Currently, only one single theme is supported for all notifications.

The Theme panel is to edit the header and footer to be used with email notifications.

You can adapt the header and footer settings to your needs.

The Theme panel provides following tabs:

General Tab

Name and (optional) description of the theme. You can modify name and description.

NOTE: Names and descriptions of themes and can be easily adapted to a multitude of languages via the ⬚ button. Clicking this button opens a window for entering translations of the name and description.

Header Tab

here is where you configure the information in the header of the mail theme.

Select a language for which you want to enter the header information, or select **Default** to enter informations that is displayed in any language for which no information is specified.

Enter the header text. You can use plain text and HTML code. On the right side, a list provides several placeholders that you can embed in the header text. Select a placeholder and click **Insert**.

Footer Tab

Here is where you configure the information in the footer of the mail theme.

Select a language for which you want to enter the footer information, or select **Default** to enter informations that is displayed in any language for which no information is specified.

Enter the footer text. You can use plain text and HTML code. On the right side, a list provides several placeholders that you can embed in the footer text. Select a placeholder and click **Insert**.

Attachments Tab

Here is where you specify which pictures, logos etc are available for the theme. All files added here available in the Placeholders lists on the Header and Footers tabs of the Theme panel, as well as in the Placeholders lists on the Subject and Body tabs of the Templates panel.

Template Classes

For every situation in Cumulus that can trigger a notification email, a template class is provided. The Template Classes panel displays a list of all available template classes.

By default there are only built-in template classes that ship with Cumulus and can not be modified.

You can add custom template classes, if necessary.

Templates

With templates, the subjects and text bodies of the emails that are sent in different situations are defined. The Templates panel provides an overview, grouped by template classes. Select a template class from the drop-down list to have the respective templates displayed.

The list of templates shows the following information on each template: its name, the class it belongs to, whether it is enabled and whether it is the default template.

You can edit or remove existing templates, and you can create new templates, either by adding a new one from scratch, or by duplicating and then modifying an existing one.

If there are multiple templates for a single class, you can define which of these templates is the default one. Only the default template will be used to create emails.

The **Edit Template** window provides the following tabs:

General Tab

Name and (optional) description of the template. You can modify name and description.

NOTE: Names and descriptions of templates and can be easily adapted to a multitude of languages via the 🏳️ button. Clicking this button opens a window for entering translations of the name and description.

Two check boxes provide additional options:

- **Use theme** – if deactivated, the theme is not used with this template.

- **Enabled** – if deactivated, the template can't be used or set as default template, but is still displayed in the templates list.

Subject Tab

Here is where you configure the subject of the email. Select a language for which you want to enter the subject text, or select **Default** to enter informations that is displayed in any language for which no text is specified.

Enter the subject text. On the right side, a list provides several placeholders that you can embed in the subject text. Select a placeholder and click **Insert**.

Body Tab

Here is where you configure the body of the email. Select a language for which you want to enter the body text, or select **Default** to enter information that is displayed in any language for which no text is specified.

Enter the body text. You can use plain text and HTML code. On the right side, a list provides several placeholders that you can embed in the body. Select a placeholder and click Insert.

Remote Admin

You use the Remote Admin module to stop or start the Cumulus Server and to configure Cumulus Server Settings, such as the identity of the Cumulus Administrator, the TCP/IP port number of the Server, and time-outs for various actions. You also use the Remote Admin module to activate your Cumulus installation and/or additional options, and to view and, if necessary, modify, license information.

PRECONDITIONS: You need to be logged in as the Cumulus Administrator to work with Remote Admin.

The Remote Admin function can be performed via the Cumulus Server Console or Web Server Console from any computer.

Cumulus Server Status

Once you click the Remote Admin entry in the Server Console, the Cumulus Server Status is displayed. You can start and stop the Cumulus Server.

Cumulus Server Settings

To reveal the Cumulus Server Settings click the + icon on the left side of the Remote Admin entry. Then click on the entry **Settings**. The Cumulus Server Settings will be displayed. The Server Settings options affect global Cumulus Server behavior.

If you want to change the settings, edit the settings and click **Save Changes** to send them to the Cumulus Server application. See "Overview: Cumulus Server Settings", for an overview of the setting options available.

Overview: Cumulus Server Settings

Remote Admin - Cumulus Server Settings
Displays the current settings. You can edit them.

General

①	Administrator:	cumulus
②	Administrator Password:	●●●●●
④	User Name Guest Account:	guest
⑤	Language:	English
⑥	Maximum Password Age (Days):	0
⑦	Mirroring Queue Path:	dbmirrors
⑧	Remote File Browser Sections	

Name ▲	Pa
Catalogs	C:\Program Files (x86)\Canto\
Logs	C:\Program Files (x86)\Canto\

⑨ ⑩

Add...   Remove

- **General (1 - 10)**

1 User name of the Cumulus Administrator.

2 Password for the Cumulus Administrator.

3 Click to change the password for the Cumulus Administrator.

4 Displays and lets you change the name of the guest account for the Cumulus guest connection login. The name you enter must be an existing Cumulus user account.

5 Displays and lets you change the language of the messages the Cumulus Server sends. Click the arrow button to select a language.

6 Maximum age for Cumulus users' passwords. After time period entered has passed since the last change, the user has to change it. Cumulus will request this change automatically. If you enter the value "0", passwords will never expire.

   TIP: *If you want to set the password to "never expire" of a certain user only, you can do this with the User Manager.*

7 Displays the path to the folder containing the temporary files for catalog mirroring. The path is relative to Cumulus Server installation unless an absolute path is entered.

8 The Remote File Browser Section defines the starting point (highest point in the hierarchy of the file system) for the Remote File Browser dialog within Cumulus.

9 Click to add another Remote File Browser Section. Then enter a name for it. To set the path for the new section, click in the section's entry in the column Path and enter an existing path.

10 To remove a section, mark the section's entry and click this button.
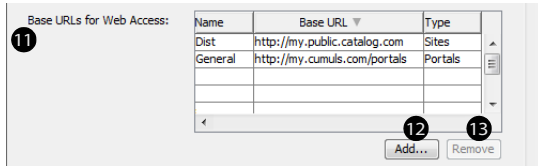
- • **Base URLs for Web Access (11 - 13)**

11 *Base URLs For Web Access define the Web addresses to catalogs that are set to be accessible via the Web (e.g. via the Cumulus Web Client or Cumulus Portals). Base URLs are used to create proper Web links for records, assets, preview or thumbnails. Cumulus can manage multiple base URLs for multiple Web applications (Web Client, Portals, Sites). They are distinguished either by their type, or by a significant part within the Base URL (e.g., /cwc, or /sites).*

   The URL creation can be requested by the Cumulus Client employing the **Configure Web Link URL** *function which is available only if at least one Base URL is defined here. (Fore more information,* see "Configuring Web Links" *.)*

12 *Click to add a Base URL. Then enter a name for it. To set the Web address, click in the Base URL's entry in the Base URL column and enter the address of the Web application in the following format: [http://[Web server IP address]:[Port No.]/[Name of Web application folder]. It's recommended to select a type (e.g. Web Client, Portals, Sites) for the Base URL in order to ensure the usage of the proper base URL in any given context.*

13 *To remove a Base URL, mark its entry and click this button.*
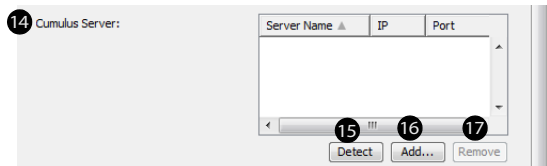
• **Cumulus Server (14 - 17)**

14 *List of server machines running Cumulus Servers. This list is of importance in a multi-server environment only. The servers listed here are employed when cataloging, resolving/creating asset references from other platforms, communicating with Vault and for license check. You can either enter servers manually or have them detected by the system.*

15 *Click to have servers detected by the system. Depending on your network environment this may take a while. Once your entire system was checked and the list is completed, the detected list will replace the current list.*

16 *Click to add another server manually.*

17 *To remove a server from this list, mark its entry and click this button. For best performance Canto recommends you check this list regularly and remove all servers that are not available.*
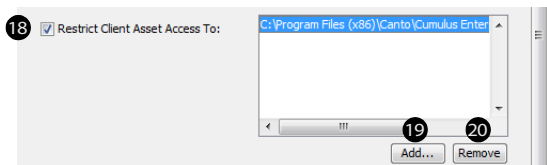
• **Restrict Client Asset Access To (18 - 20)**

18 *If activated, the server locations for assets that can be delivered via Server/ Client Asset Transfer are restricted to the folder(s) (including subfolders) specified here.*
Default: activated.

19 *Click to specify a new folder.*

20 *To remove a folder from the list, mark its entry and click this button.*

- **Timeouts (21 - 24)**

21 *When the Server disconnects a Client (e.g., for shutdown), it waits for a certain amount of time (e.g., 1 minute) plus the specified number of seconds before closing the Client connection.*

22 *The Server expects to get the next request from a Client within the specified time.*

23 *Number of seconds the Server waits for Clients to disconnect on shutdown.*

24 *When the Server sends data to a Client, the data must be transferred within the specified number of seconds or the Server automatically disconnects the Client.*

- **TCP/IP (25 -28)**

25 *You can define a custom TCP/IP port number (in the field to the right) for Server and Clients. It is recommended using 9287 (this is registered for Cumulus).*
If you use any other number, you must set up the port number used by Portals, the Web Client, and the Vault Server (if installed on a machine other than the Cumulus Server) accordingly. You will also have to inform all Cumulus Clients to use the changed port number in the Connect To Server dialog (e.g. 123.123.123.123:9288 or ServerName:9288) OR change the port number in each Client's XML file - found in the **conf** *folder of the Cumulus Client installation folder. Under OS X, you open this folder by opening the installation folder of your Cumulus application and then pressing the CTRL key and selecting the Cumulus application icon simultaneously to get the context menu for the application. In this menu select* **Show Package Contents***, then open* **contents** *and finally open* **Mac OS***.*

   NOTE: *If you use any other number, you may have to change your firewall settings accordingly.*

26 *Defines the number of bytes sent as a block by the network interface card. Change the standard value of 65536 for special purposes only.*

27 *Defines the number of bytes received as a block by the network interface card. Change the standard value of 16384 for special purposes only.*

28 *Size of a message that the server will send as one block. The default value "0" should be used with any local network as then the messages will be sent as one block by the server. You should only change this value if you have a Cumulus installation that includes Clients with a slow connection (e.g. modem or ISDN). If you change the fragmentation size under UNIX or OS X, the value should be half (or less) of value set for the send buffer.*

- **Optimization (29 - 31)**

29 If not enabled, Cumulus automatically determines the optimum size of the RAM cache for catalogs administered by the Server. If enabled, you can define a custom cache size (in the field Cache Size).

30 Cumulus Enterprise only: Number of threads that can reply to a Client request at the same time. Default: 0 = the number of CPU cores (including hyper-threading) that are installed in the system. Maximum is 128. With Cumulus Workgroup, the number of server threads is always limited to 4.

31 If enabled, the Cumulus Server preloads the indexes for the contain-search in string lists, which improves the performance when the indexes are used for the first time (e.g. for searches).

NOTE: *Changing this setting only takes effect after a restart of the Cumulus Server. Depending on the size of the index(es) and the performance of the used hardware, a restart can take its time (up top several minutes or even more).*

- **Button (32)**

32 Confirms the changes and sends them to the Cumulus Server application.

License

To reveal the License information, click the + icon on the left side of the Remote Admin entry. Then click on the entry **License**. The license information for your Cumulus installation will be displayed.

Registering And Activating Additional Licenses

Newly purchased options or additional licenses can easily be activated. In the License information pane, click on **Activate Cumulus**, then log in to your Canto Customer Community Account. Activate the appropriate checkboxes, then click **OK**.

For more information on activating and registering Cumulus, see the *Installation Guide*.

FileSharing Info Settings

The **FileSharing.Info** file is used by Cumulus Servers to build:

- UNIX asset references based upon OS X or Windows file system asset references
- OS X asset references based upon UNIX or Windows file system asset references

It contains information on how a Windows, UNIX or OS X asset reference should be converted to a corresponding UNIX or OS X reference. The information stored in this file must be adapted to your Cumulus configuration.

Remote Admin provides a utility to ease the configuration of the FileSharing.Info file. The utility provides different tabs:

For the volumes from which assets are cataloged, you need to add entries for the File-Sharing.Info that contain the required information.

NOTE: HELIOS EtherShare and HELIOS PCShare
If HELIOS EtherShare is installed on the machine that runs the Cumulus Server, you do not need to update the Macintosh section settings of the FileShar-ing.Info file manually; Cumulus does this automatically.
If you have also installed HELIOS PCShare, you do not need to update the Win-dows section settings manually. The HELIOS EtherShare and HELIOS PCShare tabs display the information that is provided to the FileSharing.Info by this soft-ware.

To add the information on the platform volume from which assets are cataloged, click the tab for the appropriate platform and click the **Add** button. A dialog opens that asks for the information needed to create the correct platform asset reference based upon the asset references already provided.

Information Needed

- **Volume Path** – volume path of the share point in the notation of the platform (e.g. UNIX notation: **/shares/volume**)
- **Server Name** – Name of the file server. This can be the IP address or the real server name (DNS-resolvable name).
- **Zone Name** – AppleTalk zone name as it appears to OS X clients (OS X only)
- **Volume Name** – Name of the volume on the file server
- **Encoding** – The encoding for the Macintosh section definitions should always be set to **UTF-8**. The encoding for the Windows section definitions should always be set to **WinLatin1**.

Make sure you enter the server names and volume names (case sensitive) exactly as they are displayed for the appropriate platform in an Asset Reference field of the Cumulus Information window/view. This field also shows what you should enter as server name (the IP address or the real server name). The volume names entered must match exactly the names of the volumes themselves. (Note that spaces must not be escaped by quotes.) Make sure you don't enter a UNIX server name.

After the **FileSharing.Info** is edited, the records must be updated to get valid entries for the missing platform asset references. Use a Cumulus Client (Mac or Windows) to update the records (**Metadata** > **Update Records** > **Update now**). Use an Asset Handling Set that has the File System AssetStore for the missing platform asset references activated. After doing so, the Asset Reference field in the Information window/view will show the following UNIX path for a cataloged asset:

//MyServer/MySharedVolume/MyFolderStructure/MyAsset

Without correct **FileSharing.Info** entries, a UNIX reference would look something like this:

MyServer:/home/LoginName/MySharedVolume/MyFolderStructure/MyAsset
This is a *non existing path* and Cumulus *cannot* resolve it.

The entries on the Cumulus FileSharing.Info Macintosh and Cumulus FileSharing.Info Windows tab of Remote Admin FileSharing.Info Settings window can be edited or deleted. To edit an entry, select the desired entry and click **Edit**. To delete an entry, select the desired entry and click **Delete**.

To save the changes you made in the Remote Admin FileSharing.Info Settings window, select **Actions** > **Save**.

Additional Notes

• Best Guess
  If the Unix File System AssetStore is activated, during cataloging, the Cumulus Client tries to create a corresponding UNIX asset reference and sends a request to the Cumulus Server. Using the **FileSharing.Info** file, the Cumulus Server answers this request. If a UNIX asset reference could be created, it is stored with the cataloged asset. If the Cumulus Server cannot create a UNIX asset reference, it stores instead a "best guess" reference such as: **/usr/home/images/picture.jpg**.

• Asset Handling Sets
  When working in a cross-platform environment, Canto recommends using Asset Handling Sets that have the Asset Storage modules for all three different file systems activated: Mac OS File System, UNIX File System and Windows File System.

• Cumulus Internet Solutions and Local Access
  If you run Cumulus Web Client or Portals on a computer other than your Cumulus Server, you might need a configured **FileSharing.Info** file on the computer running the Cumulus Internet Solution. The **FileSharing.Info** file is needed in case the

Cumulus Internet Solution accesses assets that were cataloged locally from the same computer the Cumulus Internet Solution is running on. In this special case, a properly configured **FileSharing.Info** file must be copied to the **etc** (UNIX) or **conf** (Windows) subfolder of the installation folder of the Cumulus Internet Solution. If you use a Cumulus Java Classes installation different from the one in the Cumulus Internet Solution installation folder, the configured **FileSharing.Info** file must be copied to the **etc** (UNIX) or **conf** (Windows) subfolder of that Cumulus Java Classes installation folder.

- Applications based on Cumulus Java Classes
  If you use an additional application with your Cumulus installation, and this application is running under UNIX or OS X on a computer other than your Cumulus Server, you might need a **FileSharing.Info** file on this computer. In this case the configured **FileSharing.Info** file must be copied to the **etc** (UNIX) or **conf** (Windows) subfolder of the Cumulus Java Classes installation folder used by the application.

Report Manager

Cumulus can generate reports based on catalog statistics (number of previews, print outs, mail to, etc.) and reports based on Cumulus Server activity, such as successful and failed search results, client connection rates, and more.

Optional feature! May not be available with your Cumulus configuration.

The Report Manager enables you to configure reports customized to your needs. The created reports can be exported. For example, reports can help you "fine-tune" your metadata values, because you can see exactly what users are searching for. When a search fails, now you can see the term used. Reporting helps you ensure your system is tuned to perfection and that you're getting the most out of it.

Requirements

Generating usage evaluation reports is based on the record field Asset Usage History. This field has to be added to each catalog where you want to track usage. Once added you configure it and mark the activities you want to be tracked in the catalog.

TIP: Asset Usage History Field

The asset usage tracked by this field can also be viewed in the Client application. Divide the Record pane with a sup-pane and select the Asset Usage History filter.

Generating time related reports (search term and licensing reports) is based on a special Cumulus catalog. Its catalog name is **$Statistics** and its catalog file name is **Statistics.ccf**. This manual refers to it as the Statistics catalog.

The Statistics catalog has to be managed by your Cumulus Server, meaning it has to be included in the Catalog Access list. It must not be shared nor published to the Internet.

It is possible to open the Statistics catalog with a Cumulus Desktop Client, but this is not recommended. There is only one reason to open the Statistics catalog with a Cumulus Desktop Client: If you want to have more fields than the default configuration offers, you can add record fields to the Statistics catalog.

Working with the Report Manager

To generate a report you create a report configuration and then use it to generate a report on demand.

Once you have created a report configuration, it is saved and listed under Configured Reports. To generate a report you select its entry and click the **Generate Now** button.

PRECONDITIONS: To use the functions of the Report Manager you must have the appropriate permissions for the Cumulus Server: Create, modify, and delete shared reports. The create permission always includes the modify and delete permissions. The modify and delete permissions can be granted separately. (**Server Permissions** > **Report Permissions**)

Configuring Reports

Reports are easy to configure. You can select from different report types:
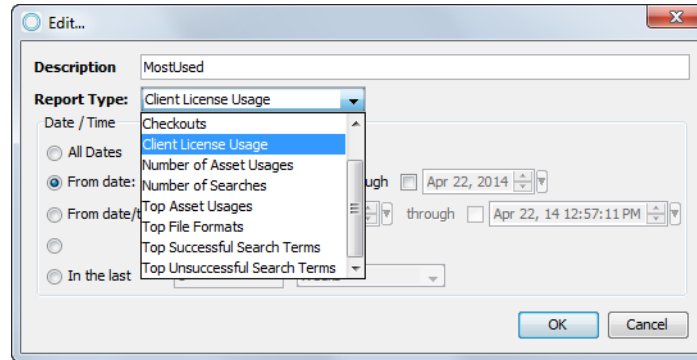
The options available for the report configuration depend on the selected report type.

Usage Reports

Remember that all usage reports require a configured **Asset Usage History** record field in the catalog tracked. Only usage types activated in the fields properties can be tracked and used for reports.

- **Checkouts**
  This report lists all combinations of user + asset along with the number of check-outs and checkout times during the given date range.

- **Number of Asset Usages**
  Depending on the time period, the list contains the number of asset usages (e.g.

"Download" and "Email"). The interval is either minute, hour, day or month depending on the length of the period.

- **Top Asset Usage**
  Select the asset usage kind that should be reported (e.g. "Download"). The report shows the names of the assets that were used and the usage type, sorted by usage frequency.

  The results are displayed in a table that can be sorted by number of occurrence, date, etc. The table contents can be saved into a tab-separated text file to be imported into Microsoft Excel for evaluation and presentation.

- **Top File Formats**
  This report shows the number of assets and the total asset data size per file format for each selected catalog. The purpose is to get an overview of how many assets of each format the catalogs contain and how much disk space they are occupying.

Under **Asset Usages** you will find all usage history options – even those currently not activated for the corresponding catalog. This enables you to generate reports even for usages that are no longer tracked in the catalog. However, make sure that for a report you only activate asset usages for such usages the corresponding catalog can provide tracked data for.

Time Related Reports

Remember that time related reports require the Statistics catalog.

- **Assets Added**
  Depending on the time period the list contains assets that were added to the selected catalogs.

- **Number of Searches**
  Depending on the time period, the list contains the number of queries being per-

formed. The interval is either minute, hour, day or month depending on the length of the period. Note that only textual search operations are taken into account (e.g. in string or string list fields.)

- **Top Successful Search Terms**
  Search terms of queries that had a result. The report contains the frequency as well as the search term that the user entered, sorted by the frequency. Note that only textual search operations are taken into account (e.g. in string or string list fields.)

- **Top Unsuccessful Search Terms**
  Search terms of queries that led to no results. The report contains the frequency as well as the search term that the user entered, sorted by the frequency. Note that only textual search operations are taken into account (e.g. in string or string list fields.)

- **Client License Usage**
  Depending on the time period the list contains the number of users logged on as well as the number of licenses being used. The interval is either minute, hour, day or month depending on the length of the period.

  The results can be displayed either in a table or in a graph. They can be saved into a tab-separated text file to be opened by MS Excel or in a graphics file (e.g. PNG).

- **Generic Asset Query**
  This type of report returns a list of assets that match the given date range and also an optional server-side query. You can select the date field for the range and also sort the result by a given field.

Time Settings for Reports

For any report, you can specify the period of time for which the report shall be generated, e.g. the current year, or the last two months, or the time between July 1st and August 12th, etc.

Note that if you set the period to be covered to "In the last x units of time" (i.e. years/months/weeks/days/hours/minutes/seconds), this always means the last fully completed respective unit(s). For example,

- "In the last 2 days" means yesterday and the day before yesterday, but not today.
- "In the last 2 days up til now" means yesterday, the day before yesterday and today until the current second.
- "In the last 2 days plus current" means yesterday, the day before yesterday and today (entire 24 hours).

Usually, a record covers a period that lies entirely in the past or extends to the very moment a report is generated. However, in certain scenarios even a time period with an end date anytime in the future makes perfect sense – for example, if you want to generate a report on which files will expire within the next three months.

Of course, this will only work if your catalog contains a date field that can contain future dates, such as the field Expiration date. To configure such a report, you must first select the Report Type **Assets found by query** and then an appropriate **Date field for range**. In all other cases, setting a future end date will be without effect.

Generating Reports

To generate a report you select its entry and click the **Generate Now** button.

The generated reports can include text tables and images, which can be exported for use and analysis in spreadsheets, presentations and other programs. The **Save As** button lets you save the reports in formats that can be imported by other applications.

TIP: Defining Times for Reports

The Cumulus Scheduler can run your configured reports at times you define. For more information see "Generating Reports"

Editing or Removing Report Configurations

To edit or remove report configurations select the report's entry and then click the appropriate button.

Scheduler Manager

The Cumulus Scheduler enables you to define and schedule tasks to be automatically performed by Cumulus. It will save you time and increase your productivity by automating frequent tasks. The Scheduler enables you to run time consuming functions during off-peak hours, and also enables you to automate routine tasks. In combination with the Cumulus Trigger feature, the Cumulus Scheduler makes a powerful tool to automate business processes and save wasted resources.

The Cumulus Scheduler consists of the Scheduler Manager and the Scheduler Server Application. The Scheduler Server Application be installed separately (on the computer that you want to perform the tasks; for details see the *Installation Guide*.) The Scheduler Manager lets you set up tasks that are to be performed by the Scheduler Server Application.

PRECONDITIONS: To use the functions of the Scheduler Manager you must have the appropriate permissions for the Cumulus Server: Create, modify and delete shared scheduler tasks. The create permission always includes the modify and delete permissions. The modify and delete permissions can be granted separately. (**Server Permissions** > **Scheduler Task Permissions**)

Setting Up a Scheduler Task

Setting up a Scheduler task includes the specification of:

- the Scheduler Action to be performed,
- the catalogs on which the Scheduler Action will be performed,
- the Scheduler instance that shall perform the task (required if you have one or more Scheduler instances with unique Instance Names installed. Must be left empty if only if there is one Scheduler instance in your Cumulus system, without a specified Instance Name).
- when the Scheduler Action will be performed.

The Scheduler Actions are selected from a list and can be configured. The Scheduler Actions available depend on the Cumulus Server you are connected to. Available actions are stored in a special folder.

How to install and configure the Scheduler Server Application is described in the Installation Guide.

The Scheduler Manager utility is included in the Cumulus Server Console. To work with the Scheduler Manager, a user /role must have the appropriate **Scheduler Task Permissions** (part of the **Server Permissions** of the respective user/role).

To set up a Scheduler Task with the Scheduler Manager:

1. Select the **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. The Server Console is started. Log on as Cumulus Administrator (or the user who has the Scheduler Administrator permission) to the Cumulus Server that manages the catalogs you want to have Scheduler Tasks performed on.

3. Select **Scheduler Manager**. A window opens that lists all Scheduler Tasks.

4. To set up a new task, click the **Create** button. You are prompted to give the new Task a name. Subsequently, the **Add Task** dialog opens.

5. Select the Scheduler Action you want to be performed.
If the selected action can be configured, the **Configure** button is activated and you can configure the action to your needs. (For more information see "Provided Scheduler Actions" .)

6. Determine where the action is to be performed. Click **Add** to choose the catalogs. The list of catalogs is displayed that are managed by the Cumulus Server you are connected to. Select the desired catalogs in the list and click **OK**.

7. Specify the Scheduler instance you want to perform this task by entering its **Instance Name**.

   NOTE: This instance name must match with an existing Scheduler instance name, as defined in the Scheduler's **config.xml** file (for details, see the Installation Guide). – If there is only one Scheduler installed, with no instance name specified, this field must be left empty!

8. Specify when the action is to be performed. Under **Schedule** define:

   • date and time for the first run.

   • the Repeat Interval. You can choose to have it repeated on specific days or use cron notation for more specific time data. If you decide on certain days, simply activate the check box(es) for the corresponding day(s). Cron notation should be used by specialists only.

9. Decide whether and about what you want to be notified via email concerning the run of the Scheduler task under **Notifications**:

   NOTE: Notifications are sent only if the Notification option is activated in the Mail Manager. Also check there whether the email address of the intended recipient is included.

10. Click **OK** to save your settings. Your new Scheduler Task is added to the list.

11. To activate the task, click the **Activate** button. – On activated tasks, the button changes to **Deactivate**.

All activated tasks are performed by the Scheduler Server Application at the time defined in the task. You need only make sure that the Scheduler Server Application is running and that the computer running it is online and can access the Cumulus Server.

From time to time you should check the status of the tasks, as it cannot be granted that they could be executed.

Use the **Run Now** button to execute any Scheduler task immediately. This is very handy when testing, when you don't want a task to run at intervals, or when you need a task to run just once.

Provided Scheduler Actions

Most of the Scheduler actions that Cumulus provides are the basis for powerful work-flow possibilities.

NOTE: Note that some of the provided actions belong to optional features which may not be available with your Cumulus configuration.

Autocatalog Assets

You can configure the Cumulus Scheduler to autocatalog assets from any location on your network, at any interval you need. There's no need to leave a Cumulus Client application running, because the Cumulus Scheduler will handle it all. More so than drop-folder cataloging, this capability can serve as a basis for interfacing Cumulus with other systems that produce documents, such as invoicing systems or software that produces on-demand PDFs (or other formats). Within minutes of those files being produced, they can be safely cataloged into Cumulus and available to you from anywhere.

This Cumulus Scheduler action also provides an email cataloging technology. Cumulus can check a standard POP3 email account and retrieve and catalog any email it finds. Email text is extracted into an asset record, and all attachments are cataloged and linked to the email record.

Select the option to catalog emails from a POP3 or POP3s account, enter the data of your POP3 or PO3s Server, and you can have emails cataloged automatically.

For a POP3s account, the following syntax is required:
`pop3s:pop_server_name:Port` (e.g., `pop3s:pop.gmail.com:995` for Gmail using port 995 and SSL).

NOTE: Autocataloging emails from a POP3 account only works if the respective catalog is set up to use a Central Asset Location (**Edit > Preferences > Catalog Settings > General > Use Central Asset Location**).

Copy, Move or Delete Assets

This action moves assets to archive locations, or deletes temporary or obsolete assets – all automatically, all based on metadata values. It even enables you to use Cumulus

as the distribution system that moves files created by other systems to the locations you need.

You can define metadata values in your catalogs that direct the Cumulus Scheduler to copy, move or even delete assets.

Video Cloud

This action reads the content of certain Video Cloud related record fields and initiates respective actions (upload to / remove from Video Cloud, publish/un-publish). For the Video Cloud feature to work, it is required that a Scheduler task with this Scheduler Action is set up properly.

NOTE: When a Cumulus Video Cloud license or Cumulus Video connector License is added to your Cumulus system, the Cumulus Scheduler must be restarted in order to make the Video Cloud Scheduler action available.

Export Records

This action exports records found by a query to an xml file.
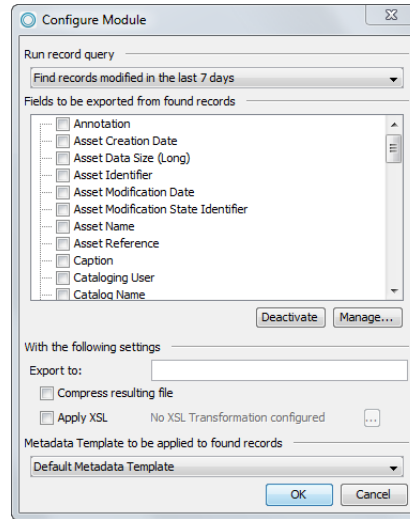
You can select which metadata fields shall be exported from the found records, as well a s a Metadata Template to be applied before the export. You can also choose whether the resulting file is to be compressed or whether an XSL transformation is to be applied.

Generate Usage and Statistic Report

Cumulus reports can be scheduled to occur at intervals you define, ensuring their contents are up to date and accurate. You can determine which reports you want run, choose when you want them run, and choose the catalogs to report on. You can also

choose the output format and the destination for the output. The options available for the output format depend on the report type employed.

Select one of the reports you defined with the Report Manager and then have the Scheduler generate it at times you define for this Scheduler task.

NOTE: Autocataloging Reports: You can use the Scheduler's autocataloging to automatically catalog each new report back into Cumulus.

Start Workflow

This action is used to start a workflow (see Workflows) on all assets that are found by a query.

Note that such a query must be created manually. It is not possible to use a previously saved query! The most convenient way to create a query is to compose it in the Cumulus Desktop Client's **Find** window in **Advanced Mode**, then copy it into the **Query to match** field of the **Configure Module** window.

Set Manager

The Set Manager enables you to export and import shared Cumulus items such as View and Asset Handling Sets as well as Templates, Actions, Collections and Queries. You can select the items before the Import/Export process is started. Another function enables you to unload all individual sets of all disconnected users in order to force a refresh when the users connect to the Cumulus Server again. This function lets the Cumulus Client application reload the individual sets of a user.

PRECONDITIONS: You need to be logged in as the Cumulus Administrator to work with the Set Manager.

To import or export Cumulus items (shortly called: sets) with the Set Manager:

1. Select the **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. The Server Console is started. Log on as Cumulus Administrator to the Cumulus Server that manages sets you want to export or that you want to import sets to.

3. Click the button for the function you want to perform.

4. Follow the on-screen instructions.

As a user administrator you have the job of managing user access to catalogs. Not only does Cumulus let you define whether each catalog is shared by your workgroup, but also how each catalog is shared by each user. In this chapter, you will learn how to set up Client users, how to make catalogs available to Client users, and how to define specific user permissions.

Managing Users

User Management

The Cumulus user management enables you to create users and specify their access rights to catalogs and functions.

Cumulus permissions are based on an additive concept. This means that a new user does not have any permissions by default. This minimizes the risk of granting permissions accidentally but implies that you have to grant any new user at least the minimum permissions a user needs to work with Cumulus.

Cumulus users are managed with the **User Manager** module of the Server Console.

The Users Catalog

The user management is based on a special Cumulus catalog. Its catalog name is **$Users** and its catalog file name is **Users.ccf**. This manual refers to it as the Users catalog.

The Users catalog has to be managed by your Cumulus Server, meaning it has to be included in the Catalog Access list. It must not be shared nor published to the Internet.

It is possible to open the Users catalog with a Cumulus Client, but this is not recommended for user management. There is only one reason to open the Users catalog with a Cumulus Client: The user data are stored in record fields. If you want to have more fields than the default configuration offers, you can add record fields to the Users catalog. If you do this, always use the version of the Cumulus Client application that fits the version of your Cumulus Server.

Modes

Cumulus is intended to meet the needs of many different customers. This is why the Cumulus user management offers different modes. Whether you settle for user-based or role-based mode defines the method by which permissions are assigned. For both methods a simple and advanced view is offered for granting the permissions.

User- and Role-Based Mode

Cumulus provides two different modes for the method of managing users:

- the user-based mode where you assign the permissions to each user individually OR

- the role-based mode where each user can be assigned to roles that include certain permissions *(Note that this is an optional feature which may not be available with your Cumulus configuration.)*

While the user-based mode is intended for a small number of users to be administered, the   role-based mode is intended for a large number of users. You can create roles that you use to assign a common set of permissions and catalogs to multiple users. Organizing users by defining roles makes it easier to manage access rights. With this strategy, rather than assigning permissions to each user for each object, you assign permissions to a few roles and then add users to the appropriate role. When using Cumulus, users are granted permissions based on any roles to which they belong.

When you create a user account for a new user, you add that account to the appropriate role. Then, the user has the permissions associated with that role. Also, changing

permissions is easier: rather than having to change permissions for each and any user individually, you simply change the permissions assigned to the role.

If you work with the role-based mode and you have a LDAP server, you can define mappings from LDAP groups to Cumulus roles. By using this mapping you no longer need an entry for this user in the User Manager. (See "Cumulus Roles", for further information.)

You have to decide which mode you want to work with. Once you have switched to the role-based mode you cannot switch back to the user-based mode. Both modes offer the same range of functions – except that the role-based mode offers roles to "bundle" users. So in case you have Cumulus users that can easily be "bundled" or split into different groups, we recommend that you employ the role-based mode. And we do *not* recommend that you start with the user-based mode and then switch to the role-based mode, otherwise each user you have defined will be converted to be a role.

The user-based as well as the role-based mode works with the Users catalog and the User Manager module to manage users with this catalog.

Simple View and Advanced View

The user-based as well as the role-based mode can be used in either the simple or the advanced view. The simple view subsumes several permissions whereas the advanced view lets you assign permissions in a very granular manner. For more information, see "Simple View: Permissions", and "Advanced View: Permissions".

The simple view enables you to set user or role permissions for a single catalog, or your entire Cumulus Server with just a few mouse clicks. You can switch to the advanced view when you need to make more granular changes. Both modes are always available, so you don't have to choose just one.

User Manager

To work with the User Manager you need to have the appropriate Administrator permissions for the server: Global User Administrator.

The User Manager is one module of the Cumulus Server Console. To start the User Manager:

1. From within the Cumulus Client, select **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. Log on to the Cumulus Server you want to administrate as Cumulus Administrator or as user who has the permission: Global User Administrator.

   The modules of the Server Console application are loaded.

3. Click the + icon on the left side of the **User Manager** entry. Then click on **Users** or **External Users**. The **Users** list is displayed.

User Types

The User Manager has two sections, corresponding to two user types: Users and External Users.

Basically, there is no difference between external and 'normal' users. This distinction is only a descriptive one. Both normal and external users can be created and configured manually. External users, however, can also be created automatically.

An external user is created automatically each time a collection link is sent to an email address so far unknown to Cumulus. The purpose of such a user is to allow Cumulus to monitor the usage of the collection link. Initially, automatically created external users have no permissions at all, and the only thing Cumulus knows about them is their email address.

The User Administrator may add more information to an external user and may grant any desired permission. Thus a user without any permissions can eventually be promoted to a full-fledged Cumulus user. Changing a user's type from external to "normal" or vice versa is also possible any time. However, changing the User Type value does not affect the permissions a user is granted.

Creating Users

A new user does not have any permissions by default. We recommend that you create "typical" user accounts that fit the needs of your organization first and then duplicate these user accounts to set up the real users. However, when using this method, remember to keep such users up-to-date, e.g. when adding new catalogs. Create as many of these template users as you need.

TIP: Specific Initial User Settings

Administrators have no access to a user's preference settings, so users must perform user setting changes on their own. If you want to provide specific initial User Settings for each newly created user, log in as the user that is used as a template for new users and configure the user settings as needed. New users created by duplicating this template user will then have the same initial user settings.

To add a new user to the Users list:

1. Click the **Create** button.
   OR
   Select your "typical" user and click the **Duplicate** button.

   IMPORTANT! Check whether this user's properties are up-to-date – especially the catalogs that she/he is allowed to access.

   The **Input** window appears.

2. Enter the Login name for the new user and click **OK**. The name must be unique.

   The properties window for the new user appears.

   The **Unique User ID** option is activated by default. Deactivate this option only if an external UUID (e.g. provided by LDAP) is to be used exclusively instead of the UUID provided by the Cumulus built-in authenticator. (For more information on the Unique User ID, see "User Identification" .)

3. Activate **Login Active** if you want to allow the user to work with Cumulus as soon as you have closed the user's properties window.

4. Select the authentication method. You can choose different methods for different users of your Cumulus installation. The provided choice of authentication methods is:

   • **Built-in** – The Cumulus built-in authentication will be used exclusively. Advantage: Independent from the operating system you are using.
   With this authentication method only, different options for changing the password are available.

   • **System** – The user password will be authenticated by the Operating System. Advantage: No need to administrate a separate Cumulus password.

   • **LDAP** – If you are employing LDAP (Lightweight Directory Access Protocol) the user password will be authenticated by LDAP. Advantage: No need to administrate a separate Cumulus password. (See "LDAP Authentication Method", for details on how to use this method with Cumulus.)

5. Click the ⬚ button to enter a password for the new user.

   NOTE: Don't forget to inform your new user about this login name and password.

6. Enter the data for the new user in the corresponding fields of the **General** and **Additional Fields** sections. (See "Overview: User Properties – General & Additional Fields", for more information on the sections and fields).

7. If working in user-based mode: Set the permissions for the new user. (See "Simple View: Permissions", or "Advanced View: Permissions", for more information.)

   If working in role-based mode: Assign the user to a role. On the Role tab click the **Add** button to get a list of available roles. Select the role(s) you want to assign to the user and click **OK**.

   NOTE: Due to the additive permissions concept, the permissions a user has got are the sum of the permissions given to all roles the user is assigned to.

8. Click **OK** to save the defined properties.

Duplicating, Editing and Deleting Users

For duplicating, editing and deleting users select the user's entry and then click the appropriate button. Duplicating a user works the same way as creating a new user except that when duplicating the properties of the duplicated user are copied for the new user – all properties except the login name.

User Properties

A Cumulus user's properties include her/his contact information and, in the user-based mode, the permissions she/he has for functions and catalogs. The User Properties window has several tabs that provide access to the information stored on a user. These tabs are:

- General Tab – Login information and basic personal information
- Additional Fields Tab – Additional contact information on the user

Tab provided in Simple View mode only:

- Simple View: Permissions Tab – Global permissions and catalog permissions

Tabs provided in Advanced View mode only:

- Catalog Access Tab – Cumulus catalogs the user is allowed to access
- Catalog Permissions Tab – Permissions the user has on these catalogs
- Server Permissions Tab – Permissions the user has for functions and objects managed by the Cumulus Server.

Tab provided if Cumulus is running in role-based mode:

- **Roles** – Roles the user is assigned to

The following overview describes the **General** and **Additional Fields** sections only.

Overview: User Properties – General & Additional Fields

The User Properties window has several sections that provide access to the information on the selected user.

General Tab

The General tab contains the basic information on a user.

1 **Login Active** – *Must be activated to enable the user to log in.*

2   **Login Name** – The user's login name; the name must be unique.

3   **Unique User ID** – If activated, user will always be identified by the UUID. For more information, <u>see "User Identification"</u> .

4   **Authentication Method** – The current authentication method.

5   Click her to open a drop-dow n list with available authentication methods. For more information on authentication methods, <u>see "Creating Users"</u> .

6   **Password** – The encrypted password. (Note that the placeholder stars are shown even if no password is set, e.g. when creating a new user.)

7   Click here to enter or change the password.

NOTE: *Don't forget to inform the user about a new or changed password!*

8   **Password Modification Date** – Date of the last password modification. This date along with the maximum password age defines when users must to change their password. The value for the maximum password age is defined in the Cumulus Server Settings (<u>see "Overview: Cumulus Server Settings"</u>).

9   **E-Mail Address** – A valid email address. If no email address is specified, the user cannot make use of any of the email functions of Cumulus Web Client or Portals.

10   **Login Expiration Date** – If no date is specified, the user's login will never expire.

11   Click this button to select an expiration date for the user's login.

12   **Password Options** – Select an option for changing the password. (Only available with the Cumulus built-in authentication method.)

NOTE: *The **Password never expires** option overwrites the maximum password age set for Cumulus users' passwords in the Cumulus Server Settings (<u>see "Overview: Cumulus Server Settings"</u>).*

13   **Switch to Advanced View** – Button to toggle the permissions management from Advanced View to Simple View and vice versa. The Advanced View provides three tabs for the permissions management, whereas in Simple View the user or role permissions are subsumed and offered on one tab. For details <u>see "Simple View and Advanced View"</u> .

Additional Fields Tab

What is displayed in this tab depends on the record fields of the Users catalog. These fields generally contain optional information and are displayed in alphabetical order (A-Z). Most of them are self-explanatory.

14 **User Language** – The language the user prefers for email messages sent by Cumulus. Select the desired language from the drop-down list.

NOTE: *Selecting a user language only take effect if there are mail templates available in the selected language. Out-of-the-box, Cumulus currently provides English and German templates only. If you select a language that has no localized templates, English will be used as the fall back language.*

15 **User Type** – Depending on this value, the user is either listed in the User section, or in the External User section of the User Manager.

16 Saves the information on the user and closes the window.
The changes will take effect with the users next login.

17 Closes the window without saving any changes.

Simple View: Permissions Tab

For details *see "Simple View: Permissions"*

Advanced View: Catalog Access, Catalog and Server Permissions Tabs

For details see "Advanced View: Permissions"

User Identification

Cumulus uses a Unique User ID (UUID) for user identification as well as for checking a user's record and category permissions. A UUID consists of a definition of the authenticator and a unique ID from the authenticator. The authenticator is required to provide a unique ID.

By default, the user will always be identified by the UUID provided by the Cumulus built-in authenticator and stored in the Users catalog. The **Unique User ID** option on the **General** tab of the user's Properties window is activated,

If you employ a different authenticator (e.g. LDAP), it might provide own UUIDs. If you want to use these UUIDs, you must deactivate the **Unique User ID** option in the Cumulus user's properties.

NOTE: Changing the Authentication Method!

If you change the authenticator and use its UUIDs, the permissions set for a user are no longer valid. They must be set again for the 'new' user (identified by the UUID of the other authenticator.)

Simple View: Permissions

In simple view the user or role permissions are subsumed to global permissions or permissions on catalog base.

Permissions Tab

You can either grant a user global permissions or grant "individual" permissions for catalogs. Once you grant a user the global permission, the user has this permission for any catalog – no matter whether the permission is given for the catalog or not.

Global Permissions

*   Read Metadata – User can view catalogs and the metadata of all records and categories.
*   Write Metadata – User can edit the metadata of all records and categories, e.g. can catalog assets and add metadata to records.
*   Delete Records & Categories – User can delete records (and their assets) as well as categories.
*   Manage Sets & Templates – User can create, edit and delete sets, templates and actions (all items defined for the Cumulus application in the Preferences window – except Catalog Templates and Catalog Settings).
*   Administrator – User can perform all administrative tasks and use the according utilities (e.g. User Manager, Backup Manager). The user is also allowed to configure Cumulus Vault, define Scheduler tasks and generate reports.

Permissions for Individual Catalogs

*   Read – short for Read Metadata (description see above)
*   Write – short for Write Metadata (description see above)
*   Delete – short for Delete Records & Categories (description see above)

IMPORTANT! Minimum Permissions
In simple view the minimum permissions required for a user to work with Cumulus are: Read for at least one catalog. Or if catalog specific permissions are not required, Global Permission Read Metadata.

TIP: Simple View in Conjunction with Advanced

You can use the simple view in conjunction with the advanced view – make "broad stroke" permissions settings in simple view and then fine tune them exactly as you need in advanced view.

Advanced View: Permissions

Cumulus provides an enhanced permissions management. Each user's or role's properties include several permission sections:

- **Catalog Access** – Cumulus catalogs the user is allowed to access.
- **Catalog Permissions** – Permissions the user has for these catalogs.
- **Server Permissions** – Permissions the user has for functions and objects managed by the Cumulus Server.

NOTE: Permission changes made to the account of a connected user will not take effect until that user logs out and back in again. Keep this in mind whenever you're testing permissions options on your Server.
If you don't log out of your test account, you might think your changes are not taking effect.

IMPORTANT! Minimum Permissions
In advanced view the minimum permissions required for a user to work with Cumulus are: the Application Permissions **Open Catalog with any Cumulus Client**, **View Item** for Records and access to at least one catalog, one Record View Set and one Category View Set.

Catalog Access Tab

The permissions for a user's access to catalogs are defined in the Catalogs section of the Properties window for the user or role.

You can allow a user to have access to all catalogs that are managed by the Cumulus Server or restrict the access to selected catalogs.

Access to All Catalogs

If the **Restrict Catalog Access** option is not enabled, the user is allowed to access all catalogs that are managed by the Cumulus Server and enabled for sharing. In this case

* all catalogs added to the Cumulus Server are automatically available to this user
* the permissions set in the Permissions section are valid for all catalogs.

Restricted Access to Selected Catalogs

If the **Restrict Catalog Access** option is activated, you can set the permissions either for all of the allowed catalogs at once, or for each of the allowed catalogs individually.

Before you consider activating the **Restrict Catalog Access** option, you should be aware of the following. In this case, each newly created catalog which you want this user to have access to must be added to the list of catalogs.

IMPORTANT! Restrict Catalog Access Option
Any user should have access to at least one shared catalog!

Catalog Permissions Tab

A user's permissions for catalogs are defined in the Catalog Permissions section of the Properties window for the user. The catalog permissions refer to the catalogs defined in the Catalogs section of the Properties window.

A user's permissions for catalogs can be set collectively for all allowed catalogs or individually for selected catalogs. However, note that the permissions individually set for

selected catalogs are always added to the permissions that are set for all allowed catalogs.

Once you have clicked on the Catalog Permissions section of a user's properties, you select the catalog you want to set the permissions for. Set the permission for **All Allowed Catalogs** first and then select the catalog for which you want to set the permissions individually.

Application Permissions

The Application Permissions define the user's general permissions for functions on catalogs, records, categories and assets as well as the user's permissions when accessing Cumulus via Web.

NOTE: If you give one of these permissions for **All Allowed Catalogs,** the user will have this permission for all catalogs managed by your Cumulus Server.

IMPORTANT! Minimum Application Permissions
The minimum Application permission required for a user to work with Cumulus is **Open Catalog**.

Individual Record or Category permissions.

With Enterprise or the Extended Permissions add-on, these Application permissions can be expanded by individual Record or Category permissions. If you want to make use of this feature, you can follow two different concepts:

• You assign the Application permissions as needed in general and use the individual Record or Category permissions to add permissions for selected records and categories due to special purposes.

- You reduce the Application permissions to a minimum of permissions (even none) and use the individual Record or Category permissions to set permissions on the record/category level. This concept offers the advantage that you can remove permissions for specific users/roles on the record/category level. You can even use a Permissions Template to do so. If following this concept, Canto recommends you to set up a special Permissions Template used for cataloging that assigns the permissions you would like a 'normal' user to have.

For more information on individual Record or Category permissions, see "Assigning Individual Permissions for Records and Categories ".

The following section describes which permission is needed to perform which function.

Permissions for Entire Catalog

These permissions govern the user's access to the selected catalog itself.

- **Open Catalog with any Cumulus Client** – needed to gain access to the catalog in order to open it; e.g with a Cumulus Client application to get the catalog displayed in the Catalog Access window. "Any Cumulus Client" includes the Cumulus Client application, Cumulus Web Client, Portals, HELIOS Companion, and any individually programmed application based on Cumulus Java Classes.

  NOTE: The catalog access can be restricted to certain Cumulus Client versions and variations. See "Client Groups", for further information. If you have set up any Client Groups, the options for the Catalog Permissions will be enhanced with an entry **Open Catalog with** for each defined group.

- **Modify Catalog Category Permissions** – needed to define permissions for categories that represent catalogs (optional.)

- **Manage Catalog Triggers** – needed to create, edit and delete own triggers for catalogs.

Permissions for All Records and Categories

The following permissions govern the user's access to the records or categories of the selected catalog(s).

- **View Item** – With Enterprise or the Extended Permissions add-on only: allows a user to see all records/categories – even if Live Filtering is active.
- **Create Item** – needed to catalog assets/create categories and to import records/categories.
- **Modify Items** – *For records*: needed to modify records (manually or via automation) and to update records (as this includes modifying the records). This permission is also needed for checking assets in or out with any version control system, e.g. Cumulus Vault.
  A user who is allowed to modify records, may additionally be allowed to change the asset reference that is included in the record. The permission for modifying the asset reference must be given explicitly by assigning the **Modify Item Reference** permission.
  For categories: needed to rename, modify and move categories and for the synchronization and auto-cataloging functions.
- **Delete Items** – needed to delete records/categories.
- **Modify Item Permissions** – With Enterprise or the Extended Permissions add-on only: needed to edit individual record/category permissions.
- **Manage Item Triggers** – needed to create, edit and delete own triggers for records/categories.

Asset Permissions

The following permissions govern the user's access to the assets of the selected catalog(s).

- **Delete Assets** – needed to delete assets.
- **Transfer Assets** – needed for any function where accessing the asset directly is required but where the user of a Cumulus Client application (e.g. Desktop or Web) cannot access the assets directly. In other words, this permission grants the Server/Client asset transfer function. This function allows e.g. to copy files from the Server to a client without direct access to the asset or to provide a rendered preview. With Cumulus Vault, this permission is needed for accessing assets (e.g. copying, moving).
- **Asset Versioning** – needed to use any version control system, e.g. Cumulus Vault. Along with this permission the **Modify Item** permission is always needed on the respective asset record to check assets out or in.
- **Download Asset** – needed e.g. with Cumulus Web Client and Portals.
- **Show Original Asset** – needed e.g. with Cumulus Web Client and Portals to have the original asset displayed or downloaded.
- **Email Assets** – needed with Cumulus Web Client versions prior 9.0 for emailing assets. Might be used for individual integrations.

For information on the component related use of permissions see:

- Cumulus Web Client: "Configure user permissions"
- CIP: "Permissions for Accessing/Downloading Files via CIP-based Applications"

Subtable Permissions

The Application Permissions also define a user's permissions for Table fields. The User Comments feature is based on such a subtable. This means that the permissions for

this feature are managed with the permissions granted for the corresponding field: User Comment Thread. To make full use of the User Comments feature, a user needs the view, create, modify and delete permissions.

Tracking an asset's usage history is also based on a Table field: Asset Usage History. If you want a user to be able to see an asset's usage history, you have to grant the view permission to that user.

Administrator Permissions

The Administrator Permissions refer to administrative functions for catalogs.

NOTE: If you grant one of these permissions for **All Allowed Catalogs,** the user will have this permission for all catalogs managed by your Cumulus Server.

- • **View Catalog Settings** – The user is allowed to view the selected catalog's settings in the Catalog Settings window of the central Cumulus Preference window.
- • **Modify Catalog Settings** – The user is allowed to make modifications for the selected catalog in the Catalog Settings window of the central Cumulus Preference window. A user who is allowed to modify the catalog's settings, may additionally be allowed to set up and modify a central asset location for the selected catalog. The permission for modifying the central asset location must be given explicitly by assigning the **Modify Central Asset Location** permission. The permission for setting up mirroring for the catalog must be given explicitly by assigning the **Manage Mirroring** permission.

NOTE: Canto recommends that you allow only one user to have access to this or have one person responsible per catalog. If several users have the permission for modifying the Catalog Settings you might get into trouble when they modify at

the same time, as the first user accessing the Catalog Settings and saving changes blocks those with access to the Catalog Settings from saving their changes.

- **Manage Log Files** – The user is allowed to start the Log Manager module and set up a log file for the selected catalog.
- **Monitor Activity** – The user is allowed to start the Activity Monitor module and to view the list of users connected to the selected catalog. The user is also allowed to disconnect users from the selected catalog.
- **Trigger Administrator** – needed to create, edit and delete all triggers of all users.
- **Media Delivery Cloud Administrator** – needed to operate the Media Delivery Cloud (MDC) plugin.

Automatic Tagging Permissions

The Automatic Tagging permission controls the use of the Automatic Tagging feature.

- **Automatic Tagging User** – users with this permission can use the Automatic Tagging feature.

Video Cloud Permissions

Video Cloud permissions define in which way and to which extent a user can make use of the Cumulus Video Cloud feature.

- **Video Cloud Administrator** – needed for any user who can access the Video Cloud module of the Web Server Console, and who can manage video files on the Video Cloud service (uploading to/removing from Video Cloud, publishing/unpublishing).

- **Video Cloud Contributor** – needed for users who can make use of the embed code with different skins, make use of derivatives, and can view same status information.
- **Video Cloud Consumer** – needed for users who only can make use of the video link URLs and embed codes, and can select different size values for the embed code.

Additional Permissions

This section gives you the possibility to include permissions that are used by additional EJaPs, Internet solutions and solutions based on Cumulus Java Classes. For details as to which permission should be included, ask the producer or programmer of the additional software.

Set, Action, Query and Template Permissions

For the selected catalog, you can restrict the user's access to selected items of one type (sets, actions, queries and templates). If you restrict the user's access to a selection of shared items of this type, the items not selected will not be available for the user.

NOTE: If you grant one of these permissions for **All Allowed Catalogs,** the user will have this permission for all catalogs managed by your Cumulus Server.

If the **Restrict Access** option is not enabled, the user is allowed to access all shared items of the selected type that are enabled for sharing.

To restrict a user's access to a selection of shared items only, enable the **Restrict Access to** option. Use the **Add** button to set up the selection.

If the **Restrict Access** option is enabled, you have to add items. Otherwise the user has no access to any item of the selected type in the catalog.

Before you consider activating the **Restrict Access** option, you should be aware of the following: each newly created item which you want this user to have access to must be added to the list.

If the user is working with a multi-catalog collection (a collection that includes records from more than one catalog), the new impact of the **Restrict Access** option has the following consequences when selecting sets, actions, queries and templates: The user can only choose items that are available for him/her for all catalogs included in the collection. In other words, only such items that belong to the intersection of the permissions that the user has for all catalogs included in the collection. If the user opens another catalog in an existing collection, the selection of available sets, actions, queries and templates might change.

NOTE: Be careful when using this permission feature. Erroneous configurations for Record and Category View Sets can prevent the user from seeing any records/categories.

IMPORTANT! Restrict Access Option
A user needs at least access to one Record View Set, one Category View Set and one Asset Handling Set. Without these permission granted, a user cannot open a catalog.

TIP: Checking Assigned Sets, Templates etc.
The Server Console Action menu offers a Check Users Catalog *function for the User Manager item. This function searches for settings (sets, templates etc.) that are assigned to users (or roles) in the Users catalog but no longer available with your Cumulus installation. If any settings are found that are assigned but not available, the function lets you remove the assignments from all users (or roles) in the catalog.*

NOTE: Migration
The permissions for sets, actions, queries and templates are new since Cumulus 6.5. You have to add these permissions to the properties of each user of your former Cumulus 6 installation.
In Cumulus 7, this **Restrict Access** option for the items listed above has been moved from Server Permissions to Catalog Permissions. This enhances the impact of the option: now the restricted access can be set on a catalog-by-catalog basis.
The only **Restrict Access** option available under Server Permissions belongs to **Collections Permissions** because collections can span across catalogs.

Server Permissions Tab

A user's permissions referring to the Cumulus Server are defined in the Server Permissions section of the Properties window for the user. The permissions defined in this section do not refer to any catalog but to the settings managed by the Cumulus Server.

User Permissions

These permissions define what the user is allowed to modify on her/his own user settings in the User Settings window of the central Cumulus Preference window.

The permissions refer to the different sections of the User Settings window.

If you are working in role mode, the **User Permissions** section additionally provides the possibility to replace certain user settings of all users belonging to a role with the

settings of a defined user. Thus you can easily achieve that all users belonging to a certain role have, for example, identical search and sort settings.

All you have to do is to create a new user, specify his/her user settings according to your ideas, then take this user to have the appropriate settings applied to all other users belonging to the role. Changing the settings of your template user, affects the settings of these users accordingly as soon as they log in (again).

If certain user settings are replaced by the settings of a specific user, the members of the role are no longer allowed to change their respective user setting by themselves. If, for example, the **Replace Search & Sort Settings with settings of** is activated (as seen in the screenshot above), the **Modify Search & Sort User Settings** option is deactivated automatically.

IMPORTANT! Be careful with users belonging to more than one role!
If different roles have defined user settings replacement for the same parts of the user settings, but from different template users and with different values, the result for a user belonging to several roles is a purely random replacement!

Run-as Permissions

The Run-as permissions define as which other user(s) a user may act.

You can allow a user to have access to all catalogs that are managed by the Cumulus Server or restrict the access to selected catalogs.

The Run-as function (**File > Administration > Connect to Server As**) is useful e.g. for substitution purposes, or for an administrator who needs to test the configuration of users or roles.

Administrator Permissions

You can assign the following administrator permissions:

- **Backup Administrator** – The user is allowed to start the Backup Manager module and define rules for the automatic backup of catalogs.
- **Vault Administrator** – The user is allowed to administer the Vault Server.
- **Mail Administrator** – The user is allowed to work with the Mail Manager and configure Cumulus to work with an email server.
- **Web Solutions Administrator** – The user is allowed to work with the Configurator modules for Cumulus Web Solutions to administrate e.g. Web Client.
- **Workflow Administrator** – The user is allowed to:
  - create, edit and delete workflows (via the Web Server Console);
  - add them to, remove them from, and update them in catalogs (via the preferences dialog). – Note that this requires additional permissions: **Catalog Permissions > Administrator Permissions > View Catalog Settings** and **Modify catalog Settings**!
  - Additionally, the user is allowed to remove workflows from files (via the Desktop Client or Web Client).

User Administrator Permissions

You can assign the following user administrator permissions:

- **Browse for Users** – The user is allowed to employ the **Add User** button to search for users when setting up Triggers with Mail Notification for other users and – optional only – individual permissions for records/categories and Permissions Templates. With Cumulus Enterprise, this permission is also required to be able to search for users with the **Restrict Edit to the following Users and Roles** or the **Restrict field visibility to the following users and roles** options in the properties of a record or category field.
  The Browse for Users permission always includes the Browse for External Users permission. (See *User Types* to find out about the difference between external and internal users.)

- **Use External Users** – The user can send upload links or personalized collection links to already existing external users, and can assign such users to workflows
  - **Browse for External Users** – When entering recipients' email addresses for upload links, personalized collection links, or workflow assignments, the user gets proposals for already existing external users according to the characters entered into the address field.

  NOTE: The status of this check box only takes effect if the Browse for Users check box is not activated! In this case, activating this check box will allow a user to browse for external users, but not for internal ones.

  - **Create External Users** – The user can send upload links or personalized collection links to recipients so far unknown to Cumulus. A new external user is created in the $users catalog whenever such a link is sent to an unknown user.

NOTE: Users having only the Use External Users permission (but not the Browse for External Users or the Create External Users permissions) can send links to existing external users anyway, if they know their email addresses. If a valid email address of an external user is entered, Cumulus displays a respective notification (depending on the used client).

- **Global User Administrator** – The user is allowed to work with the User Manager. If Cumulus runs in role mode and you work with departments, a user with the Global User Administrator permission can manage users and roles for all departments.

- Department User Administrator Permissions (available only if Cumulus runs in role mode, you work with departments, and Global User Administrator is not activated). – The user can have department-specific user administration permissions which are specified in this table.

  Keep in mind that the effective permissions may differ from the assigned permissions! For example, assigning read-write permission to a top-level department results in read-write permissions for all subordinate departments, no matter what permissions they are assigned to individually. If Global User Administrator is activated, the Effective Permission is always Read Write.

NOTE: Department-specific user administrator permissions only operate if **Global User Administrator** permissions is deactivated.

Additional Permissions

This section gives you the possibility to include permission that are used by additional EJaPs, Internet solutions and solutions based on Cumulus Java Classes. For details as

to which permission should be included, ask the producer or programmer of the additional software.

Collections Permissions

You can assign the following collections permissions:

- **Create Shared Collection** – The user can create collections that can be share with others.
- **Create Download Collections** – The user can create download collections.
- **Create Upload Collections** – The user can create upload collections (by sending out upload links).
- **Modify Shared Collections** – The user can modify shared collections, including upload and download collections (add or remove items; edit a collection's name). – Note that you can't manually add items to upload collections!
- **Delete Shared Collections** – The user can delete shared collections, including upload and download collections.
- **Manage User Collections** – The user can create, modify and delete private collections

NOTE: Manage User Collections
This permission is also required for saving the contents of the Collection Basket of the Cumulus Web Client, or of Cumulus Portals.

Set, Action, Query and Template Permissions

These permissions define how the user is allowed to work with:

- Record View Sets

- Category View Sets
- Asset Handling Sets
- Asset Actions
- Metadata Templates
- Print Templates
- Crop Templates
- Permissions Templates (optional)
- Sub-Pane Filters
- Scheduler Jobs
- Record Queries
- Category Queries (optional)

The permissions you can set for all these items are similar. For each type you can define whether the user is allowed to manage her/his own sets, actions, queries and templates. The permission **manage** includes creating, viewing, modifying and deleting.

For shared items you can grant the following permissions to a user (or role):

- Create
- View (in the Preferences window)
- Modify
- Set Default
- Delete

You can set these permissions for all shared items.

Live Filtering

Optional feature! May not be available with your Cumulus configuration.

You can configure users to have a "filtered view" on a catalog. The view of a user or a user group can be limited to preselected categories and/or records. For example the asset access for the sales staff can be limited to final, approved material, while the work in progress in the Marketing department should not be visible.

If you want to restrict a user or a role to seeing and working with only certain categories and/or records, you can do so by means of Categories and/or Records Live Filter. These filters are defined via saved search queries. If you restrict the access to a catalog by means of a Live Filter, the user's access to the catalog is restricted to the search result of the query employed as filter. Each time the user opens the catalog, a search employing the selected query is performed. That way the user gets a current result of the search query you defined to work with.

Live Filtering works and must be specified for each catalog individually.

As a prerequisite to make Live Filtering work with a specific catalog, the user's View Items permission for Records or Categories must not be set for the this catalog (see below, step 4 and step 5).

To restrict the access to a catalog through filters:

1. Open the user's or role's properties in **Advanced View**.
2. Select the **Catalog Permissions** tab.
3. Via the **Permissions for** menu, select the catalog for which you want to activate the Live Filtering.

NOTE: You cannot activate Live Filtering if **All allowed catalogs** is selected in the **Permissions for** menu.

4. In the icon column on the left side, click the **Application Permissions** icon.

5. In the **Permissions for All Records and Categories** section, deactivate the **View Item** permission for records and/or categories, depending on the kind of Live Filter you want to apply.

6. In the icon column on the left side, click the **Live Filtering** icon.

7. To restrict the access to selected categories, enable the **Use Category Live Filtering** option. Then select the query to be used. For a centrally stored shared query use the **Use Query** button. For any other exported query use the **Use File** button.

   NOTE: Make sure to select a query that does not contain placeholders!

8. To restrict the access to selected records, enable the **Use Record Live Filtering** option. For this option you can select one of the following ways of filtering records:

   • **Automatically Use Resulting Categories for Record Live Filtering**
   The user will only see the records that are assigned to categories that have been found by the query used for Category Live Filtering.

   • **Use Record Query**
   The user will only see the records found by the selected record query. For a centrally stored shared query use the **Use Query** button. For any other exported query use the **Use File**.

9. Click the **Use Query** or **Use File** button to open a window for selecting the corresponding query or file.

NOTE: If you cannot open the default folder for storing queries, check the folder's properties. If they are set to **Hidden**, this folder cannot be addressed by the Select dialog. You either have to change the folder properties or save the queries to another location that you can access.

10. Select the query you want to apply as filter and click **OK/Select**. Make sure to select a query that does not contain placeholders! The query is saved with the filter and the search conditions of the query are displayed. Note that the data of the query is saved with the filter and if you change the query later on, the filter will not be changed accordingly.

    NOTE: If you want to use an exported query file, make sure that the query you select matches the corresponding Live Filtering option:
    – For **Live Filtering Categories,** use a category query (i.e., saved with the **Find Categories** window).
    – For **Live Filtering Records**, use a record query (i.e., saved with the **Find Records** window).
    It is a good idea to give the queries meaningful names.

    For **Live Filtering Records** additional options are offered. Under **Live Filtering Options**, you can define if the records displayed for the user include records from categories above and/or below the found categories. This is important only if your defined Record Live Filtering includes categories as a filtering condition (either based on the result of Category Live Filtering or using a record query that searches in the Categories record field).

11. Click **OK** to save the user's properties.

    The Live Filtering access restrictions are valid next time the user or a member of the respective role logs on to the Cumulus Server.

To undo a Live Filtering restriction, disable the corresponding option. The query will not be active any more. If you want all records/categories to be available for the user/role again on the next log in, you must additionally activate the View Items permission for records and/or categories.

Live Filtering and the Additive Permissions Concept

Remember that Cumulus permissions are based on an additive concept. By default, Live Filtering works in accordance with this concept.

Multiple Roles

If a user is assigned to multiple roles, her/his permissions are the sum of the permissions of these multiple roles. So if assigned to multiple roles with different Live Filtering restrictions, the user has access to the sum of the search results defined by the queries applied to those roles.

Queries and View Permissions

A user who is allowed to open a catalog but not to view its records or categories will nevertheless be able to see the records/categories found by the queries assigned to her/him by Live Filtering.

Individual Permissions for Records and Categories Precede Queries

A user who by individual permissions for records/categories is allowed to view records/categories will always see them – regardless of the results of Live Filtering queries. Individual permissions for records /categories have priority.

Working with the Role-Based Mode

Optional feature! May not be available with your Cumulus configuration.

Before you start working with the role-based mode, you should set up a role concept that fits the company needs.

You can create roles that you use to assign a common set of permissions and catalogs to multiple users. A role includes:

- Catalogs – Cumulus catalogs an assigned user is allowed to access.
- Catalog Permissions – Permissions an assigned user has for these catalogs (including Live Filtering options).
- Server Permissions – Permissions an assigned user has for functions and objects managed by the Cumulus Server.

Switching to Role-Based Mode

Once you have decided to work with the role-based mode, you have to switch to this mode.

NOTE: This switch cannot be undone.

1. Highlight the **User Manager** entry in the left panel of the Server Console.
2. Select **Actions** > **Switch to Role-Based Mode**. A warning is displayed.
3. Click **Yes**. A message informs you that you have to disconnect from the Server in order to have the role-based mode activated.
4. Click **OK**.
5. Select **Server** > **Disconnect**.
6. Select **Server** > **Connect.** Log on to the Cumulus Server again as Cumulus Administrator or the user who has the permission (User Administrator). Now the role-based mode of the User Manager is active.

If the you have switched to role-based mode of the User Manager, the User Manager entry in the Server Console offers a new option: Roles

To reveal the Roles click the + icon on the left side of the User Manager entry. Then click on the entry **Roles**. The list of roles will be displayed.

The first step when working with the role-based mode is creating roles.

Creating New Roles

To create a new role:

1. In the Roles list, click the **Create** button...
2. Enter a name for the new role and click **OK**.

   NOTE: If you want to use the automatic role mapping between LDAP groups and Cumulus roles, the role name needs to match the value of an attribute of the corresponding LDAP group. (For details on how to map roles and LDAP groups, see "Cumulus Roles".)

   The properties window for the new role is opened.

   NOTE: The **Department** section is displayed only if you have set up departments. Departments is an optional feature which may not be available with your Cumulus configuration.

3. Set the permissions for the new role in the Catalogs, Permissions and Server Permission sections. (See "Advanced View: Permissions", for more information on the sections).
4. Assign users to this role either

   • by clicking the **Add** button to assign users managed by the Cumulus User Manager, or
   • by mapping of LDAP groups to this role if you want to assign users managed by your LDAP server only. For information on how to map roles and LDAP groups, see "Cumulus Roles".

5. Click **OK** to save the defined properties.

Duplicating, Editing and Deleting Roles

For duplicating, editing and deleting roles select the role's entry and then click the appropriate button. Duplicating a role works the same way as creating a new role except that when duplicating, the properties of the duplicated role are copied for the role user.

Actions for User Manager

The Actions menu for the User Manager module provides several administration utilities.

- [Importing User Data](#)
- [Client Groups](#)
- Departments
- [Checking the Users Catalog](#)
- [Copying User Settings](#)

Importing User Data

Use **Actions** > **Import XUSR Files** to import the user data provided by Cumulus Web Publisher Pro or Internet Client Pro.

Client Groups

Client Groups are a means to restrict access to Cumulus to certain applications (e.g. Cumulus Client, Web Client, etc) or versions of applications.

For each defined Client Group an entry **Open Catalog with** is added to the available Catalog Permissions of a user or role.

Additionally, you may **Force Read Only Catalog Access** for any defined client group. If the user opens a catalog with a Cumulus product that is contained in such a client group, only read access is possible, regardless of any other permissions set for the user.

To work with Client Groups:

1. In the left panel of the Server Console window, click on the entry **User Manager**.
2. Select **Actions** > **Edit Client Groups**.

   The Edit Client Groups window is opened. It lists the existing Client Groups.

Use the appropriate buttons for creating, duplicating, editing, renaming or deleting a Client Group. A Client Group is defined by its name and the application products that are assigned to it.

Click the **Add** button in the Products window to add a product.

A list offers a range of Cumulus products that can be included. The list will also offer other products if they are registered and activated with the Cumulus Server.

NOTE: Updating!
Remember to update the products assigned to Client Groups as well.

Departments

Optional feature! May not be available with your Cumulus configuration.

IMPORTANT! If you have the Department feature activated in addition to your already running Cumulus system, you must restart the Cumulus Server in order to make this feature available to the users.

With Cumulus departments, users and roles may be grouped together, e.g. according the organizational structure of a company. Then specific administrators (sub-administrators) may be defined who are in charge of the users/roles of a department, or several departments, but can not interfere with users/roles of departments they are not in charge of.

Sub-administrators can grant or revoke permissions to the role(s) assigned to the department(s) they are in charge of, but only if they have the respective permissions themselves. For example, there might be a role called "picture editor" with the permission of editing metadata and which belongs to the department "Research". The administrator in charge can revoke the editing metadata permissions from the picture editor role only if the administrator role (or any other role he or she acts in) itself has the editing metadata permission.

Defining departments does in no way interfere with user permissions and catalog access, which is controlled as always by the role(s) assigned to a user, nor does it influence the assignment of users to roles or vice versa.

The department feature is available in role-based mode only.

To create departments:

1. Log in to the Server Console as administrator.

2. In the left pane of the Server Console, click on **User Manager**, then select **Actions > Edit Departments**.
   A dialog appears allowing to create new departments and to edit or remove existing ones.

3. Click **Create** to add a new department, then enter a name for the new department and **click OK**

   You may create as many departments and sub-departments as you need.

4. When you are done, click **OK**.

Checking the Users Catalog

This utility scans the Users catalog for inconsistencies. It checks whether all catalogs, sets and templates that are assigned to users/roles are available. If an item is found that is assigned but not available, it is recognized as invalid and you will be asked whether the according assignments should be deleted. You can have Cumulus do this item for item or just ask you once for all items. Be careful when deleting assignments for catalogs: Cumulus considers catalogs as available only if they are opened with the Cumulus Server.

Copying User Settings

When the Users entry is selected in the User Manager module, the Actions menu offers another option: Copy User Settings. This option allows you to copy user settings from one user to another. The User Settings for the Cumulus application as set in the Preferences window are then copied.

1. In the left panel of the Server Console window, click the entry **User Manager** and reveal its options. Then click on **Users**.

2. Select **Actions** > **Copy User Settings**. A dialog opens to select the user you want to serve as template.

3. Enter search criteria to find the desired user by her/his name. (The Cumulus built-in authentication will search login name, first, middle and last name.)

4. Click **Find**. The found users are listed. (Note that by default the result list can include a maximum of 50 entries.)

5. Select the user you want to use as template and click **OK**.
   The next step is to collect the users/roles you want to apply the settings to.

6. Click **Add User** or **Add Role** to find those you want to inherit the settings.

   • Clicking **Add User** opens a dialog to find and select users.
     Enter search criteria to find the desired user by her/his name. (The Cumulus built-in authentication will search login name, first, middle and last name.) Then click **Find**. The found users are listed. (Note that by default the result list can include a maximum of 50 entries.)

   • Clicking **Add Roles** opens a dialog that lists the roles.

7. Select the users/roles you want to inherit the settings and click **OK**. They are transferred to the list of the **Collect Users** window.

   If a role is listed, the settings will be applied to all users assigned to the role.

8. Click **OK** to apply the settings to the users addressed in the window.

LDAP Authentication Method

This section describes the way the LDAP Authenticator plug-in for the Cumulus Server works.

If you want to employ LDAP for user authentication with your Cumulus installation, you need profound LDAP knowledge to configure the set up for the co-operation between your existing LDAP server configuration and the Cumulus user management properly. In order to employ LDAP for user authentication with your Cumulus installation, you don't need to change your existing LDAP schema or contents to add information needed for Cumulus.

The Cumulus LDAP Authenticator can be used in the following scenarios:

*   The user is already included in the $Users catalog of Cumulus and the password should be checked using an existing LDAP server configuration.
*   The user is already included in the $Users catalog of Cumulus and the **E-Mail Address** field of her/his properties should be filled using an existing LDAP server configuration.
*   The user is already included in an existing LDAP server configuration and no separate entry (user record in the $Users catalog) should be created for the user (with the role-based user management only).

The LDAP Authenticator is part of the Cumulus Server installation. It is configured through the **LDAP.xml** file in the **conf** folder (located in the Cumulus Server installation folder). The Server installation provides two example files that are pre-configured for ActiveDirectory and OpenDirectory LDAP schemes. It is best to start making a copy of the example that fits your LDAP installation and rename it to **LDAP.xml**. The provided pre-configured files contain detailed comments on the configuration items. If

you use any other LDAP scheme than ActiveDirectory and OpenDirectory (e.g. eDirectory), you have to adapt the structure to the structure of your LDAP scheme.

The **LDAP.xml** file contains the LDAP host name and also the distinguished name (DN) of a user that is allowed to read the necessary LDAP information. The file also contains the password of this user in clear text so you should set up file permissions so that the LDAP.xml cannot be read by unauthorized users.

You can also specify whether to use Secure Socket Layer (SSL) communication with the LDAP server.

User Password Authentication

The LDAP Authenticator can check the user password for authentication. The LDAP Authenticator is used only if the field **Authentication Method** in a user's properties is set to **LDAP**. Then LDAP will check the password a user logs in with, against a login name that matches the **Login Name** field of the user's properties stored in the $Users catalog. With the role-based mode of the User Manager, it is always used if the user has no record in the $Users catalog.

The LDAP Authentication module uses the simple LDAP authentication method.

To employ the LDAP authentication method for a user's password you have to configure the following items of the LDAP.xml file:

> <ns:authenticator>
>> <ns:search>

The example LDAP.xml files are syntactically correct for ActiveDirectory and OpenDirectory LDAP schemes. However, they contain placeholders. In order to make your version of the LDAP.xml work, you have to replace these placeholders with real values only. If you use any LDAP scheme other than ActiveDirectory and OpenDirectory, you have to adapt the structure to the structure of your LDAP scheme also.

User Fields

Optional feature! May not be available with your Cumulus configuration.

The LDAP Authenticator can provide field values for the user record (user properties) to be used in any client application for customized solutions. In the LDAP.xml file you can specify which field corresponds to which LDAP user node attribute. The field can be either an existing field from the $Users catalog in Cumulus or you can define your own field by specifying a new unique ID for it. (To specify a new unique ID, you should use the function provided by your operating system, e.g. for Linux use the command **uuidgen -t** or for Mac OS X use the command **uuidgen**.)

In any Cumulus Internet solution, you can display the field value using the standard <cumulus:fieldValue> JSP tag with the unique ID of the field.

If the user has a record in the $Users catalog of Cumulus, the field values from this record have precedence over values from the LDAP Authenticator.

To have LDAP Authenticator providing field values you have to configure the following items of the LDAP.xml file:

　　<ns:authenticator>

　　　　<ns:search>

　　　　<ns:fields>

The example LDAP.xml files provide one by one mappings of LDAP attribute values to Cumulus field values. The examples include those attributes included in a standard ActiveDirectory and OpenDirectory LDAP installation that have corresponding Cumulus fields in the $Users catalog. If you want your mapping to include another attribute from a user node, you have to add it as a new field element to your LDAP.xml

file. If you use any LDAP scheme other than ActiveDirectory and OpenDirectory, you have to adapt the structure to the structure of your LDAP scheme and replace the pre-configured field elements by field elements fitting your LDAP scheme.

Cumulus Roles

Optional feature! May not be available with your Cumulus configuration.

If you work with the role-based mode of the User Manager, you can define mappings from LDAP groups to Cumulus roles. By using this mapping you no longer need an entry for this user in the User Manager (a user record in your $Users catalog). All you need is to define Cumulus roles and assign permission to them. Assigning users to these roles is done using the role mapping of the LDAP Authenticator. All role assignments done by the LDAP Authenticator module are added to the roles already assigned to the user through a record in the $Users catalog.

The LDAP Authenticator supports different kinds of role mappings:

- Automatic mapping of all LDAP groups to Cumulus roles by matching one of the group's attributes (e.g. the group's name)
  This is the easiest way of mapping LDAP groups to Cumulus roles. All you need to do is give your Cumulus roles names that correspond to an attribute of an LDAP group. For example you can name your Cumulus roles so that they match the "cn" attribute of your LDAP groups.

- Manual mapping of groups to a Cumulus role
  You can define additional mappings of specific LDAP groups to a specific Cumulus role so that a user is assigned that role if he or she is a member of any or each of the given LDAP groups. For example you can define a mapping to assign all users to the "CumulusAdmin" role if they are members of both the "Administrators" and the "Backup Operators" group.

To have LDAP Authenticator supporting role mapping you have to configure the following items of the LDAP.xml file:

```
<ns:authenticator>
    <ns:search>
    <ns:roles>
        <ns:role-mapping>
```

The example LDAP.xml files are syntactically correct for ActiveDirectory and OpenDirectory LDAP schemes. However, they contain placeholders for the names of Cumulus roles and LDAP groups. In order to make your version of the LDAP.xml work, you have to replace these placeholders with real values only. If you use any LDAP scheme other than ActiveDirectory and OpenDirectory, you also have to adapt the structure to the structure of your LDAP scheme.

Automatic mapping can be used if the names of your Cumulus roles correspond to attribute values of your LDAP groups. The easiest way is to use the **cn** attribute of the LDAP group node to match the Cumulus role name.

```
<ns:role-mapping attribute='cn'/>
```

*Example for automatic role mapping using the **cn** attribute to*

Manual role mapping is based on rules that define which LDAP group memberships are mapped to a Cumulus role membership. These rules are defined using <ns:role-mapping> elements.

The membership conditions inside a <ns:role-mapping> element are combined by "and". A user will be assigned to a role only if the user fulfils all conditions. See also the following example:

```
<ns:role-mapping>
  <ns:name>Admins</ns:name>
  <ns:ldap-member>CN=Administrators,CN=Builtin,DC=MYCOMPANY,DC=COM</ns:ldap-member>
  <ns:ldap-member>CN=Backup Operators,CN=Builtin,DC=MYCOMPANY,DC=COM</ns:ldap-member>
</ns:role-mapping>
```

Example for the "and" combination: a user will be a member of the Cumulus role "Admins" only if the user fulfils all conditions – being a member of both of the LDAP groups "Administrators" and "Backup Operators" .

If you want to use "or" combinations, you simply add new <ns:role-mapping> elements for the same Cumulus role name. All role mapping elements are combined using "or". A user will be assigned to a role if the user fulfils the conditions of at least one <ns:role-mapping> element. See also the following example:

```
<ns:role-mapping>
  <ns:name>Admins</ns:name>
  <ns:ldap-member>CN=Administrators,CN=Builtin,DC=MYCOMPANY,DC=COM</ns:ldap-member>
</ns:role-mapping>

<ns:role-mapping>
  <ns:name>Admins</ns:name>
  <ns:ldap-member>CN=Backup Operators,CN=Builtin,DC=MYCOMPANY,DC=COM</ns:ldap-member>
</ns:role-mapping>
```

Example for the "or" combination: all members of the LDAP group "Administrators" as well as all members of LDAP group "Backup Operators" will be members of the Cumulus role "Admins".

Security Aspects

The LDAP.xml configuration file needs to specify a user that is able to read the LDAP server's information. This user only needs read access to the LDAP parts you specify in your LDAP.xml file (typically the users node and possibly the groups node). As you also need to specify this user's password in the LDAP.xml file, you need to make sure the file cannot be read by any unauthorized user.

The LDAP Authenticator module does not make any changes to the LDAP server. It only reads information from it.

Cumulus® Vault is a version control system that gives your workgroup added data security and up-to-the-minute information on the status of each asset. As its name suggests, Vault enhances the security of your team's assets – controlling who accesses them, how and when (via check in and check out). It also gives you more ways of working with your assets in Cumulus, providing version retention and tracking, at-a-glance version information, and integration into the existing Cumulus environment. Additionally, Cumulus Vault enables Client users to access assets independent of platforms. Another Cumulus Vault feature enables you to set up Vault exclusive catalogs. All assets added to such a catalog are handed over to Vault and their asset storage location is Vault exclusively.

This chapter addresses the Administrator. It covers activating and administering the Vault Server as well as configuring Cumulus catalogs to be controlled by Cumulus Vault. Information on using Vault to check assets in and out as well as on managing asset versions are provided in the chapter "Using Vault" .

Configuring Vault

How Cumulus Vault Works

As the Cumulus Vault Administrator, it's up to you to configure Cumulus Vault to meet the needs of your workgroup. But before you jump in, it's good to get a basic idea of how your Cumulus catalogs interact with Vault. And if you don't want to miss out on any of the technical details, you can read "Behind the Scenes", to find out what's going on in the background.

Cumulus Vault can control and monitor access to all assets. Think of it as the Cumulus librarian. Users check assets out for editing and check them back in again when they're through. Every time an asset is checked out, Vault automatically gives the user the latest version to ensure that versions remain up-to-date.

Vault allows only one user at a time to check out an asset, preventing multiple edits that can result in conflicting – and confusing – versions. If another user attempts to check the asset out, Vault informs the would-be editor which user has the file. When a user checks an asset back in, Vault saves the updated file as a new version without overwriting previous versions. It keeps all back versions, making it possible to track changes to an asset during the production cycle – a concept referred to as a version control system. It also provides information on all versions: Who made the changes? When? With Vault, these questions are easy to answer, making last week's edits just as accessible as today's.

Cumulus Vault consists of the Vault Server and Vault Client software.

Vault Server

Cumulus Vault as a version control system controls and tracks the access to your team's assets. Vault also provides a place to store your team's assets, in all of their versions.

As Vault Administrator, you define where Vault keeps your workgroup's assets by configuring the Vault Server. This location can be wherever you want it to be, with one restriction: the physical location must be a local disk on the computer running the Vault Server. It's up to you to create the folder that will actually house the assets. You then tell the Vault Server to store the assets in this Vault Server Storage location. You may even tell the Vault Server to store the assets in automatically created subfolders. And when setting up catalogs to work with Vault, you can create special folders inside the Vault Server Storage folder, so called Vault Folders.

For information on setting up the Vault Server, see "Configuring the Vault Server".

Vault and Catalogs

Every Cumulus catalog can work with Cumulus Vault. For those that do, either all of its assets are stored in Vault – and are subject to its control – or only selected ones. Cumulus Vault enhances the possibilities of using a central location for a catalog. As the Cumulus Vault Administrator, you define for each catalog whether and how it is going to interact with Vault.

The first step is to prepare a catalog to work with Vault, which is done by adding special version control fields to the catalog. The fields that belong to Cumulus Vault are **Check out Location**, **Check out Date**, **Check out User** and **Version History**. They enable Clients to check an asset out to a particular location and provide information describing who checked out which version when. For information on adding these version control fields to catalogs, see "Preparing Catalogs for Vault".

The next step is to set up the catalog to hand over its assets to Vault whenever they are cataloged. You can either tell the catalog to hand over all assets, or let each user decide whether the assets they're cataloging should be placed under Vault's control. You then specify Vault as the central location for the catalog. (Central Location is Cumulus-speak for a location to which Cumulus copies assets during the cataloging process; e.g. a folder on your file server or an FTP server.) For information on specifying Vault as Central Asset Location for a catalog, see "Linking Catalogs to Vault".

A further consideration is whether users have the permissions required to check assets out of and into Vault. For information on these permissions, see "User Access to Vault".

Once assets are stored in Vault, users can retrieve them by checking them out, a procedure that locks the associated record in the catalog for other users. When an asset is checked back in, Cumulus moves it as a new version to Vault, and unlocks and updates the associated record in the catalog. Previous versions of the asset are

retained in Vault so that users can view their histories or access them, if they become useful again.

Vault and Asset Handling Sets

Once you decide to employ Cumulus Vault, you should adjust the Asset Handling Sets that your workgroup uses. At least the Asset Handling Sets must have the Asset Storage module Cumulus Vault activated. And if you have set a catalog to let each user decide whether cataloged assets should be placed under Vault's control or not, the Copy to Central Asset Location option must be activated also. In addition, Asset Handling Sets include the Vault settings for version handling. For more information setting up Asset Handling Sets for Vault, see "Configuring Asset Handling Sets for Vault".

Behind the Scenes

From a technical perspective, Cumulus Vault is an Asset Storage module that interacts with the Cumulus application. Asset Storage modules manage the access to an asset's location (where it's stored on a file system) and provide Cumulus with information on the asset. In the case of Vault, this information is provided in the form of the version control fields (Check out Location, Check out Date, Check out User and Version History).

When you specify Vault as a Central Location, Cumulus works with the assets placed there only via the Vault Asset Storage module. This module enables check out, check in and version tracking by means of the special version control fields mentioned above.

When an asset is cataloged to Vault, an entire folder for the asset is created in the folder you specified as the Central Location for the catalog. This folder has the same name as the asset itself and contains two files for each asset version: one is the asset itself (⊞ with the extension .data) and the other is an information file (⊞ with the extension .info) containing the contents of the version control fields described above. Except for the file extension, each of these files has the same name: a serial number starting at one for the first cataloged version. Note that when assets are cataloged to Vault, no corresponding folder category will be automatically created under the Sources master category.

Every time a user checks an asset out of Vault, Cumulus copies the latest version – based on its serial number – to the location the user specifies. It then locks the associated record in the catalog so that no other users may check the asset out.

When the asset is checked back in, Cumulus moves the updated version back to that asset's folder in Vault. It renames the latest version, raising the previous serial number

by one. It then re-catalogs that version to update the associated record in the catalog. Finally, Cumulus unlocks the record so that other users may access the asset.

Cumulus Vault Servers fully support the storing and versioning of resource forks, file types and file creators.

Installation

The Vault Client software is included in the Cumulus Client software. The Vault Server software is included in the Cumulus Server software.

Vault Server on Another Computer

The Vault Server does not have to be on the same computer running the Cumulus Server. You can decide to have the Vault Server running on a computer other than the Cumulus Server. The computer you select for the Vault Server will not only manage Client access to Vault but also physically store all versions of all assets controlled by Vault, so it should have enough storage space available. You can also have the Vault Server running on a different computer, and it will still communicate seamlessly with your Cumulus Server.

If you decide to have the Vault Server running on a computer other than the Cumulus Server, you have to install the Cumulus Server software on that computer.

When selecting the computer for the Vault Server, keep in mind that not only will it store all assets – and all versions – under Vault's control, but also that every Client will need continuous TCP/IP access to it for checking these assets in and out.

Whichever route you choose, this documentation refers to the installation as a *Vault* How to Make Vault Work

In order to make Vault work with your Cumulus configuration, you have to perform the following tasks:

- Specify the Cumulus Vault Administrator. You use the User Manager module of the Server Console for this.

- Activate Vault and configure the Vault Server meeting your requirements. You use the Vault module of the Server Console for this.

- Set up your Cumulus catalogs to work with Vault. Using the Catalog Settings of the Preferences window, you prepare the catalog by adding special version control record fields and linking the catalog to Vault.

- Last but not least configure the Asset Handling Sets used by your workgroup.

Configuring the Vault Server

You configure the Vault Server by telling it where to store the assets that are to be controlled by Cumulus Vault. Only the Cumulus Vault Administrator can configure the Vault Server, meaning that there has to be a user account that functions as the Vault Administrator.

Specifying the Cumulus Vault Administrator

To configure the Vault Server, there has to be a user account which functions as the Cumulus Vault Administrator.

If the Vault Server is running on the same computer as the Cumulus Server, you can give any existing user the Vault Administrator permission.

However, if the Vault Server is not on the same computer as the Cumulus Server, you need to specify the Vault Administrator on this computer. You may even have to set up a user who is given the Vault Administrator permission.

In both cases use the User Manager module of the Server Console to do so:

1. From within the Cumulus Client, select **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser

2. Log on to the computer running the Vault Server you want to administrate as Cumulus Administrator or the user who has the permission: User Administrator.

3. Select **User Manager**.

4. Edit the user's description who is supposed to be the Vault Administrator and under **Server Permissions**, select the **Administrator Permissions** to assign the **Vault Administrator** permission.

5. Click **OK** to save the defined properties.

In order to make it easy for the Vault Administrator user to perform all administrative tasks, this user should also have the following permissions for the catalogs that use Vault:

•   Application Permissions
    Open Catalog, Create Record, Delete Asset

•   Administrator Permissions
    View Catalog Settings, Modify Catalog Settings, Modify Central Asset Location

Activating Vault and Specifying the Vault Storage Location

As the Vault Administrator, it's up to you to create and specify the location of the main Vault folder where Vault will store the assets it controls. Where this location actually exists is up to you, with one restriction: it must physically be on a local disk of the computer running the Vault Server.

There are a couple of things to keep in mind when creating the folder to house your team's assets:

•   All versions of your Vault-controlled assets from all catalogs will be housed there, so sufficient storage space should be available.

•   You can specify a new location for the main Vault folder at any time (end of project, month, year, etc.), but once you do your workgroup will not be able to use

Cumulus Vault to access the assets stored in the previous location unless you have made use of a special utility that updates the asset references to the new location .

First, create this main Vault Storage folder on the computer running the Vault Server, and then configure the Vault Server application by telling it where this folder is. You can structure this main Vault Storage folder when setting up catalogs for Vault. Use this way to create any subfolders in the main Vault folder, only. When you create new folders inside the main Vault Storage folder when setting up catalogs. These folders are created as special folders for Vault and called Vault Folders. Such a special Vault Folder contains an XML file that describes it and that is necessary for certain functions, e.g. the exclusive assignment of a catalog to Vault as its central asset location.

Setting up the Vault Server

When setting up the Vault Server you are offered to have Vault Folders automatically structured when a certain number of days or assets is reached. For better performance we strongly recommend you to make use of the functions that automatically create subfolders.

To set up the Vault Server:

1. From within a Cumulus Client, select **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. Log on to the Cumulus Server you want to administrate as Cumulus Administrator or the user who has the permission: Vault Administrator.

   The modules of the Server Console application are loaded.

3. The Server Console application is started. Log on to the computer running the Vault Server as a user who has Vault Administrator permission.

4. Select **Vault Server**.

   The **Cumulus Vault Server Setup** window is displayed.

5. Under General, enable **Activate Vault Server**.

6. In the **Vault Storage Folder** field, enter the path to the folder on the Vault Server computer into which the assets shall be placed when cataloged.

   The path you enter here refers to a location on the computer running the Vault Server. Make sure to observe the conventions for describing paths of the operating system where the Vault Server is installed, regardless of whether you are connecting from a Windows or Mac OS Client.

   NOTE: Vault Server for OS X
   As the Vault Server for OS X is based on UNIX technology you have to use UNIX path and file naming conventions for administration.

7. Under Automatically Created Subfolders, decide on the handling of subfolders by selecting the desired option:

   - **Do Not Use Automatically Created Subfolders**
     All assets will be stored directly in the Vault folders.
     This option is only available while none of the subfolder options is activated. Once the automatic creation of subfolders is activated, there is no point of return.

     NOTE: If you decide on this option and later decide on using subdirectories, all assets stored directly in Vault folders will be moved to a special subdirectory called Default. This will also happen to assets stored in Vault with former versions of Cumulus Vault when you decide to use subdirectories with the current Cumulus Vault version.

- **Use**
  Enter the complete path of an existing subfolder or a folder to be created within the Vault Storage Folder (using the path naming conventions of the operating system where your Vault Server is installed).
  Remember, that for better performance we strongly recommend you to activate this option.

  NOTE: If you don't enter a name and leave the default unchanged, new cataloged assets are stored in the same Default folder as the assets that were automatically moved there after the use of automatically created subfolders was activated.

- **Create a New Folder After ... Days**
  Enter the number of days (1 to 10,000) after which a new subfolder will be created to house the assets to be cataloged hereafter. This number is the minimum number of days before a new subfolder will be automatically created.

- **Create a New Folder Upon Reaching ... Assets**
  Enter the maximum number of assets (1 to 10,000) a subfolder may contain before a new subfolder will be created to house the assets to be cataloged hereafter. (Due to Cumulus TAG files or other metadata files, the actual number might differ.)

  NOTE: These automatically created subfolders are named after their creation date and time (YYYY-MM-DD_hh-mm-ss).

8. Under Version Limitations, decide on the handling of versions. You can either keep all versions or limit the versions of an asset kept in Vault. If you activate the option **Only Keep**, enter the number of latest versions you want to be kept in

Vault. If you also want the oldest version to be kept, enable the option **Addition-
ally Keep Oldest Version**.

9. Click **Save Changes**.

Once you have set up the Vault Server you should go on and set up your Cumulus cat-
alogs to work with Vault.

Implementing Cumulus Vault

You implement Cumulus Vault by setting up your Cumulus catalogs to work with Vault. There are two things that you need to do with a catalog to subject its assets to Vault's control:

- **Prepare** the catalog by adding the special version control record fields to all records of the catalog. (See "Preparing Catalogs for Vault".)
- **Link** the catalog to Vault by having its assets placed there whenever they are cataloged. You can either store all of a catalog's assets in Vault, or let the users decide which assets are to be stored there. (See "Linking Catalogs to Vault".)

Another consideration is user access to the assets controlled by Vault. You need to make sure that the desired users can work with these assets. To find out how, see "User Access to Vault".

If a catalog is configured to work with Vault, you also have the option of handing over already cataloged assets to Vault. For more information, see "Adding Already Cataloged Assets to Vault".

Configuring catalogs to work with Vault is similar to configuring catalogs in general. You first log on as Cumulus Administrator to the Cumulus Server, then open the desired catalog and specify its properties.

Opening a Catalog

The following is a brief review of opening a catalog:

1. From any Cumulus Client, select **File** > **Connect to Server**.

   The Connect to Server dialog opens.

2. Type the name of the user who has the appropriate permissions for the catalogs to be set up for Vault in the **Name** field and the corresponding password in the **Password** field.

3. Click **OK**. The Catalog Access window opens.

4. In the Catalog Access window, select the catalog(s) you would like to open and click **Open**.

Once the catalog is open, you are ready to add the record fields required to work with Cumulus Vault.

Preparing Catalogs for Vault

To make a catalog work with Vault, you have to add the version control record fields to the catalog. These fields are:

- **Check out Location** – Contains encoded information on where the asset has been checked out to, i.e., the location to which it has been saved on the user's file system. You must add this field for Vault to be able to copy and track assets.
- **Check out Date** – Contains information on the date and time the asset was checked out.
- **Check out User** – Contains information on who checked the asset out.
- **Version History** – Contains information on each version of an asset, i.e., when it was checked out and in as well as by whom. This field is a text field and can be edited by the user (if allowed).

NOTE: Check out Duration
If the **Check out Date** field is also contained in the catalog, the **Version History** field contains information on the check out duration at the end of each entry. This information is only available via this field. If this information is deleted from this field it cannot be reconstructed.

NOTE: Reconstructing Data
If the content of the **Version History** field was completely deleted, the field is treated as containing no value and will be filled with the information stored on the server upon the next checking or record update.

The fields **Check out Date** and **Check out User** also enable catalog users to view whether or not an asset is currently checked out and, if so, by whom. But to view the

contents of these fields, they have to be added to the Record View Sets. (For information on adding fields to a view, see "Adding a Field to a Record View" .)

To add version control fields to your catalog:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select Cumulus / Edit > Preferences.
3. Click Catalog Settings.

   The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under Catalogs.
4. Click Record Fields. This displays a list of the current record fields included in the catalog.
5. Click the Add Field button. This opens the dialog Add Field.
6. Click the Modules tab.
7. Select Cumulus Application.
8. Select the field(s) you want to add. Version control fields are: Check out Location, Check out Date, Check out User, Version History

TIP: Using Catalog Template

Under Modules, you can use also use the Catalog Template Fields for Asset Version Control for adding the fields.

9. Click OK. This brings you back to the fields list to which the fields have been added.

10. Click **Apply** to save your changes.

The catalog can now work with Vault, but there are no assets in Vault for it to work with. The next step is to have Cumulus place assets under Vault's control whenever they are cataloged.

Linking Catalogs to Vault

When a catalog is linked to Cumulus Vault, assets can be handed over to Vault when they are cataloged by any user. As the Cumulus Administrator, you link a catalog to Vault by telling Cumulus essentially two things.

First, you have to configure Cumulus to be able to add assets to Vault when they are cataloged. You do this by specifying Cumulus Vault as a central location for the catalog. You even have a couple of options for specifying when assets should be handed over to Vault:

Always

All assets added to the catalog are handed over to Vault. Should be considered the default setting, because it ensures that all of the catalog's assets are subject to Vault's access and version control.

As Set in Asset Handling Set

You let each user specify (with the Asset Handling Set they employ) whether or not to catalog assets to Vault. Useful if only certain types of assets – as your workgroup defines them – need to be subject to access and version control.

Always and Exclusive

All assets added to the catalog are handed over to Vault and their asset storage location is Vault exclusively. A catalog that is set to this option will have a forced 1-to-1 relation with its Vault Folder: every record in the catalog represents an asset stored in the corresponding Vault Folder and each asset in this Vault Folder is represented by a record in this catalog. This is the guiding principle for all functions performed. For example this means that assets managed by this catalog cannot be

moved and that deleting the records representing them will always delete the assets as well. A catalog that is set to this option is called a Vault exclusive catalog.

NOTE: After the **Always and Exclusive** option has been activated for a catalog, all assets already contained in the catalog will be copied to the corresponding Vault Folder and their records will be updated to reflect the new asset storage location.

Second, you have to tell Cumulus where to store the assets to be controlled by Vault, in effect tell Cumulus which computer in your network is running the Vault Server. You specify this computer by its network name or TCP/IP address. At this point, you don't need to specify the actual folder on the Vault Server computer, since you already specified it when you configured the Vault Server.

To link a catalog to Vault:

1. Make sure the collection window containing the catalog is the active window in Cumulus.
2. Select **Cumulus** / **Edit** > P**references**.
3. Click **Catalog Settings**.

    The Catalog Settings window is displayed. If the active collection window contains more than one catalog, select the catalog you want to edit under **Catalogs**.

4. Click **General**.
5. Under Copy Assets to Central Location, enable **Use Central Asset Location**.
6. Choose where to store the copies and which Asset Storage module you want to use.

    The Choose an Asset Storage Module dialog opens.

7. Select **Cumulus Vault** and click **OK**.

The Select Remote Module dialog opens.

8. Select the computer running the Vault Server from the **Computer** field. This is the computer that contains the folder you specified as the Vault location (see "Configuring the Vault Server"). You can click the arrow button to the right of the field for a list of currently active Vault Servers in your network.

The Choose Asset Location dialog is opened. You now have to decide whether you want the assets to be stored directly in the folder of the Vault Server or in a subfolder nested in the Vault Server folder. Such a subfolder is called a Vault Folder.

9. Select the desired option.

10. If you decided on **Use Vault Server Directly**, your next step is to click **OK**.
If you decided on **Use Vault Folder**, the list for selecting this folder is activated. Then your next step is to select the Vault Folder you want the asset to be stored in and click **OK**.
If you want a new Vault Folder to be created for storing the assets of this catalog, click **New Folder**. A dialog for entering a name for the folder is displayed. It contains the name of the catalog as default.

NOTE: If a catalog is set exclusive for a Vault Folder this folder cannot be used as a central asset storage location for any other catalog. If you want a catalog to be set exclusive, you have to create a new Vault Folder for it.

You return to the General section of the Catalog Settings window. The name or IP address of the computer running the Vault Server and the name of the Vault Folder are displayed.

11. Select the mode for copying assets to the central asset storage location chosen above:

- **Always**
- **As Set in Asset Handling Set**
- **Always and Exclusive** (available with Vault only)

(For more information on the different modes, see page 1076.)

12. Click **Apply** to save your changes and select the next catalog you want to set up for Vault.
OR
Click **OK** to save your changes and close the Preferences window.

When users catalog assets to this catalog from now on, the asset can be placed or will be placed into the folders inside the Vault Server folder you specified when you configured the Vault Server.

Configuring Asset Handling Sets for Vault

The Asset Handling Sets your workgroup users use have to be configured for Vault. Asset Handling Sets are important for Vault in the various aspects:

For Cataloging

For cataloging they are important as the user must use Asset Handling Sets with the Asset Storage module Cumulus Vault activated for cataloging assets to be placed under Vault's control. And Asset Handling Sets are very important for cataloging if you have set a catalog to let each user decide whether the assets they're cataloging should be placed under Vault's control or not. The user decides this by selecting an Asset Handling Set. If the user employs an Asset Handling Set with the Copy to Central Asset Location option and the Asset Storage module Cumulus Vault activated for cataloging, the cataloged assets are placed under Vault's control.

For Asset Access

For asset access they are important, as the user must use Asset Handling Sets with the Asset Storage module Cumulus Vault activated for accessing assets that are stored in Vault.

For Asset Version Handling

For asset version handling they are important, as they include the Vault settings for version handling. Since Vault controlled assets may exist in multiple versions, you may have to make a choice between the different versions available when you preview, mail, and copy assets controlled by Vault. Cumulus makes it easy for you to make this choice. It even enables you to pre-set your decision to best suit the way you work. This setup is defined in an Asset Handling Set. By selecting an Asset Handling Set, the user decides on the way of asset version handling.

See the help system of the Cumulus application for information on how to set up Asset Handling Sets in general. The Vault chapter of the Cumulus application help system provides information on how to set up Asset Handling Sets for asset version handling.

With Vault we recommend you to have your Cumulus users using shared Asset Handling Sets only. As these Asset Handling Sets can be centrally administered. You can also restrict the users' access to certain Asset Handling Sets only. However, whichever way you choose, make sure that at least the Asset Handling Sets selected in the User Settings of your users have the Cumulus Vault module activated.

If you ever decide that you want to change the Vault Server for this catalog, you can return to the Catalog Settings and click Browse to specify a new computer. However, then you have to redirect the assets. Cumulus provides a special utility for redirecting Vault assets. For information on this utility, see "Redirecting Asset References".

User Access to Vault

Users' access to assets controlled by Vault is catalog-specific, since they access these assets via Cumulus catalogs.

You have to assign those users who are to work with Vault the corresponding permissions. You assign individual user permissions with the User Manager module of the Server Console.

If you want users to be able to check assets out, check them back in, undo a check out and move assets out of Vault, they have to be assigned the permissions:

* Open Catalog
* Create Records, Modify Records
* Check Out/In, Transfer Asset

If you also want users to be able to delete records, you have to assign them the Delete Item permission for records.

If you also want users to be able to delete assets – and individual asset versions – from Vault, you have to assign them the Delete Item permission for records and the Delete Asset permission.

In Vault exclusive catalogs you can only delete a record along with its asset only. If you want users to be able to delete records from such catalogs you have to assign them the Delete Item permission for records and the Delete Asset permission.

For a detailed description of user permissions, see "Catalog Permissions Tab" .

NOTE: Permissions on Records from a Vault Exclusive Catalog!

If a user has a catalog housing records that derive from a Vault exclusive catalog (Central Asset Location set to **Always and Exclusive**) the user's permissions on these records are the user's permissions given for the catalog the records derive from. For example: Even if a user has all permissions for catalog A her/his permissions for records that derive from catalog B (which is a Vault exclusive catalog) are the user's permission for catalog B.

Administration Utilities

Cumulus provides several utilities for special Vault administration tasks:

- Managing Non-cataloged Assets Stored in Vault
- Update Folder Information
- Redirecting Asset References

The utilities can either be started via the Actions menu (when Vault Server is selected) or via buttons in the Vault Server Setup window.

Managing Non-cataloged Assets Stored in Vault

Due to whatever reason, Vault may contain assets which are not cataloged. You can search for these and either delete them or add them to a catalog. As you can only search catalog for catalog, this function is most helpful when you manage all assets stored in Vault via one catalog.

To manage non-cataloged assets stored in Vault:

1. From within a Cumulus Client, select F**ile** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. The Server Console application is started. Log on to the computer running the Vault Server as a user who has Vault Administrator permission.

3. Select **Vault Server**.

   The **Vault Server Setup** window is displayed.

4. Click the **Unreferenced Assets** button.

   The **Choose Server Connection** dialog is displayed.

5. If the catalogs you want to scan are managed by a Cumulus Server running on the same computer as the Vault Server you are connected to, then you can use the current connection and click **Next**.

   However, check if you are logged on to the Vault Server as a user who has the required permissions for the catalogs to be scanned and has access to the Asset Handling Sets needed for cataloging. If not, you should change the connection as described below. Required permissions are: Open Catalog, Create Record and Delete Asset.

If the catalogs you want to scan are managed by a Cumulus Server running on a different computer as the Vault Server you are connected to, then you have to change the connection and connect to this computer.

To change the connection:

* Enable the **Use Other Connection** option.
* In the **Server** field, enter the server name or the IP address of the computer running the Cumulus Server managing the desired catalogs.
* Enter the name and the password of a user who has the required permissions for the catalogs you want to scan.
* Click **Connect** and **Next**.

The **Select a Catalog** dialog is displayed. It lists the catalogs that are managed by the Cumulus Server chosen in the previous dialog and which the logged on user has access to.

6. Select the catalog to be scanned and click **Next**.

   The **Select a Folder** dialog is displayed. It lists the folders inside the Vault Storage folder.

7. Select the folder to be matched with the catalog chosen in the previous dialog. The selected folder(s) will be scanned as well as its/their automatically created subfolders.

   NOTE: If you don't select a folder, the level of the Vault Storage folder will be scanned – including all automatically created subfolders but not the Vault Folders.

8. Click **Next** to start the process.

   A list shows those assets that are stored in the selected folder but not contained in the selected catalog.

If the list is empty, no unreferenced assets were found. Then you can either quit the utility by clicking **Close** or go back to previous steps by clicking **Previous**.

9. Select the desired asset(s) and

- if you want to delete the asset(s) (and all its/their versions) from Vault, click **Mark to Be Deleted**.
- if you want to add the asset(s) to the selected catalog, click **Mark to Be Cataloged**.
- if you don't want to touch the asset, click **Mark to Retain Unchanged**.

TIP: Selecting Task

You can also click in the **Task** column to select the task to be performed on an asset.

The assets get marked for the task to be performed.

10. For assets to be cataloged, you should choose an Asset Handling Set for the cataloging:

- Select the entry for the asset to be cataloged and click **Choose Asset Handling Set**. A list shows those Asset Handling Sets that have Cumulus Vault activated as Asset Storage module and that are available to the user you are logged on with.
- Choose the Asset Handling Set you want to be used for cataloging the selected asset.

11. When the tasks for all assets are defined and all Asset Handling Sets are chosen, click **Start**. The assets are processed as defined. A list informs you on the tasks that were performed.

12. Click **Close** to quit the utility.

This function was designed for clearing assets which are in Vault but not cataloged. However, you may also use this function for cataloging assets in Vault to other catalogs.

Update Folder Information

Folders set up as central asset location for catalogs are called Vault Folders. Vault Folders are located in the folder chosen as Vault Storage Folder. Each asset that is copied to the central asset location is copied to the selected Vault Folder. How does Cumulus recognize such a Vault Folder? A Vault Folder contains an XML file that holds the information Cumulus needs. To see and update this information, Cumulus provides a utility.

To update the information on Vault folders:

1. From within a Cumulus Client, select **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. The Server Console application is started. Log on to the computer running the Vault Server as a user who has Vault Administrator permission.

3. Select **Vault Server**.

   The **Vault Server Setup** window is displayed.

4. Click the **Update Folder Info** button.

   The **Select a Folder** dialog is displayed. It lists the Vault folders of the Vault Server you are connected to.

5. Select the Vault Folder on which you want to see information and click **Next**.

   The information on the selected Vault Folder is displayed.

   • **Catalog Name** – Name of the catalog

   • **Catalog Server** – IP address of computer running the Cumulus Server managing the catalog.

- **Exclusive** – If the catalog is a Vault exclusive catalog this option shows a check mark.
- **Delete Catalog Entry** – This option can be activated in order to delete the entry for this catalog from the Vault Folder's information. This is useful for catalogs that were deleted and no longer exist.

6. If you want to delete the entry for this catalog, activate the **Delete Catalog Entry** option and click **Start**.

7. Click **Close** or **Cancel** to quit the utility.

Redirecting Asset References

Asset references contain information on the server the assets are stored on; e.g. IP address and/or server name. Therefore they have to be updated when the server changes. Canto provides utilities to help make the process of updating the records easy and trouble-free.

The utility will scan selected catalogs for records 'pointing' to the former Vault location and then update these records to reflect the new location of the Vault assets. Without this utility, the records would still 'point' to the former Vault Server. The utility does not overwrite, move or otherwise affect asset files at all.

To update the asset references of assets kept in Vault after the Vault Server has changed:

1. From within a Cumulus Client, select **File** > **Administration** > **Server Console**, or connect to the Web Server Console via a Web browser.

2. The Server Console application is started. Log on to the computer running the Vault Server as a user who has Vault Administrator permission.

3. Select **Vault Server**.

   The **Vault Server Setup** window is displayed.

4. Click the **Redirect Asset References** button.

   The **Choose Server Connection** dialog is displayed.

5. If the catalogs you want to scan are managed by a Cumulus Server running on the same computer as the Vault Server you are connected to, then you can use the current connection and click **Next**.

However, check if you are logged on to the Vault Server as a user who has the required permissions for the catalogs. If not, you should change the connection as described below. Required permission are: Open Catalog, Modify Record including Modify Asset Reference.

If the catalogs are managed by a Cumulus Server running on a different computer than the Vault Server you are connected to, then you have to change the connection and connect to this computer.

To change the connection:

- Enable the **Use Other Connection** option.
- In the **Server** field, enter the server name or the IP address of the computer running the Cumulus Server managing the desired catalogs.
- Enter the name and the password of a user who has the required permissions for the catalogs you want to scan.
- Click **Connect** and **Next**.

The **Select a Catalog** dialog is displayed. It lists the catalogs that are managed by the Cumulus Server chosen in the previous dialog and which the logged on user has access to.

6. Select the catalog(s) managing the Vault assets and click **Next**.

   The **Specify Vault Server** Names dialog is displayed.

7. In the **Old Server Name to Replace** field, enter the DNS name or IP address of the computer where your former Vault Server was installed. As default, Cumulus prompts the name of the first Vault Server computer which it finds in the selected catalog's records.

8. In the **New Server Name to Write** field, enter the DNS name or IP address of the computer where your current Vault Server is installed.

9. In the **New Alternate Server Name to Write** field, you can optionally enter the alternate information on the computer where your current Vault Server is installed – the information you did not enter in the **New Server Name to Write** field above (DNS name or IP address).

10. If you want to have the complete information that is stored in the record field Asset References updated, activate the **Automatically Update Asset Reference** option.

11. Click **Start**. The utility will search the selected catalog(s) for records that 'point' to the former Vault location. Then it will check whether the corresponding assets exist in the new Vault location and finally will update the assets' references. A list informs you which assets' references were redirected.

    NOTE: If you cancel the function, it will be stopped but the updates of the already processed records are kept.

12. Click **Close** to quit the utility.

Cumulus

Automatic Tagging brings the power of artificial intelligence (AI) to Cumulus. With this optional Cumulus feature, external image recognition services can be configured to analyze your assets and, as a result, to provide a number of tags denoting the contents of the images. These tags can be added to the metadata of the assets and used e.g. as keywords, or as descriptions, or captions, thus making your assets more researchable.

Automatic Tagging can be evoked via a menu command, both on the Desktop Client and on the Web Client, or via a dedicated Scheduler task. The tags received from the tagging service will be written into the field(s) configured for this purpose.

This section describes which prerequisites must be met for using Automatic Tagging services with Cumulus, and how to configure them via the Automatic Tagging module of the Cumulus Server Console or Web Server Console.

Automatic Tagging Setup

For details on how to use the Automatic Tagging feature with the Cumulus Desktop Client, see Manually starting the Automatic Tagging.

For details on how to use the Automatic Tagging feature with the Cumulus Web Client, see the Web Client Help, section "Manually Start the Automatic Tagging".

For details on how to use the Automatic Tagging feature with the Cumulus Scheduler, see Using the Scheduler to start the Automatic Tagging.

Prerequisites

In order to make use of the Automatic Tagging feature, some prerequisites concerning licensing, permissions, and catalog settings must be met.

Licensing

A respective license must be purchased, and activated via the Remote Admin module of the Cumulus Server Console or Web Server Console. This can be

EITHER:

- A **Cumulus Automatic Tagging OEM (one year)** license,

OR:

- an **Automatic Tagging** license.
- Additionally, you need a valid account with one of the supported Automatic Tagging providers.

Cumulus Automatic Tagging OEM vs. Automatic Tagging

- The **Cumulus Automatic Tagging** is a genuine carefree package that allows to use a ready-configured Automatic Tagging solution out of the box – no need to worry about which Automatic Tagging provider to choose, or contract or licensing details, or configuration specifics.
- **Automatic Tagging** is aimed at Cumulus customers who want to choose a Automatic Tagging provider of their own, or already have a contract with such a pro-

vider. There are dedicated Automatic Tagging Connectors for the different providers supported by Cumulus.

Permissions

Only the Cumulus Administrator can set up the Automatic Tagging feature at the Cumulus Server Console or Web Server Console.

Cumulus users who want to use the Automatic Tagging feature must have the Automatic Tagging User permission (**Permissions > Catalog Permissions > Automatic Tagging Permissions).**

- **Automatic Tagging User** – can start the automatic tagging process

Catalog-related Prerequisites

Automatic Tagging Specific Record Fields

Before using the Cumulus Automatic Tagging feature, make sure that the Automatic Tagging specific fields (provided in the **Fields for Automatic Tagging** catalog template) are added to each affected catalog! For details on how to add fields to a catalog, see Adding Fields.

The Automatic Tagging feature needs the following fields:

- **Automatic Tagging Log** – table field into which messages related to the Automatic Tagging process are written. Which messages are included depends on the specified logging level (see below)
- **Automatic Tagging Request** – string list field with two possible values, **Analyze** and **Review**. This field is required if the Automatic Tagging process is to be started via the Cumulus Scheduler

Scheduler Task

If the Automatic Tagging process is to be started via the Cumulus Scheduler, a Scheduler task with the Cumulus Scheduler action **Automatic Tagging** must be set up, specifying the catalogs on which the action shall be performed, and its frequency in time (Repeat interval or Cron Notation).

NOTE: Depending, among others, on the number of assets to be tagged and the speed of your Internet connection, the tagging process may take same time. It should only be restarted after it is properly terminated. Also, running the Automatic Tagging may generate expenses. Therefore it is crucial to choose a reasonable repeat interval.

For details on how to set up a Scheduler task, see Setting Up a Scheduler Task.

Other Prerequisites

To make use of the Automatic Tagging feature, it must be ensured that the service URL(s) of the configured Automatic Tagging providers can be reached from any machine on which the Automatic Tagging is evoked. These are the machines on

which the Cumulus Clients run, the machine on which the Cumulus Web Solutions run, and the machine on which the Cumulus Server runs.

For the initial configuration, the URLs in question are

- https://vision-api.eyeem.com
- https://api.clarifai.com.

Setting up Automatic Tagging

The **Automatic Tagging** module of the Cumulus Server Console or Web Server Console is available if either a Cumulus Automatic Tagging OEM license, or an Automatic Tagging license, is activated via the Remote Admin module of the Cumulus (Web) Server Console.

The Automatic Tagging module looks different depending on whether a Cumulus Automatic Tagging OEM license is activated, or an Automatic Tagging license.

In both cases, the set up includes the configuration of the fields into which the tags will be written, the fill mode, the log level, the user's credentials, and the specification of the probability threshold. The Automatic Tagging set up additionally requires the selection of a default tagging provider.

Automatic Tagging only works with fields of type string, multi-select string list, multi-select vocabulary, and with the Categories field (under $Keywords master category).

NOTE: For multi-select string list fields, multi-select vocabulary fields, and the Categories field only such tags are accepted that correspond to values that already exist in the catalog. For example, if the tagging service returns the tag "urban" for an image, this asset would be assigned to an already existing category "urban" (under $Keywords master category). However, if such a category does not exist, this tag would be ignored.

Configuration Settings for the Cumulus Automatic Tagging OEM

The **Automatic Tagging** module of the Cumulus Server Console or Web Server Console provides two panes, **General** and **Automatic Tagging Providers.**

Modifications to the configuration settings must be explicitly saved in order to take effect.

General

The General pane provides the following items:

*   **Fields** – table that lists the fields into which the tags found by Cumulus Automatic Tagging OEM are written, and the fill mode for each field. You can add more fields from your catalog(s), you can remove fields from the list, and you can edit the fill mode for each field.

    For string fields, the following fill modes are available:

    *   Replace
    *   Set if Empty
    *   Insert After
    *   Insert Before

    For multi-select string list fields, multi-select vocabulary fields, and the Categories field, the following fill modes are available:

    *   Replace
    *   Set if Empty

- Add
- **Logging Level** – list to select the level of messages that shall be logged. Possible levels are
  - Error
  - Warning
  - Information

Cumulus

The Cumulus pane provides fields for the login credentials that must be entered. Additionally, a probability threshold value can be set.

- **ClientID** – account credential)
- **Client Secret** – account credential
- **Probability Threshold [%]** –Cumulus Automatic Tagging calculates the probability of the tags they find. The less this value is set to, the more tags are found, but the less is their potential accuracy. The default value of 80% is a good starting point to find the most suitable value.

NOTE: After adding a the Cumulus Automatic Tagging to your Cumulus system, the Cumulus Scheduler must be restarted in order to make the Automatic Tagging Scheduler action available.

Configuration Settings for Automatic Tagging

The **Automatic Tagging** module of the Cumulus Server Console or Web Server Console provides two panes, **General** and **Automatic Tagging Providers.**

Modifications to the configuration settings must be explicitly saved in order to take effect.

General

The General pane provides the following items:

*   **Fields** – table that lists the fields into which the tags found by the tagging provider are written, and the fill mode for each field. You can add more fields from your catalog(s), you can remove fields from the list, and you can edit the fill mode for each field.

    For string fields, the following fill modes are available:

    *   Replace
    *   Set if Empty
    *   Insert After
    *   Insert Before

    For multi-select string list fields, multi-select vocabulary fields, and the Categories field, the following fill modes are available:

    *   Replace
    *   Set if Empty
    *   Add

- **Logging Level** – list to select the level of messages that shall be logged. Possible levels are
  - Error
  - Warning
  - Information
- **Provider for Automatic Tagging** – your Automatic Tagging provider of choice, selected from the drop-down list of available providers.

Automatic Tagging Providers

The Automatic Tagging Providers pane provides several tabs, one for each provider supported by Cumulus. The login credentials required by a provider – ClientID and Client Secret, or API Key – must be entered. Additionally, a probability threshold value can be set. For details about the required credentials and other provider-specific information, refer to the documentation of the respective Automatic Tagging provider.

- **API Key** – account credential (depending on the selected provider)
- **ClientID** – account credential (depending on the selected provider)
- **Client Secret** – account credential (depending on the selected provider)
- **Probability Threshold [%]** – Automatic Tagging services calculate the probability of the tags they find. The less this value is set to, the more tags are found, but the less is their potential accuracy. The default value of 80% is a good starting point to find the most suitable value.
- **Model** – Select a (custom) model to be used for tagging (depending on the selected provider).
  Note that the language selection below only works with the standard model ("General"), and is deactivated if any other model is selected.

- **Languages** – languages for Automatic Tagging (depending on the selected provider). The Automatic Tagging is performed in the configured language. If multiple languages are configured, all selected languages are processed in parallel. If no language is configured, English is used as the fall back language

  For Automatic Tagging working properly with multiple languages, the target metadata field must be set to multi-lingual. Otherwise, only the first of the configured languages would be taken into account.

NOTE: After adding a new Automatic Tagging provider to your Cumulus system, the Cumulus Scheduler must be restarted in order to make the Automatic Tagging Scheduler action available to the newly added service.

In order to provide better worldwide distribution and availability for videos, Cumulus can be enhanced with a Video Cloud option. Cataloged videos can then be uploaded and published to a dedicated Video Cloud provider which is responsible for delivering the video to websites, including Cumulus Portals and the Web Client. This grants a smooth user experience to customers and viewers while simultaneously the load on the Cumulus Server is significantly relieved.

This section describes which prerequisites must be met for using a Video Cloud with Cumulus, and how to configure the Video Cloud settings via the Video Cloud module of the (Web) Server Console.

For details on how to work with the Video Cloud feature, see [Working with the Video Cloud](#).

Video Cloud Setup

Prerequisites

In order to make use of the Video Cloud feature, some prerequisites concerning licensing, permissions, and catalog settings must be met.

Licensing

A respective license is must be purchased, and activated via the Remote Admin module of the Cumulus (Web) Server Console. This can be

EITHER:

- A Cumulus Video Cloud license,

OR:

- a Video Cloud Connectors license. Additionally,
- a valid account with one of the supported Video Cloud provider must exist. The credentials required by the provider must be entered on the Settings tab of the Video Cloud module of the (Web) Server Console. (For details, see Setting up the Video Cloud.)

Cumulus Video Cloud vs. Video Cloud Connectors

- The **Cumulus Video Cloud** is a genuine carefree package that allows to use a ready-configured Video Cloud solution out of the box – no need to worry about which Video Cloud provider to choose, or contract or licensing details, or configuration specifics.

- **Video Cloud Connectors** are aimed at Cumulus customers who want to choose a Video Cloud provider of their own, or already have a contract with such a provider. A Video Cloud Connector permits to integrate the capabilities of a Video Cloud provider into Cumulus. There are dedicated Video Cloud Connectors for the different providers supported by Cumulus.

Permissions

Cumulus users who want to use the Video Cloud feature (i.e. uploading and publishing videos, making use of video links and embed codes) must have special Video Cloud Catalog Permissions.

Cumulus provides three Video Cloud specific Catalog Permissions (**Permissions > Catalog Permissions > Video Cloud Permissions**).

- **Video Cloud Consumer** – can view and make use of video links and embed codes
- **Video Cloud Contributor** – can (additionally) alter the embed code with different player skins, can make use of derivatives, can view some video-related statistics data, and can control the availability period (from - to)
- **Video Cloud Administrator** – can (additionally) manage video files on the Video Cloud service (upload to/remove from Video Cloud, publish/un-publish), can access the Video Cloud module of the (Web) Server Console, and can see the upload queue.

Catalog-related Prerequisites

Video Cloud Specific Record Fields

The Cumulus Video Cloud feature can be used only with catalogs that contain some Video Cloud specific fields. These fields are provided in the catalog template for Video Cloud and can be added to any existing catalog from there.

For details on how to add fields to a catalog, see Adding Fields

Scheduler Task

Cumulus provides a Video Cloud Scheduler action that reads the content of certain Video Cloud related record fields and initiates respective actions (upload to / remove from Video Cloud, publish/un-publish). A Scheduler task with this scheduler action must be set up, specifying the catalogs on which the action shall be performed, and its frequency in time.

NOTE: When a Cumulus Video Cloud license or Video Cloud connectors License is added to your Cumulus system, the Cumulus Scheduler must be restarted in order to make the Video Cloud Scheduler action available.

For details on how to set up a Scheduler task, see Setting Up a Scheduler Task.

Trigger

Cumulus provides a Video Cloud trigger action that communicates modified values in the **Video valid from** and **Video valid to** record fields to the Video Cloud service – but only if the respective video is published (**Video Cloud State** = **Published**). Thus, the

availability period of published videos can be easily modified. Furthermore, this trigger action can initiate the removal of a video from the Video Cloud after it has been deleted from Cumulus.

Canto recommends to set up the following catalog triggers with the Video Cloud trigger action:

- A field specific trigger that is fired when the **Video valid from** is modified.
- A field specific trigger that is fired when the **Video valid to** field is modified.
- A field specific trigger that is fired when the **Video Cloud Asset Modification Date** field is modified.
- A trigger that is fired when an uploaded video is deleted from the catalog.
- Additional field specific triggers must be specified, if field mapping is configured, in order to sync changed field values to the Video Cloud service.

For details on how to set up triggers, see Setting Up Triggers for Catalogs.

Setting up the Video Cloud

The **Video Cloud** module of the Cumulus (Web) Server Console is available if either a Cumulus Video Cloud license, or a Video Cloud Connectors license, is activated via the Remote Admin module of the Cumulus (Web) Server Console.

The Video Cloud module looks different depending on whether a Cumulus Video Cloud license is activated, or a Video Cloud Connectors license

To work with the Video Cloud module, a user must have the **Video Cloud Administrator** permissions (**Permissions > Catalog Permissions > Video Cloud Permissions).**

Configuration Settings for the Cumulus Video Cloud

There is not much to configure with the carefree Cumulus Video Cloud solution, just the account credentials must be entered.

Modifications to the configuration settings must be explicitly saved in order to take effect.

The Settings Tab

The Settings tab provides the following items:

- **Logging Level** – Drop down list to select the level of error messages that shall be logged. Possible levels are Error, Warning, and Information.

- Account credentials, such as **User Name** and **Password,** for the Cumulus Video Cloud.

  NOTE: Depending on your geographic location, different Video Cloud providers may be involved in providing the Cumulus Video Cloud. Therefore, different account credentials may be displayed, according to the conditions of the actual Video Cloud provider.

- **Import player skins into catalogs...** button to import the player skins available with the Cumulus Video Cloud into Cumulus catalogs.

  A player skin is required and must be specified in the metadata of each video uploaded to the Cumulus Video Cloud. Without a specified player skin, uploaded videos can't be streamed from the Video Cloud in Cumulus Portals or Cumulus Web Client

The Queue Tab

This tab contains a table of currently pending or unfinished upload task, if any.

Configuration Settings for Video Cloud Connectors

With an activated Video Cloud Connectors License, all available connectors are displayed. Select the connector to the Video Cloud provider of your choice (the one that hosts your account) end enter the required credentials.

At any given time, only one connector (the connector to the configured default provider, see below) is supported.

Modifications to the configuration settings must be explicitly saved in order to take effect.

The Settings Tab

The Settings tab provides two panes, **General** and **Video Cloud Providers**.

General

The General pane provides the following items:

- **Logging Level** – Drop down list to select the level of error messages that shall be logged. Possible levels are Error, Warning, and Information.
- **Default provider for video uploads** – Drop down list to select the provider that will host all newly uploaded videos. The currently active provider must be selected.

Video Cloud Providers

This pane provides one tab for every available Video Cloud provider. The login credentials required by a provider must be entered; additional information may be displayed or required. For details, refer to the documentation of the respective Video Cloud provider.

Some providers support the mapping of Cumulus fields to their own metadata fields.

Currently, the following Video Cloud providers are supported:

- **Brightcove**

  Brightcove requires the following information:

  - Account ID
  - Client ID
  - Client Secret

  The **Import player skins into catalogs…** button allows to import the player skins available from Brightcove into Cumulus catalogs.

  A player skin is required and must be specified in the metadata of each video uploaded to Brightcove. Without a specified player skin, uploaded videos can't be streamed from the Video Cloud in Cumulus Portals or Cumulus Web Client

- **Kaltura**

  Kaltura requires the following credentials:

  - Partner ID
  - Sub Partner ID
  - Administrator ID
  - Administrator Secret

- Service Endpoint
- Conversion Profile
- Field Mapping (see below)
- Player Code URL

The **Import player skins into catalogs...** button allows to import the player skins available from Kaltura into Cumulus catalogs.

A player skin is required and must be specified in the metadata of each video uploaded to Kaltura. Without a specified player skin, uploaded videos can't be streamed from the Video Cloud in Cumulus Portals or Cumulus Web Client

The **Update Conversion Profiles list** button allows to import list of conversion profiles available at Kaltura.

Field Mapping: Use this table to configure the mapping of Cumulus fields to Kaltura fields. All fields listed in this table will be mapped. Fields can be added to the list via the **Add** button.

Cumulus fields can be mapped to standard Kaltura fields (such as creatorID, userID, and description), or to custom fields defined at Kaltura.

At Kaltura, custom fields are contained in so called Metadata Profiles. There can be a multitude of such profiles, each of which can contain many custom fields. When setting up the Field Mapping, you first select the Cumulus field you want to map, then the Metadata Profile that contains the target field, then the target field itself.

Mapping itself is initially performed during the upload of a video to Kaltura. Field values modified in Cumulus can be synced to Kaltura anytime by means of a Video Coud trigger action (see Trigger). (Exception: the Kaltura standard field creatorID is set once during the upload, and can not be changed later.)

- **movingimage**

  requires the following credentials:

  - User Name
  - Password
  - Field Mapping (see below)

  The **Import player skins into catalogs...** button allows to import the player skins available from movingimage into Cumulus catalogs

  A player skin is required and must be specified in the metadata of each video uploaded to movingimage. Without a specified player skin, uploaded videos can't be streamed from the Video Cloud in Cumulus Portals or Cumulus Web Client

  Field Mapping: Use this table to configure the mapping of Cumulus fields to movingimage VideoManagerPro fields. All fields listed in this table will be mapped. Fields can be added to the list via the **Add** button.

  Cumulus fields can be mapped to standard movingimage fields (such as Description, Video Title, Keywords), or to custom fields defined at movingimage. When setting up the Field Mapping, you first select the Cumulus field you want to map, then the target field. However, only the movingimage standard fields are displayed and can be selected in the **Add Field** dialog. To set a custom field as target, you must enter its name manually in the **Add Field** dialog.

  Field mapping is initially performed during the upload of a video to movingimage. Field values modified in Cumulus can be synced to movingimage anytime by means of a Video Cloud trigger action (see Trigger).

- **Screen9**

  requires the following credentials:

  - Account ID

- Access Token

- **Wistia**

  requires the following credentials:

  - **Master Token**
  - **Default Project to Upload to**

  The **Import Player projects into catalogs...** button allows to import the Wistia projects into Cumulus catalogs. – On the first import of such projects, a corresponding record field "Wistia projects" is added to the affected catalogs.

The Queue Tab

This tab contains a table of currently pending or unfinished upload task, if any.

Cumulus

In order to provide worldwide distribution and availability for assets, Cumulus can be enhanced with theMedia Delivery Cloud (MDC) option. Various renditions of cataloged assets can then be provided through a Content Delivery Network (CDN) based on Amazon Web Services.

For more details on how to work with the Cumulus Media Delivery Cloud, see Using the Media Delivery Cloud.

For setting up Media Delivery on Premise (MDO) – i.e. in-house media delivery without the benefits of CDN –, see The Media Delivery Tab.

Media Delivery Cloud Setup

Setting up the Media Delivery Cloud

The Media Delivery Cloud module is only available if a Media Delivery Cloud license is activated via the Remote Admin module of the Cumulus (Web) Server Console. This section describes how to configure the Media Delivery Cloud option via the Media Delivery Cloud module.

PRECONDITIONS:

- You need to be logged in as the Cumulus Administrator to work with the Media Delivery Cloud module.
- A Media Delivery Cloud license must be purchased and activated via the Remote Admin module of the Cumulus (Web) Server Console.

The **Media Delivery Cloud** is configured as follows:

Configuration

Basic Media Delivery Cloud settings are configured here.

- **Customer ID** – Amazon S3 account identifier. Customers may use an already existing account of their own, or an account provided by Canto.
- **Endpoint URL –** Provided by Canto.
- **Password** – The password belonging to the customer's AWS Customer ID. Required to ensure that only authorized users can upload files to the Media Delivery Cloud (including e.g. watermark images)
- **Master Image Asset Action –** A table with the Asset Actions that will generate master images. You can add more Asset Actions (from the Asset Actions available at the Cumulus Server), remove Asset Actions from the list, and define the order in which they will be performed, using the appropriate buttons.

If there are multiple Asset Actions listed, they will be performed in the given order. However, as soon as an Asset Action generates a result, the rest of the Asset Actions in the list is ignored. This behavior can be used to easily generate master images from different asset types, e.g. images or videos, that require different asset actions to generate them.

- **Generate asset download names from field value** – In order to make MDC-delivered assets more SEO-friendly, and to provide downloads like PDF-brochures with a speaking name, the value of a metadata field is added to the generated URLs.

  - **Field for asset download name** – The field who's value is added the URL. Use the **…** button to select a field. Only fields of type "string" are available.

  - **Fallback fields** – If there is no field configured, or the configured field has no value, the Record Name will be added to the URL. In the unlikely case that this field has no value, too, the Asset Name is used. If even this field has no value, nothing is added to the asset URL.

  The added string is shortened to 500 characters to make a reasonable URL size.

  Typically the record or asset name contains a file name extension, separated by a period character. If the string to be added does not contain any period character Cumulus tries to determine the correct file name extension based on the "File Format Identifier" field.

- **Image ID of fallback image** – The Media Delivery Cloud Image ID of the image that shall be displayed if a published image is no longer available on the MDC.

  Any image published to the MDC can serve as fallback image. To use an image as fallback, you copy it's Media Delivery Cloud **Image ID** field value into this field.

  Note that fallback images can be provided for delivered renditions only, not for original assets. Also keep in mind that every operation that is applied to generate a rendition (e.g. crop, resize) is also applied to the fallback image!

Watermarks

A watermark can be applied to any asset or asset rendition that is distributed via the Media Delivery Cloud.

You can upload multiple files that can be used as watermarks.

• **Watermark images** – List of uploaded images that are available to be used as watermarks. You can add more images from your hard drive or network environment, replace existing watermark images, or remove them entirely vie the respective buttons.

   If you replace a watermark image (via the **Edit** button), the ID stays the same as before. In other words, existing watermarks will be updated to the new image.

   NOTE: Only image files can be used for watermarking. Before an image is actually uploaded, it is converted to PNG and downscaled to the configured size of the master image.

Cumulus provides different workflow support functions – status-based workflows or Action type based workflows. For details on Action type based workflows, see "Workflow Automation with Cumulus". The following sections deal with status-based workflows:

- Overview – Gives an overview on Cumulus status-based workflows.
- Workflow Manager – Describes the necessary steps to configure workflows in the Workflow Manager of the Cumulus Server Console or Web Server Console.

Configuring Workflows

Overview

Cumulus offers status-based, asset-centric workflows, i.e. workflows that are always attached to individual assets (but not, for example, to collections).

A workflow defines a bunch of states an assets can be in, and the activities that lead from one state to the next one.

Workflow states can be freely defined, such as Pending, In progress, To be approved, Done, etc.

Any workflow state can offer a toolbox with multiple functions that can be applied to an asset immediately from within the workflow view, e.g. Add to Basket, Download, Print, Relate, Share, among others. Whether functions are available in a state, an which ones, depends on administrative settings.

Workflow activities lead from one state to another state, or, if it is a starting activity, attach an asset to a workflow. With an activity you define

- the following state (and thus, ultimately, the sequence of the states within a workflow),
- preconditions that must be met for the activity to be applicable,
- users/roles that are allowed to perform the activity (and thus to promote the workflow to the next state).
- the user/role the asset is assigned to in the following state,
- asset actions that are to be applied to the assets during the transition,

As a Cumulus Administrator, you create and edit your own workflows in the Workflow Manager module of the Cumulus Server Console or Web Server Console.

In order to be usable, a workflow created within the Workflow Manager must be applied to a catalog. Only workflows applied to a catalog can be attached to assets.

Applying a workflow to a catalog via the Catalog Setting module of the Preferences dialog copies the respective settings to the catalog. For each workflow, 3 fields are added to the catalog: [workflow name] - Workflow Activities, [workflow name] - Workflow Assignments, and [workflow name] - Workflow State.

As soon as a workflow is assigned to a catalog, it is available to Cumulus users.

Assigning a workflow to a catalog is performed with the preferences dialog of the Cumulus Desktop Client. For details, see Catalog Settings / Workflows Tab.

NOTE: Workflows that are applied to a catalog reside there independent of the original definition stored in the Workflow Manager. Thus, editing a given workflow definition in the Workflow Manager does not affect the actual workflow in any catalog. To make modifications to a workflow effective, you must explitcitely update the workflow assigned to the catalog to the new definition.

Furthermore, workflows can be attached to new assets during the cataloging process via an action handling set. For details, see Asset Handling Sets / Workflows Tab

Workflow Manager

The following sections describe how workflows are configured via the Workflow Manger of the Cumulus Server Console or Web Server Console.

PRECONDITIONS: To configure workflows, you must have the appropriate permissions (**Permissions > Server Permissions >Administrator Permissions > Workflow Administrator).**

The Workflow Manger displays a list of all defined workflow. You can create new workflows or edit and remove existing ones. For editing the definition of new or existing workflows, the **Configure Workflow [workflow name]** pane is displayed.

NOTE: Creating/modifying workflows
If workflows are created or edited with the Workflow Manger, they are not immediately available for usage.
To use a workflow, it must be assigned to each catalog you want it to use with. Likewise, if you have modified the definition of a workflow, you must explitcitely update this workflow for every catalog to which it is assigned in order to make the modifications effective.
For details on how to assign workflows to catalogs, and how to update modified workflow definitions, via the **Catalog Settings** pane of the **Preferences** dialog, see Workflows Tab.

The **Configure Workflow [workflow name]** pane contains the following tabs:

The General Tab

This tab contains general information on the workflow. Use this tab to define:

- **Name** – The name of the workflow. Required Value!
- **Description** – short description of the workflow, providing helpful hints to the users (optional).

The States Tab

This tab contains a table of all states defined for the current workflow. Use this tab to add new states and to edit or remove existing ones.

States are always displayed in alphabetical order. Their sequence in the actual workflow is defined with the activities.

A state consists of a name and a description (optional). Additionally, you can specify which functions shall be available to assignees directly from within a state. Click **Create** to define a new state, or click **Edit** to modify name, description and/or available functions for an existing state. Clicking **Create** or **Edit** opens the **Configure Work State** dialog.

The Configure Workflow State dialog

The **Configure Workflow States** dialog defines a state:

- **Name** – The name of the state. Required Value!
- **Description** – short description of the state, providing helpful hints to the users (optional).

- **Available Functions** – functions that are available in a toolbox in the workflow state and can be applied to assets immediately. Click **Add** to get a list of functions that can be added to the toolbox.
  It is recommended to choose only such functions that make sense within the current workflow state.

The Activities Tab

This tab contains a table of all activities defined for the current workflow. Use this tab to add new activities and edit or remove existing ones.

For each activity, the table displays

- its name and description
- the source state (activity can only be performed if the asset is in one of the available source state)
- the target states (the state the asset is promoted to by the activity)
- a radio button to make the activity to the starting activity, i.e. the activity which attaches the asset to the workflow. Every workflow must have a starting activity.

Click **Create** to add a new activity, or click **Edit** to modify an existing activity. Clicking **Create** or **Edit** opens the **Configure Workflow Activity** dialog.

The Configure Workflow Activity dialog

The **Configure Workflow Activity** dialog provides the following tabs:

The General Tab

This tab defines general information on the activity.

- **Name** – The name of the activity. Required Value!

- **Description** – short description of the activity, providing helpful hints to the users (optional).
- **Source States** – one or more states in which the activity is applicable.
- **Target State** – the state the asset is promoted to by the activity.

The Pre-conditions Tab

This tab defines conditions that must be met for the activity to be applicable.

- **Enable activity only for record matching** – if activated, you can select a query to filter the assets to which the activity is applicable. Any query saved at the Desktop Client can be selected, however, make sure to select a query that does not contain placeholders!
- **Restrict activity to** – if activated, you can select users/roles which are allowed to perform the activity (and implicitly, to promote an asset to the respective target state).

The Assignments Tab

This tab defines to which users/roles the asset is assigned in the target state. The following assignments are possible:

- **Do not change assignment is** – the asset remain assigned to the same user/role as in the source state.
- **Clear assignment** – the asset will no longer be assigned to a user/role in the target state (select this option only for the last state of the workflow!)
- **Assign to user invoking this activity** – the current user is assigned in the target state.
- **User selects assignment** – the user invoking the activity must select a user/role to which the asset is assigned in the target state.

- **Set assignment to** – select one or several users/roles to which the asset is assigned in the target state. Note that it is possible to assign an asset to several users/roles.

The Actions Tab

This tab defines actions that will be performed on the asset during the transition to the target state.

- **Apply metadata template** – if activated, you can select a metadata template that will be applied to the asset.
- **Apply permission template** – if activated, you can select a permission template that will be applied to the asset.
- **Execute asset action** – if activated, you can select one or more asset actions that will be performed on the asset during the transition to the target state.

Cumulus

Cumulus Web Client is the perfect tool to access Cumulus with a modern and easy-to-use interface. Users can add files to catalogs, search for files, preview files, edit their metadata, share them with others or download them – all via a standard Web browser.

Appropriate access rights are granted via the Cumulus user management.

This section describes how to configure Cumulus Web Client. To gain an overview of the key features and get explained the basic usage, see its user assistance.

Configuring Web Client

Overview

Cumulus Web Client is installed on a Web application server and communicates via TCP/IP with your Cumulus Server. The Web application server can be operated on the same machine on which the Cumulus Server is installed, or on another remote machine accessible by a TCP/IP connection. As with all Web server solutions, this configuration requires an appropriate Internet connection if you want your external visitors to have 24-hour access.

The Cumulus Web Client provides the data according to the user access rights configured via the user management of your Cumulus edition – your data is secure at all times.

IMPORTANT! The Cumulus Web Client represents the categories of a Cumulus catalog as **Container**. However, only such categories are displayed at the Cumulus Web Client which have a **Container Type** assigned to them. Categories without a container type are not visible at the Web Client!

This section collects the necessary steps to configure a Cumulus installation so that all features like versioning are enabled in the Web Client, explaining the Why? and the How?

Prerequisites for Using the Cumulus Web Client

A Cumulus Server and the Cumulus Web Solutions (including Web Client, Portals, and the Web Server Console) must be installed and running. A Cumulus Client is also required for certain configuration tasks that must be performed via the client's Preferences window.

For detailed information on how to install Cumulus, the Cumulus Web Solutions and the Cumulus Client, see the respective *Installation Guide*.

Cumulus Web Client must be installed as a part of the Cumulus Web Solutions. It must be configured to have access to a Cumulus Server via the Cumulus Web Client Configurator (see "The Settings Tab")

Following sections describe the required configuration tasks:

- Server Settings
- Catalogs
- Asset Handling Sets
- Users
- Web Client Configuration

Server Settings

These basic settings must be performed via the Web Server Console, or the Cumulus Client's Server Console.

Configure a base URL for Web access

Why: A base URL is required for the Send collection link feature as well as for the Send upload link feature to work.

How: Open the Server Console or the Web Server Console and select **Remote Admin > Settings > Base URLs for Web Access** and add an URL. A base URL must point to a valid Portals installation, e.g. http://localhost:8080/portals.

See also: Configuring Web URL

Configure a mail server to be used by Cumulus

Why: This is a prerequisite for sending collection links or upload links via email from within Cumulus or the Cumulus Web Client.

How: Open the Server Console or the Web Server Console and select **Mail Manager**, then enter the information for the mail server that you want to use.

See also: Mail Manager

Add a versioning location

Why: A versioning location is required if you are using the file system versioning feature. Without a versioning location, this feature won't work.

How: Open the Server Console or the Web Server Console and select **File System Version-
            ing**, then add the Central Asset Location that is configured for the catalog to be used
            as versioning location, and configure its behavior.

See also: Configuring the File System Versioning

Catalogs

Any catalog that shall be used with the Web Client must be prepared as follows.

These settings must be performed with the **Preferences** window of the Cumulus Client.

Enable Sharing and Web Access

Why: If the Allow Web access option is deactivated, the catalog can't be accessed with the Web Client.

How: Select **Preferences > Catalog Settings > General > Sharing** and activate the **Sharing** and **Allow Web access** options.

This must be performed individually for each catalog that shall be accessed with the Web Client.

See also: Overview: Catalog Settings Window

Set a Central Asset Location

Why: A Central Asset Location is required e.g. for the send upload link feature to work. Beyond that, it is strongly recommended to employ a Central asset location for all catalogs that shall be accessed with the Web Client (e.g., because Tomcat should not have direct access to file server)

How: S**elect Preferences > Catalog Settings > General > Copy Assets to Central Location** and configure the usage of a Central Asset Location

- As **Mode**, select **Always**. This will override whatever is specified in the Asset Handling Set, if applicable.

- If a Vault address is used as the Central Asset Location, don't forget to enable the Vault AssetStore in the default Asset Handling Set!
- If File System versioning is to be used, additionally, configure the Central Asset Location as versioning location (see "Add a versioning location")

See also: Overview: Catalog Settings Window; Employing a Central Asset Location

Add fields for versioning information to the catalog

Why: These fields are required for the file system versioning feature to function.

How: Select **Preferences > Catalog Settings > Record Fields** and add the fields from the **Fields for Versioning** catalog template.

See also: Adding Fields; File System Versioning

Add fields for asset usage history information to the catalog

Why: These fields are required to track a file's usage history and to show information about recent activities on the Web Client Dashboard as well as on the file's History tab.

How: Select **Preferences > Catalog Settings > Record Fields** and add the fields from the **Fields for Tracking Usage History** catalog template.

In the Asset Usage History field properties, select the **Usage History Options** tab and activate the actions that you want to track.

Additionally, you must make sure that users have the appropriate permissions on the Asset Usage History field ("view") so that they can see the activities on the Dashboard.

NOTE: Currently, only the history for **Check Out**, **Check In**, **Download** and **Comments** are shown in the Dashboard of the Web Client

See also: Adding Fields; Report Manager

Add fields for commenting to the catalog

Why: These fields are required for the commenting function to work.

How: Select **Preferences > Catalog Settings > Record Fields** and add the fields from the **Fields for User Commenting** catalog template.

Additionally, you must make sure that users have the appropriate permissions on these fields.

See also   Adding Fields; Subtable Permissions

Make the category field "Description" user editable

Why: A user should be able to enter or modify the description of a container/category, not only its name.

How: Select **Preferences > Catalog Settings > Category Fields >Description > Properties**. On the **Field Values** tab, activate **Allow user to edit**.

See also: User Generated Field Values

Enable text extraction from documents

Why: Without text extraction, the contents of documents (e.g. PDF files or MS Word documents) can't be searched with the Web Client.

How: To configure text extraction you have to perform several tasks:

- Add the **Document Text** record field to the catalog and enable it for indexing.

- Add the **Document Text** field to the Asset Info Window view of the Record View Set that is to be used with the Web Client.
- In the Asset Handling Set that is to be used for cataloging, enable the modules for PDF, DOCX, etc. to have access to sub-records.
- In the Asset Handling Set that is to be used for cataloging, enable the filters for PDF and DOCX (i.e. Office Open XML Filter). In the Properties of each filter, activate the Extract Text option.

See also: [Cumulus Office Document Filters](#)

Asset Handling Sets

Cataloging and accessing files via the Cumulus Web Client is performed according to the Asset Handling Sets specified for the user and the current catalog. If no Asset Handling Set is specified, the default Asset Handling Sets is employed.

These settings must be performed with the **Preferences** window of the Cumulus Client.

Enlarge the size of thumbnails

Why: Large thumbnails are required for the Dashboard key visual to work properly; besides, they provide a better visual quality.

How: Select **Preferences > Asset Handling Sets**; then select the Asset Handling Set you want to be used by the Web Client. On the **Thumbnails** tab, set the size to 1024 pixel.

See also: Asset Handling Sets

Users

These settings must be configured via the Web Server Console, or the Cumulus Client's Server Console.

Configure user permissions

Why: As always with Cumulus, what a user can see and do within a catalog can be precisely defined by granting or revoking respective permissions.

What

- To access a Cumulus catalog via the Cumulus Web Client, a user must have at least the permission to open this catalog with any client.
- To download files a user must have the Download Asset permission.
- To upload files via the Web Client, users must have the View Item, Create Item, and Transfer Asset permissions.
- To check out files via the Web Client, users must have th Modify Record, Transfer Asset and the Check-In/Out Asset permissions.
- To check in files via the Web Client, users must have the View Item, Create Item, Modify Item, Modify Item Asset Reference, Transfer Asset, and Asset Versioning permissions.
- To be able to make full use of the comments function, users must have the View, Create, Modify and Delete permissions on the User Comments Thread field and its subtables.
- To see recent activities on the Dashboard, users must have the View permission on the Asset Usage History field.

How: Permissions are set via the **User Manager** module of the Cumulus Server Console. Open the Server Console or the Web Server Console an select the **User Manager** module.

See also: Simple View: Permissions; Advanced View: Permissions.

Web Client Configuration

Behavior and appearance of the Web Client are controlled via the Web Client Configurator which is a Module of the Web Server Console. The configuration options offered by the Web Client Configurator and the handling is described in the following sections. This section lists the minimal/initial configuration tasks that must be performed in order to use the Web Client.

To use the Web Client Configurator, open the Web Server Console and select **Web Client Configurator**.

Select a Record View Set and a Category View Set to be used

What The Record View set – referred to as *File View* in the Cumulus Web Client – affects file overview pages as well as file profile pages. The Category View set – referred to as *Container View* in the Cumulus Web Client – only affects container profile pages

How: On the Layout tab of the Web Client Configurator (see "The Layout Tab"), select the Record View Set / Category View sets that shall be mandatory for all users of the Cumulus Web Client, or allow the user to change the view(s) individually.

NOTE: Canto recommends to use View Set that are specially adapted for the use with the Web Client.

Keep in mind that there are certain restrictions if a View Set is used with the Web Client:

- The number of lines setting for the display of a field (via the Properties of a field in a view) does not take effect with the Web Client.

- Color settings for fields (via the Properties of a field in a view) do not take effect with the Web Client.
- Certain fields are always displayed in the Web Client, regardless of the settings in the view set.
- Layout settings in Category View Sets (colors, fonts, etc.) are ignored by the Web Client.

See also: For a general description of View Sets, see:

Record View Sets and Category View Sets.

For a description on how to create or edit Record View Sets, see: Creating and Editing Record View Sets.

For an overview on which view modes of a Record View Set are relevant for the Web Client, see: Using Record View Sets for various Cumulus Clients.

Configure available filter options

How: Select the default filter options for newly created users on the **Filter** tab of the Web Client Configurator.

See also: The Search & Filter Tab

NOTE: These filter options only take effect if new users are created from scratch. New users that are created by duplicating existing ones inherit the filter options from the parent user.

Configure available asset actions

How: Select the asset actions that are available for Web Client users with the Download functions on the **Download** tab of the Web Client Configurator

See also: The Download Tab

Web Client Configurator

The following sections describe how Cumulus Web Client is configured via the various tabs of the Cumulus Web Client Configurator.

- [The Settings Tab](#)
- [The Layout Tab](#)
- [The Search & Filter Tab](#)
- [The Download Tab](#)
- [The History Tab](#)

The Settings Tab

This tab contains

- the name or the IP address of the Cumulus Server that Cumulus Web Client accesses;
- the user name and password of the technical user employed for the reset passwords feature. If no technical user is specified, the reset passwords feature is not available in the Web Client
- a setting for the UI language of the Cumulus Web Client

Cumulus Server

Server Address – Enter the IP address or DNS-resolvable name of the machine running the Cumulus Server in th field. Required Value!

If the Cumulus Server and the web application server of the Cumulus Web Client are running on the same machine, you can enter *localhost* instead of an IP address or server name.

Reset Passwords

- **Admin User** – Enter the user name of a technical user that can change the pasword of users.

    NOTE: This technical user must have Global User Administrator permissions!

- **Password** – Pass word of the technical user (as set in the Cumulus User Administration).

- **Email Sender Address** – The address to be displayed as From-address in the reset password mail sent by Cumulus.

The reset password feature is enabled as soon as a valid admin user is set. A **Reset password** link is shown on the login page of the Web Client.

To disable the reset password feature, delete either the admin user's user name, or password, or both. The **Reset password** link is no longer displayed on the login page of the Web Client.

Language

An administrator can determine the UI language for the Cumulus Web Client, e.g. to force the use of a corporate language.

Web Client Language – Displays the selected UI language (default: **According to browser settings**, i.e. no specific language is set). Select the language you want to be used for the Web Client from the drop-down list.

NOTE: Selecting a specific UI language only works if the Web Client UI is localize into that language. Out-of-the-box, Cumulus Web Client currently supports English, German, French and Japanese. If you select a language that is not yet localized, English will be used as the fall back language – just as it is the case if the language is set to According to browser settings, and the browser is set to a language that is not available for the Web Client.

The Layout Tab

This tab contains layout options for the Cumulus Web Client.

View Sets

This section is for specifying the View Sets to be used with the Cumulus Web Client.

The selected Record or Category View Set controls which metadata are displayed, and in which order. The Record View set – referred to as *File View* in the Cumulus Web Client – affects file overview pages as well as file profile pages. The Category View set – referred to as *Container View* in the Cumulus Web Client – only affects container profile pages.

You can either specify a Record View Set and/or a Category View Set that is mandatory for all users of the Cumulus Web Client, or you can allow the user to change the view(s) individually.

Make sure that all Record View Sets / Category View sets are shared sets (see Creating and Editing Record View Sets). Also make sure that users have access to the view sets they are supposed to use. Users can't log in if they are unable to access either the mandatory view set or at least one of the view sets they are supposed to choose from.

Cumulus remembers a user's selection of views and uses the respective View Sets the next time the user logs in. Only on the initial log-in of a brand new user, the standard view sets would be employed.

- **Record View Set** – Drop-down list to select the Record View Set to be used as mandatory file view, or to allow users to change their file view.
- **Category View Set** – Drop-down list to select the Category View Set to be used as mandatory container view, or to allow users to change their container view.

NOTE: Not all settings in a View set will take effect with the Web Client. For a short overview on possible restrictions see <u>Select a Record View Set and a Category View Set to be used</u>.

Message and Footer

This section is for specifying messages the administrator wants to be displayed to users as well as for adding and customizing an additional footer. This footer can be used to display further information or navigation options.

The custom footer is displayed in addition to the default footer on every page. The default footer can not be modified or deleted.

Administrator Message

Footer

Default Footer

- **Administrator Message** – You can specify a message that is shown to logged-in users on every page.
  - **Show message** – If activated, you can enter a message. This message is displayed as soon as you save your changes.
  - **Message** – Enter the message to be displayed.
- **Footer** – You can specify a custom footer that is displayed just above the default footer of the Cumulus Web Client.

- **HTML Text** – Define the footer you want to be displayed. Use standard HTML to design the footer's appearance.

  NOTE: When using HTML, be carefully not to interfere with the general layout of the page.

Login

This section is for specifying the layout of the login page (logo, tag line, and background image).
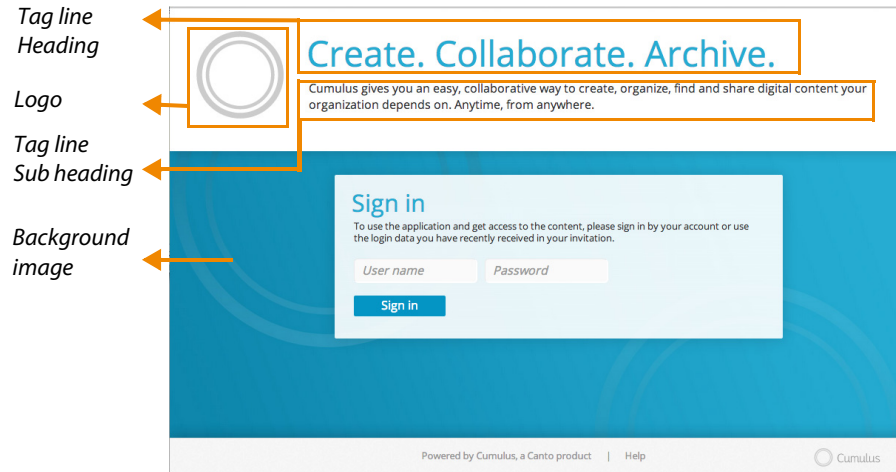
- **Logo** – Select the logo file you want to use, then upload it. Any file in either SVG, PNG, JPG or GIF format can be used. The ideal size for the logo on the login page

is 130 x 130 pixels. As soon as you save your changes, the uploaded file is used as the new logo.

To delete a file you have uploaded and return to the default logo, click **Reset to Default**. As soon as you save your changes, the default logo file is used again.

- **Background image** – Select the image file that you want to use, then upload it. Any file in either PNG, JPG or GIF format of at least 800 x 600 pixels can be used as background image. As soon as you save your changes, the uploaded file is used as the new background image.

  To delete a file you have uploaded and return to the default background image, click **Reset to Default**. As soon as you save your changes, the default background image file is used again.

- The Tag Line customization:

  - **Heading** – Enter the text to be displayed as tag line heading. As soon as you save your changes, this text is used as tag line heading.

    To return to the default tag line heading, delete any text in this field. As soon as you save your changes, the default heading is used again.

  - **Heading text color** – Activate **Use custom color**, then define the desired color for the tag line heading. As soon as you save your changes, the tag line heading is displayed in the selected color.

    To return to the default text color, deactivate **Use custom color**. As soon as you save your changes, the default text color for the tag line is used again.

  - **Sub heading text** – Enter the text to be displayed as sub heading. As soon as you save your changes, this text is used as sub heading.
    The sub heading text color can't be changed.

To return to the default sub heading, delete any text in this field. As soon as you save your changes, the default sub heading text is used again.

- Tag line localization: Both heading and sub heading texts can be localized to other languages. Click the language button at the right side of the respective field to get the **Translate Heading Text** or **Translate Sub Heading Text** dialog displayed. Enter your translation(s) into the respective language field(s) and click **Save**.

  Note that you don't have to literally translate your original heading or sub heading text, but can enter any text that fits your needs.

  Localized heading and subheading texts will be displayed in a specific language if the user's browser is set to that language, or if an administrator has set the Web Client Language to that specific language (see Language)

Dashboard

This section is for customizing the layout of the Dashboard (logo, welcome text, text color, key visual).
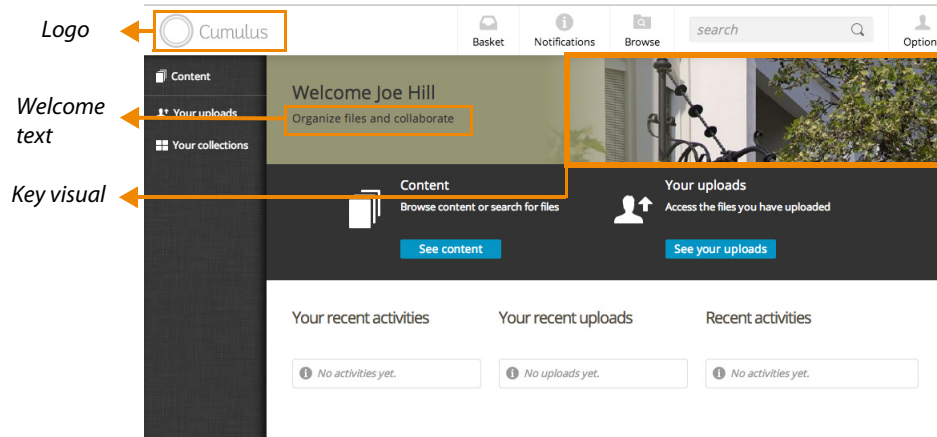
- **Logo** – Select the file you want to use, then upload it. Any file in either SVG, PNG, JPG or GIF format can be used. The ideal size for the logo on the dashboard is 160 x 43 pixels. As soon as you save your changes, the uploaded file is used as the new logo.

  To delete a file you have uploaded and return to the default logo, click **Reset to Default**. As soon as you save your changes, the default logo file is used again.

- **Welcome Text** – You can customize the welcome text.
  - **Text** – Enter the text to be displayed as welcome text. As soon as you save your changes, this text is used as welcome text.

    To return to the default welcome text, delete any text in this field. As soon as you save your changes, the default welcome text is used again.

- **Welcome text color** – Activate **Use custom color**, then define the desired color for the welcome text. As soon as you save your changes, the text is displayed in the selected color.

  To return to the default text color, deactivate **Use custom color**. As soon as you save your changes, the default text color is used again.

- Welcome text localization: The welcome text can be localized to other languages. Click the language button [🇮🇸] at the right side of the text field to get the **Translate WelcomeText** dialog displayed. Enter your translation(s) into the respective language field(s) and click **Save**.

  Not that you don't have to literally translate your original welcome text, but can enter any text that fits your needs.

  Localized welcome texts will be displayed in a specific language if the user's browser is set to that language, or if an administrator has set the Web Client Language to that specific language (see Language)

- Key Visual

  - **Show random images from catalog on user's dashboard** – If activated, randomly selected images (or parts of images) from the catalog are displayed in the Dashboard's header to make it visually appealing (key visual). At the same time, the color of the Dashboard's header is adapted to the prevailing color of the image.

    If deactivated, the key visual is taken from a predefined set of special images delivered with the Web Client. Instead of the default images, you can use an image of your own as key visual.

  - Select the file you want to use, then upload it. Any file in either PNG, JPG or GIF format can be used as key visual. The ideal size for the key visual file is 1024 x 220

pixels. As soon as you save your changes, the uploaded file is used as the key visual.

To delete a file you have uploaded and return to the default key visual files, click **Reset to Default**. As soon as you save your changes, the default key visual files are used again.

Custom Icons

This section is for customizing the icons used for asset relation types. The Cumulus Web Client can display each custom relation type with its own significant icon. Use this section to assign icons to relation types.

- **Asset Relations** – Table displaying all relation types from all accessible catalogs and the icons currently assigned to them.

Select the row for the asset relation for which you want to change the icon, then select an icon file and upload it. In the Web Client, the asset relation type will be displayed with the new icon.

NOTE: You can only use SVG files (adjusted to a 512 x 512 stage) as icons for asset relation types!

The Search & Filter Tab

This tab contains sections for the configuration of search and filter options in the Cumulus Web Client.

Filters

This section is for specifying filters based on record fields. these filters can be employed in the Cumulus Web Client to narrow down the number of displayed items.

*   **Configured Filters** – List of filters that can be selected the Web Client. You can add more filters, edit existing filters, or remove filters using the according buttons below the list, and you can change the sequence of the filters with the according buttons on the right side of the list.
    If **Default** is activated, the respective filters are displayed in the **Manage Filter** section of the Cumulus Web Client's filter bar when a user logs in on the Cumulus Web Client for the first time.

    NOTE: Employing filters influences the performance. The more filters are employed, the more load for the Cumulus Server.

Searches

This section is for specifying searches that are displayed in the main menu of the Web Client.

*   **Predefined Searches** – list of specified searches. Each search consists of an icon, a name, a description (optional) and a query (a query is a combination of search criteria and logical operators). You can add more searches, edit existing searches, or remove searches using the according buttons below the list, and you can change

the sequence of the searches with the according buttons on the right side of the list.

To add a search:

1. Click **Add.**
   The **Define Search** window is displayed.

2. Enter a name and (optionally) a description for the new search.

3. Select an icon for the search.

4. Enter a query that defines the search.

   • Note that queries for filters must be created individually.
   It is not possible to use previously saved queries! The most convenient way to create a query is to compose it in the Cumulus Desktop Client's **Find** window in **Advanced Mode**, then to copy it into the **Query** field. (For more information on how to compose queries, see the chapter Searching with the Find Window.)

5. If desired, restrict the availability of the defined searches to selected users (or roles, if any) by activating the respective option. Click the **Add User** or **Add Role** button, then search for and select the user(s) or role(s) to which the search shall be available,

6. Click **Save.**

The **Define Search** window is closed.

NOTE: Names and descriptions of filters and can be easily adapted to a multitude of languages via the [button] button in the respective windows. Clicking this button opens a window for entering translations of the name and description.

Customized Search

This section is for specifying the search criteria that are available in the customized search area of the Web Client.

Only if at least one search criterion is defined here, the customized search button is displayed in the Web Client's header. This button opens the customized search area.

With the customized search, users can search for files only, not for containers.

- **Configured customized search criteria** – list of criteria that are available as search fields in the Web Client's customized search. You can add more criteria, and edit or remove existing ones using the according buttons below the list. And you can change the order of the criteria with the according buttons on the right side of the list.

  NOTE: Users can select one or more search criteria to perform a customized search. If multiple search criteria are selected, they will be combined with AND.

There are two types of search criteria:

- Search criteria based on a single record field. In the Web Client, a field-base criterion is displayed if t the respective field is contained in the currently open catalog. Users then can select the search criterion and enter a term to be searched for (e.g. a string, or a date), or can select en entry from a list of predefined field values (e.g. rating stars).

  NOTE: Using a search criterion in the customized search always performs an IS-search!

- Search criteria based on predefined queries. Such queries can be quite complex. They can span multiple record fields and can contain operators such as AND, OR,

CONTAINS, etc. Any query-based search criterion can contain multiple queries. They are presented to the Web Client user as a drop-down list.

NOTE: With the customized search, it is not possible to use queries with place-holders!

Adding New Criteria to the Customized Search

To add a new criterion:

1. Click **Add.**
   The **Configure customized search criterion** window is displayed

2. Enter a name for the new criterion in the **Name** field. Additionally, you can enter a descriptive text into the **Description** field. The search criterion will be displayed under that name in the customized search area of the Web Client. The description will be displayed as a tooltip.

   The following steps depend on the type of the new criterion:

   • For a field based criterion, continue with step 3.
   • For a query based criterion, continue with step 6.

3. For a field based criterion, select the **Field based** option and click the browse button (...).
   The **Select field** window is displayed.
   This window displays all fields from all catalogs available at the server. Additionally, the **Source catalogs** – the catalog(s) that contain the currently selected field – are displayed. This information can be helpful in order to select the proper field. For example, standard fields always have the same internal ID and are therefore listed only once, even if they exist in various catalogs. Custom fields, however –

even if they have the same name – usually have different IDs in different catalogs and are therefore listed multiple times, once for each different ID

4. Select the field you want to use, then click **OK**.
The **Select field** window is closed. The name of the selected field is displayed

5. Click **OK** to finalize the configuration of the new search criterion.
The **Configure customized search criterion** window is closed, the newly defined search criterion is displayed in the **Configured customized search criteria** list.

6. For a query-based criterion, activate the **Query based** option.

7. Add the queries you want to make use of to the **Queries** list:

- **Click Add.**

   The **Configure query** window is displayed

- Enter a name, a description (optional) and the query definition.
   The query will be displayed under that name in the drop-down list belonging to the search criterion. The description will be displayed as a tooltip

   Note that such queries must be created individually.
   It is not possible to use previously saved queries! The most convenient way to create a query is to compose it in the Cumulus Desktop Client's **Find** window in **Advanced Mode**, then to copy it into the **Query** field of the **Configure query** window. (For more information on how to compose queries, see the chapter Searching with the Find Window.)

- Click **OK.**
   The **Configure query** window is closed, the query is displayed in the **Queries** list.

8. Add (or edit) more queries, if necessary.

9. Click **OK** to finalize the definition of the new search criterion.
The **Configure customized search criterion** window is closed, the newly defined search criterion is displayed in the **Configured customized search criteria** list.

NOTE: Names and descriptions of search criteria and queries can be easily adapted to a multitude of languages via the button in the respective windows. Clicking this button opens a window for entering translations of the name and description.

The Download Tab

This tab contains a section to select Asset Actions available when items are downloaded from the Cumulus Web Client.

Asset Actions

This section is for specifying asset actions the administrator wants to be specially highlighted in the Cumulus Web Client.

If the list is empty, all actions available to a user are offered in no particular order when files are downloaded via the Cumulus Web Client. If you add Asset actions to this list, these asset actions will be offered on top of the list of available asset actions under the label **Most used**.

You can add Asset Actions to, or remove them from the list using the according buttons.

The History Tab

This tab contains a list of old versions of the Cumulus Web Client configuration. A new entry is added each time you save changes made with the Cumulus Web Client Configurator. While saving, you can add a description of your changes which might be helpful in order to keep track of them. You can load an old configuration and make it current again, and you can delete old configurations.

Current Change Description: Displays the description entered for the current version of the configuration.

Cumulus

The Cumulus Integration Platform (CIP) is a web application that serves as a technical interface to the entire Canto Cumulus world. As such, it can be used with all kinds of clients and solutions built on top of it. Cumulus Portals and Cumulus Mobile App are Cumulus Web Solutions that are built on CIP.

This chapter provides information on the configuration of CIP, Portals and Mobile App.

CIP Configurator

Overview

The CIP Configurator is a module of the Cumulus Web Server Console. Once you open it you see a list of CIP configuration files. These are cip-config.xml of different CIP instances. You can add existing cip-config.xml or edit existing ones

As Cumulus Portals and Cumulus Mobile App are Cumulus Web Solutions that are built on CIP, they retrieve their configuration data from the CIP Configurator. CIP can support multiple Cumulus Portals and Cumulus Mobile App instances. (For more information on how to set up multiple instances, see Configuring Multiple Instances.)

The most important information is the name of the CIP configuration an applications uses.

The following sections describe how CIP and the applications built on it are configured via the various tabs of the CIP Configurator.

- The Settings Tab
- The Portals Tab
- The Mobile App Tab
- The Media Delivery Tab
- The History Tab

Once a CIP configuration is saved, it will be employed next time a user logs into the corresponding CIP instance, e.g. Cumulus Portals; e.g. the defined filters are displayed in the chosen sequence and the user can apply them.

Permissions for Accessing/Downloading Files via CIP-based Applications

CIP based applications such as Portals, CADA, or the Mobile Client are by default prohibited from directly accessing or downloading assets stored in Cumulus.

However, certain use cases rely on direct access to the original files, e.g. if you want to make files accessible offline for the Mobile Client, or if CADA is employed to import files into Adobe applications such as InDesign. To enable direct access to files, you must grant the "Show Original Asset" permission in addition to the "Download Asset" permission to the affected users for all catalogs they have to use.

Because downloading files e.g. in Portals is always processed via Asset Actions – even with the "Copy Original Asset" option –, only the "Download Asset" permission is required.

However, for assets stored in Amazon AWS or Windows Azure, Portals supports downloading from the original cloud location. To use this feature, the user needs the "Show Original Asset" permission in addition to the "Download Asset" permission.

For more details on permissions see Advanced View: Permissions.

The Settings Tab

Lists configurations that contain the information required by the Cumulus Server that serves the CIP web application:

- Catalog Access
- Filters

Catalog Access

A list of **Catalog Alias Configurations** is displayed. A Catalog Alias Configuration defines the Cumulus Server, the user and the catalogs used with a CIP instance. Canto provides several pre-configured Catalog Alias Configurations to be used with Cumulus Portals and Cumulus Mobile App.

You can add more Catalog Alias Configurations or edit existing ones. Clicking on the appropriate button opens the **Catalog Configuration** window.

Catalog Configuration

The Catalog Configuration window contains following fields:

- **Catalog Alias** – The name must be unique.
- **Cumulus Server Address** – IP address or DNS resolvable name of the machine running the Cumulus Server. Required Value!
- **User Name** – the Cumulus user used for web visitors that are not logged in. This user also is the one whose settings are employed for the landing page of the Send Collection Links (PIN). Therefore this user should have access to all catalogs configured for Web Access and to all shared collections.

  NOTE: This user must be created via the Cumulus User Administration and must have appropriate permissions.

- **Password** – The password for the specified user (as set in the Cumulus User Administration).

- **Catalogs** – Lists the catalogs available with this configuration by name. You can remove catalogs or add catalogs that are managed by the Cumulus Server defined for this configuration.
  If the option **Required** is activated for catalogs, the CIP alias can be used only, if all required catalogs are available at the server and can be opened by the user. – Catalogs that are not set as required will not impact the usage of the respective CIP alias.

NOTE: Lock
You can lock the above four setting so that they cannot be overwritten with the values set for a logged in user. If, for example, the User Name and Password are locked, only the specified user can use this catalog alias. If User Name and Password are not locked, any Cumulus user can log in and use this catalog alias.

- **Usage** – Drop-down list to select the designated usage of the catalog alias. The following possibilities are provided:
  - General Access
  - Opening Upload Collection
  - Opening Download Collection
  - Resetting Passwords
- **Only allow the following operations** – Activate this option to restrict the usage of the catalog alias to specified operations. If this option is not activated, the usage of the catalog alias is controlled by the permissions of the specified user.
- **Operations** – List of allowed operations. You can add or remove operations via the respective buttons.

Catalog Aliases for Special Purposes

Reset Password Catalog Alias

The reset password feature requires a (technical) user with Global User Administrator permissions. Make sure to lock this user and its password!
No catalog needs to be specified for the reset password feature.

Portals Preview Landing Page Catalog Alias

This catalog alias is needed for the Video Link to videos published on the Video Cloud to work properly. Such links direct to Portals, where a landing page is generated that contains the player to which the video is streamed from the Video Cloud.

The catalog alias for the Portals preview landing page must be configured as follows:

- A technical user with appropriate permission must be specified. Make sure to lock this user and its password!
- All catalogs containing the originals of the videos that shall be streamed from the Video Cloud must be specified (must be locked).
- It is strongly recommended to limit the allowed operations to **preview/video** in order to prevent other operations to be executed with this catalog alias.

Filters

A list of Filter Set Configurations is displayed. A Filter Set defines a set of filters and their options. Canto provides preconfigured Filter Sets to be used e.g. with Cumulus Portals and Cumulus Mobile App.

You can adjust the sequence of the Filter Set Configurations with the buttons on the right side.

You can edit existing Filter Set Configurations or add new ones. Clicking the according buttons opens the **Filter Set Configuration** window.

Filter Set Configuration

This window is for editing existing filter sets, or specifying new ones.

- **Filter Set Name** – Name of the filter set to be edited (existing or new one).
- **Configured Filters** – List of filters that are contained in the current filter set. You can edit or remove existing filters or ad new ones according buttons below the list. And you can change the sequence of the filters with the according buttons on the right side of the list.

  NOTE: Employing filters influences the performance. The more filters are employed, the more load for the Cumulus Server.

There are different types of filters:

- **Standard** – filters based on the values of record fields,
- **Input** – field-based filters which can be further controlled via input by the user.
- **Range Input** – field-based filters which can be further controlled via input by the user. The user can enter a range of desired field values.
- **Query-based** – filters based on queries, which are usually more complex than simple field-based filters
- **Type-ahead** – filters based on the values of string lists.

You can adjust the sequence of the filters with the buttons on the right side.

You can add more filter or edit existing ones via the appropriate buttons.

Adding Standard Field-based Filters

To add a field based filter:

1. Click **Add.**
   The **Select Filter Type** window is displayed.

2. Click **Standard**.
   The **Select the field for filtering** window is displayed.

3. Select the field you want to use for filtering. Click **OK**.
   The **Configure Filter** window is displayed.

4. You can

   • enter a name for the filter (default: the name of the selected field)

   • enter a description

   • define whether this filter is displayed collapsed or expanded at startup

   Depending on the selected field you can

   • define whether this filter is displayed hierarchically (default: a flat list of options)

   • define whether the flat list is ordered by frequency (default: alphabetically), and the number of initially shown entries

   • define, whether the user can select multiple options from the list (default: no) and the logical operator used to combine these options (default: OR)

5. Click **OK.**

Adding Input Filters

To add an input filter:

1. Click **Add.**
   The **Select Filter Type** window is displayed.

2. Select **Input**.
   The **Select the field for filtering** window is displayed.

3. Select the field you want to use for filtering.
   The **Configure Filter** window is displayed.

4. Enter a name for the filter (default: the name of the selected field).

5. Enter a description (optional).

6. Define whether this filter is displayed collapsed or expanded at startup.

   For most field types, filtering is performed according to the user's input.
   If you have selected a string field in step 2), you must

7. define how filtering is processed: either

   • according to the users input (**Filter by entered value**), OR

   • according to values suggested by Cumulus (**Filter by suggested values**).
   Initially, Cumulus suggests the values most frequently contained in the selected
   field. When the user starts typing, the initial suggestions are replaced with sug-
   gestions matching the user's input.

8. If **Filter by entered value** is selected, you must additionally specify the search
   operator to be used with the user's input (Starts with / Does not start with / Equal
   to / Not equal to).

If **Filter by suggested values** is selected, you must additionally specify the initial number of suggestions for the most frequently contained values, and the number of suggestions matching the user's input.

9. Click **OK.**

Adding Range Filters

To add an range input filter:

1. Click **Add.**
   The **Select Filter Type** window is displayed.
2. Select **Range input**.
   The **Select the field for filtering** window is displayed.
3. Select the field you want to use for filtering.
   The **Configure Filter** window is displayed.
4. Enter a name for the filter (default: the name of the selected field).
5. Enter a description.
6. Define whether this filter is displayed collapsed or expanded at startup.
7. Click **OK.**

NOTE: Field-based filters are only available to Portals users if the respective field is contained in each catalog the user can access. A filter based on a field that is not part of all accessible catalogs is not displayed to the user!

Adding Query-based Filters

To add a query based filter:

1. Click **Add.**
   The **Select Filter Type** window is displayed.

2. Select **Query-based**.
   The **Configure Filter** window is displayed.

3. Enter a name for the new filter. Additionally, you can

   - enter a description
   - define whether this filter is displayed collapsed or expanded at startup

4. Define the options for this filter. An option is a query with a name (and an optional description):

   - Click **Add**.
     The **Configure Filter Option** window is displayed

   - Enter a name and the desired query.
     Note that queries for filters must be created individually. It is not possible to use previously saved queries! The most convenient way to create a query is to compose it in the Cumulus Client's **Find** window in **Advanced Mode**, then copy it into the **Query** field of the **Configure Filter Option** window.

5. Click **OK.**

6. Add (or edit) more filter options, if necessary.

7. Define which logical operator you want to use to combine the defined options: AND or OR.

8. Click **OK.**

Names and descriptions of filters and filter options can be easily adapted to a multitude of languages via the [flag] button in the respective windows. Clicking this button opens a window for entering translations of the name and description.

Known Issue: Filters and Localization

After installing Cumulus Web Solutions going to the CIP Configurator, then, Settings and Filters, you may not be able to add a filter because the **Standard** button is deactivated and other options return an error. This probably means you have not installed your Cumulus Products in the English language.

The sample below shows the CIP Configurator issue after installing Cumulus in French (The **Standard** button is disabled and clicking on another button will return an error):
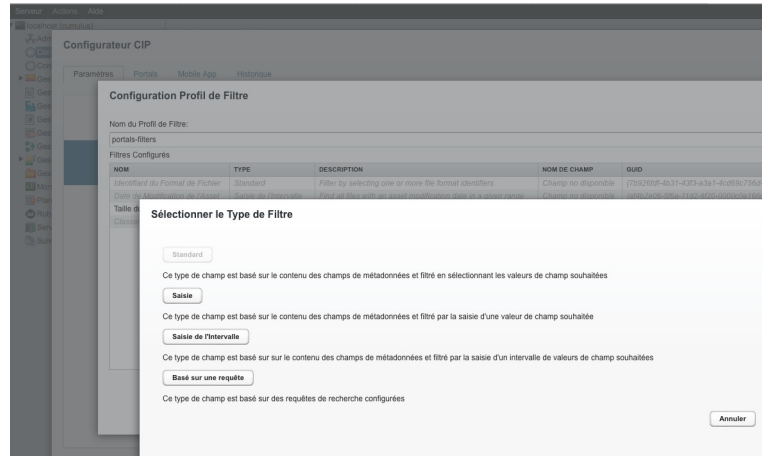
To build the fields list needed for filter settings, the CIP Configurator is checking the catalogs configured in the **Catalog Aliases** (under Catalog Access) and try to find such catalog name in your catalogs folder. When installing Cumulus in another language than English, the Sample Catalog name is localized but the default cip-config.xml file still has the English catalog name.

For instance, in a French installation, the Sample Catalog will be named "Catalogue d'exemple" (which is it's ccf file name as well). CIP Configurator finds "Sample Catalog" for all catalog aliases and no file is matching that name, so no field can be loaded to configure filters.

What to do? Just go the Catalog Access and for at least one Catalog Alias, remove the Sample Catalog and add an existing catalog. Then, everything works as expected.

The Portals Tab

The list of Portals Configurations is displayed.

NOTE: The initial Portals configuration is done via the customization.js file. For details, see the Cumulus Web Solutions chapter of the appropriate Installation Guide; under "Cumulus Web Solutions: Initial Steps" you will find the section "Initially Configuring Cumulus Portals." However, you need a properly set up Portals configuration to be referenced by the customization.js file.

A Portals configuration is defined via various tabs:

Catalog Access Tab

- **Require Login**
  If activated, any website visitor must log in and therefore needs a Cumulus user account. Connecting to Portals opens a Welcome page with login prompt only.
  If not activated, website visitors can use the configured catalog without being logged in.
- **Catalog Aliases** – For each usage case, select the desired Catalog Aliases from those that are configured under Catalog Access on the Settings tab (for the Server displayed).

  NOTE: Video Cloud – Video Link
  If you publish videos to the Video Cloud and want to make use of the Video Link feature, you must specify an appropriate Catalog Alias, as defined in the CIP configuration. See also: Portals Preview Landing Page Catalog Alias.

- **Catalog Name - Root Category** – Name of the catalog and name of the category that will be displayed as the topmost level on the Portals landing Page. Only categories below the specified root category will be visible to the Portals user and displayed in the filter panel. – Any category with a valid Container Type can be configured as root category for Portals.

  NOTE: This setting only affects the visibility of categories, not the visibility/accessibility of records or assets. Even items that are not assigned to any category, or to a category outside the tree defined by the specified root category, can be retrieved, e.g. via a quicksearch. To restrict the visibility/ accessibility of records and assets, you must use item permissions and user/role permissions.

- **Offer Feature to Reset the Password** – If activated, Portals users are enabled to reset their passwords themselves. A **Reset password** link is shown on the login page of Portals.

- **Catalog alias to use** – The catalog alias to be used for password reset requests.

  NOTE: For security reasons it is strongly recommended to only use a specifically dedicated catalog alias for this purpose!

Layout Tab

This section is for specifying the Record View Sets to be used, and the asset relations types to be displayed in Portals.

- **Default Record View Set** – The Record View set that is employed for all users without a specific setting. Use the drop-down list to select a Record View Set to be used as default.
- **Default Relation Types** – The relation types that are displayed for all users without a specific setting. The **...** button opens a dialog to configure the default Relations types.
- **User/role specific Settings** – Record View Set and Relation Types settings for individual users/roles. It's a table with 3 columns: **User** (or **Role**, depending on the configuration of your Cumulus), **Record View Set** and **Relation Types.**
- **Assets per Page** – The maximum number of assets that will be displayed on any page in Portals, to be defined for different screen sizes.

Click **Add** to open the **User/role specific settings** dialog. Select a user or role. You must deactivate the **Use Default** option(s), before you can assign a specific Record View Set or specific Relation Types to a user or role. When you are done, Click **OK**. The user or role is added to the table.

Additional information on Record View Sets for Portals

Canto strongly recommends to create (and use) at least one dedicated Record View Set to be used with Portals.

For a general description on how to create Record View Sets, see: Creating and Editing Record View Sets.

For an overview on which view modes of a Record View Set control which pages in Portals, and what specifics must be taken into account, see: Using Record View Sets for various Cumulus Clients.

Additional information on Asset Relation Types

For a general description of Related Assets, see: Managing Related Assets, and Administering Asset Relations.

Filters Tab

- **Only Find Masters** – If activated, records for contained or referenced assets are not displayed.
- **Filter Set** – Select the desired Filter Set from those that are configured under Filters on the Settings tab.

  NOTE: If the selected filter set contains field-based filters (standard, input or range filters), the respective fields must be contained in all catalogs that are accessible for a Portals user. Otherwise, the filter won't be displayed to the user.

Sorting Tab

- **Available Sorting Fields** –The fields available for sorting are listed. You can edit, add and remove fields with the appropriate buttons.
- **Initial Sorting** – If activated, you can select the field to be used for sorting and the sorting direction.
- **Show** – Select how many fields you want to be displayed, all others will be hidden in a drop-down list.

Plug-Ins Tab

The Portals Plug-in API allows you to add additional functionality. This tab lists the uploaded and available plug-ins. You can configure, add and remove plug-ins with the appropriate buttons. The **Configure** button is only active with plug-ins that offer to configure parameters. The check marks under **ACTIVE** denote whether a plug-in is active and available to users.

Click **Add** to add a plug-in. Then you can select a plug-in file (ZIP archive) and upload it. Save it with your configuration and, if required, configure it. Once it is ready for use activate it. Then the additional functionality of the plug-in is immediately available for your Portals users.

NOTE: A plug-in with the same ID and version as one that is already installed cannot be uploaded. If you want to re-upload the same plug-in version, you need to remove the installed plug-in.

A plug-in for Portals consists of a number of files packaged into a ZIP archive. For more information on Portals plug-ins see the technical documentation provided with the Cumulus Portals SDK.

IMPORTANT! Migration of Plug-ins Prior to Cumulus 11.0

With Cumulus 11.0 Portals' code structure was improved - heading towards a design approach that helps customer developers with customization and theming. Therefore, all plug-ins developed prior to Cumulus 11.0 must be tested again and, if necessary, migrated. Also, UI customizations will no longer work and must be migrated! However, as the reworking of the Portals code is not yet finished, Canto cannot guarantee that migrated customizations will properly work in future releases. Therefore, it is strongly recommended to postpone migration of UI customizations until further notice. For more information see the technical documentation provided with the Cumulus Portals SDK.

Advanced Tab

- **Skip landing page** – If activated, users will not see a landing page when Portals is started (e.g. a top level categories overview), but the unfiltered content of the open catalog(s) below the root categories as defined on the Catalog Access tab.
- **Enable terms and conditions while download** – If activated, users who want to download files first must agree to certain terms and conditions by activating a respective checkbox in the download dialog. Only then, the download can be started. Additionally, a link to the terms and conditions in questions can be provided.
  - **Terms and conditions page** – Link to a page that holds the terms and conditions in question. Any valid URL can be used.

NOTE: It's up to you as a provider of downloadable content whether you require users to agree to certain terms and conditions, or not. But if you do so, it's your responsibility to prepare, upload and maintain an appropriate terms and conditions page

Configuring Multiple Instances

You can configure and run simultaneously multiple Portals instances.

To create a new instance, you must perform following steps to:

- Copy and rename the Portals web application folder
  (e.g. **C:\Program Files\Canto\Cumulus Web Solutions\apache-tomcat-x.x.xx\webapps\portals**).
- Edit the customization.js file in the copied and renamed web application folder and give your new instance a new Portals Configuration name; e.g. set `clientConfiguration` to `com.canto.cumulus.NewName`
  (For details, see the Cumulus Web Solutions chapter of the appropriate Installation Guide; under "Cumulus Web Solutions: Initial Steps" you will find the section "Initially Configuring Cumulus Portals.")
- Add your new Portals Configuration (use the new name) to the Portals Configurations on Portals tab of the CIP Configurator and configure it (see above).

The Media Delivery Tab

With the Media Delivery on Premise (MDO) option, Cumulus can act as a provider and distributor for assets. Renditions of cataloged assets can be integrated e.g. in web sites and accessed via specific URLs.

Use this tab to define:

- The Asset Action that will be performed on an asset to create the master image which will either be used to generate arbitrary renditions.
- The Cumulus record field that will be used to identify assets and renditions.
- The settings of the cache, that is, the amount of time during which a requested rendition is delivered out of the cache, before Cumulus checks for necessary updates, and the amount of disk space available for the cache.
- The default output format and compression quality.

NOTE: No MDO-specific trigger action available for MDO!
As this question came up repeatedly, please remember that Cumulus does not provide a specific trigger action for MDO, as it does for MDC. With the Media Delivery Cloud, this trigger action is used to synchronize certain altered meta data from the Cumulus Server to the MDC server. As there is no external server involved with the Media Delivery on Premise, there is no need for data synchronization — the MDO alway knows about the most recent meta data changes.

Master Image

Asset Actions – a table with the asset actions that will generate master images. You can add more Asset Actions (from the Asset Actions available at the Cumulus Server),

remove Asset Actions from the list, and define the order in which they will be performed, using the appropriate buttons.

If there are multiple Asset Actions listed, they will be performed in the given order. However, as soon as an Asset Action generates a result, the rest of the Asset Actions in the list is ignored. This behavior can be used to easily generate master images from different asset types, e.g. images or videos, that require different asset actions to generate them.

NOTE: Asset Actions – Required Settings
When defining Asset Actions for this purpose, make sure that you have specified appropriate pixel values for **Width** and **Height** in the **Scale Dimensions** Section of the **Pixel Image Converter Parameters** dialog. Additionally, the options: "**Use Size as Bounding Box**" and "**Work at Image Size**" must be activated, while the option "**Enlarge Smaller Images**" must be deactivated!

Catalog Access

Catalog Alias – Select the desired Catalog Alias from those that are configured under Catalog Access on the Settings tab (for the Server displayed).

Item Identifier

Radio buttons to toggle between the methods to identify assets and renditions. This value is necessary for 3rd party systems to build a proper MDO URL. If 3rd party systems don't have access to Cumulus and therefore can't retrieve the default values, a value from a different field can serve as identifier, e.g. an article number already known to the 3rd party system. Any field of type string or integer that is indexed for Sorting/Searching can be selected, however it is highly recommended to only work with val-

ues that are unique for all concerned catalogs. Otherwise, only the first found asset or rendition would be taken into account.

- **Use default** – By default, either the *Media Delivery Cloud Asset ID* (for assets), or the *Media Delivery Cloud Image ID* (for renditions), or the *Unique Item ID* (for both assets and renditions) can be used as item identifier in an MDO URL.
- **Use specific field** – Select a field from the drop-down list to be used as item identifier.

Cache

- **Cache Expiration [s]** – Time (in seconds) during which an asset and it's renditions are delivered from the cache after the initial request. After that time, Cumulus checks whether the current rendition is still up-to-date, and updates it, if necessary.
- **Fallback Image Cache Expiration [s]** – Time (in seconds) during which a fallback image is delivered from the cache after the initial request. After that time, Cumulus checks whether the original asset or rendition is available again, and replaces the cache content.
  The fallback image is used if the original image is not available for any reason. By default, the expiration time is the same as for the asset and rendition cache.
- **Cache Max. Disc Size [MB]** – Amount of disk space the cache may use at the most.

Output Format

These values are only relevant, if the desired output format or compression quality is not specified in the URL that request the rendition.

- **Default Format** – Select the default output format (JPEG, PNG, or GIF).
- **JPEG compression Quality** – Select the desired quality for JPEGs.

- **PNG compression Quality** – Select the desired quality for PNGs.

The Mobile App Tab

The list of Cumulus Mobile App Configurations is displayed. A Mobile App configuration is defined via the various tabs:

Catalog Access Tab

- **Catalog Alias** – Select the desired Catalog Alias from those that are configured under Catalog Access on the Settings tab (for the Server displayed).

Layout Tab

This section is for specifying Record View Set options.

- **Default Record View Set** – Drop-down list to select the shared Record View Set to be used as default

Additionally, you can assign specific Record View Sets to individual users or roles.

Click **Add** to select a user or role and assign a Record View Set. The user or role is displayed in the User/Role list, together with the assigned View Set. You can modify such users or roles and remove them from the list using the according buttons.

Filters Tab

- **Filter Set** – Select the desired Filter Set from those that are configured under Filters on the Settings tab.

NOTE: With the Cumulus Mobile App the **Only Find Masters** option is always active and therefore records for contained or referenced assets are not displayed.

TIP: URL Used With Mobile

On your iPhone/iPad use the iOS settings for the Cumulus Mobile App to configure the URL to be used (http://IP_Server:port).

The History Tab

This tab displays a list of former versions of the CIP configuration. A new entry is added each time you save changes made with the CIP Configurator. While saving, you can add a description of your changes which might be helpful in order to keep track of them. You can load an old configuration and make it current again, and you can delete old configurations.

All RoboFlow configuration tasks are performed with the RoboFlow module of the Cumulus Web Server Console

First you configure the global settings for RoboFlow to define parameters valid for all workflows and then you define workflows.

Configuring RoboFlow

Prerequisites for Configuring RoboFlow

The RoboFlow Server Application needs to know the Cumulus Server to connect to and the user account to be employed for the connection.

This Cumulus user (or role) must have all the permissions required for the tasks to be performed within workflows and access to all catalogs required.

IMPORTANT! It is highly recommended employing the Cumulus Administrator as that user because some functionalities can only be performed by the Cumulus Administrator (e.g. deletion of $Source categories). Also, no specific permission settings are required for the Cumulus Administrator.

Additionally, the user employed for RoboFlow must create the specific sets used in RoboFlow (Asset Handling Set, Asset Actions, Permission Template, …) at the Cumulus Desktop Client. Note that these sets are best not shared with other users, in order to avoid them being changed inadvertently.

RoboFlow Configurator

All RoboFlow configuration tasks are performed with the RoboFlow module of the Cumulus Web Server Console.

NOTE: If the RoboFlow Server Application runs on a different machine than the Web Server Console and you access the RoboFlow module for the first time, an error message is displayed because it does not know the IP or DNS-name of the RoboFlow server. It assumes by default "localhost". You can type in the IP or DNS-name and click connect. It will remember it for the next time..
Enter the required information and click **Connect**.

A list of all RoboFlow workflows defined for your installation is displayed. If you start RoboFlow for the first time, this list will be empty**.**
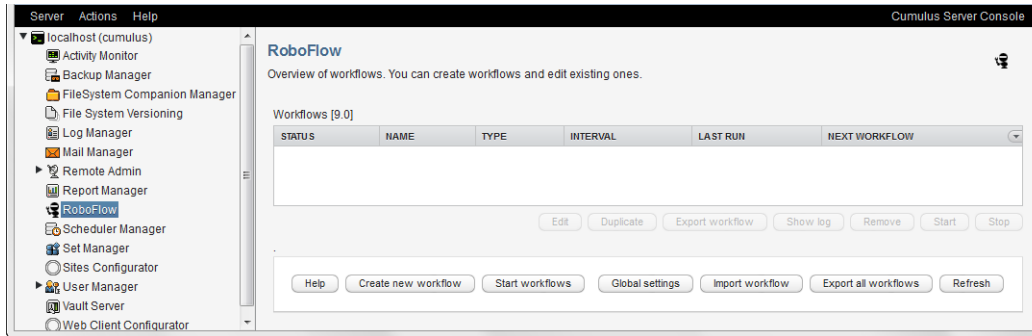
The following sections describe the configuration options. Before you start to configure workflows, you have to define a few global settings.

Defining Global Workflow Settings

The global settings define parameters valid for all workflows. To specify them click **Global settings**.

It is mandatory is to define the Cumulus Server and the user account to be employed for the connection.

Since RoboFlow is a back-end-server-process, it is best to configure the email parameters. So you can be notified in case of a problem. Some workflows might require it, too. RoboFlow does not use the Cumulus email-engine because it needs to be able to notify when Cumulus is down or unreachable.

If your Cumulus installation uses Roles, you should specify the default Cumulus Permissions Template.

Defining Workflows

In Canto RoboFlow, the work to be done is defined as one or many workflows. Depending on the workflow type, a workflow consists of one or several action scripts. Each action script is comprised of several actions. The workflow type determines the available action scripts but the user defines the concrete actions to be executed within an action script.

Workflows may process different inputs. The input processed by a workflow determines its type. The following types exist:

- processing results of a SQL query
- synchronizing files from file system folder structure with a catalog
- processing a list of categories
- processing a list of records
- processing files newly placed in a file system folder (hot folder)

The workflow type is selected while creating a new workflow via the Cumulus Web Server Console. The type of a workflow cannot be changed after the workflow has been created.

Creating a Workflow

Click **Create new workflow** and the window for defining it appears:

Depending on the workflow type, a workflow has different parameters. For example, in case of a workflow processing an SQL query, database connection settings and the SQL query to execute must be set via the workflow parameters.

If a workflow is enabled, it is started by an event. The following events exist:

- a Cumulus trigger
- a timer
- another workflow

During the startup phase of a workflow, the workflow might check a pre-condition and stop running if the pre-condition is not met. A common example for such a pre-condition is whether a monitored file system path contains a new file.

Action Scripts and Actions

Depending on the workflow type, each workflow consists of 1 to 3 independent action scripts. For example, a workflow processing the results of a SQL query has the following 2 action scripts:

- action script for SQL results
- action script for records

The available action scripts are shown in the user interface of the workflow as tabs.

Each action script may contain an arbitrary number and a collection of actions. Each action defines a step in the workflow like opening a catalog, moving a file to a different folder or substituting text in a string.

You need to define the actions and their order. You choose the action from the Actions drop down menu. Actions are grouped by categories, e.g. actions manipulating a file or actions able to create a notification.

Depending on the action selected, different parameters are available like input values. Information is passed between actions via variables. Variables are only visible within the action script they were defined in. A workflow might have some global parameters which are available as global variables, too.

Canto RoboFlow also supports conditions allowing parts of an action script to be only executed if a certain condition holds. Conditions can be nested.

Legacy Pre-defined Workflows of Canto RoboFlow 8

Canto RoboFlow 8 only provided a set of pre-defined workflows. The user was not able to define new workflows with different action scripts.

Those legacy pre-defined workflows were still available with 9.0 and 9.1 and will be no longer available starting with 9.2. They will still run with Canto RoboFlow 9.2 but the user cannot configure them or create new ones.

Cumulus

This Glossary offers an alphabetical listing of terms and phrases used throughout this manual and Cumulus.

Cumulus Glossary

Action

Function or combination of certain functions. Cumulus provides different types of actions. See also Asset Action, Trigger Action.

Asset

A general term describing any type of digital media (including graphic, page layout, presentation, sound, and video files) that has value to its owner.

Asset Action

Combination of certain functions saved under a chosen name that is performed on assets in Cumulus.

Asset Relations

Cumulus supports several types of relations between files. Cumulus relation types are:

- Contained and Referenced – A file can contain other files or reference to other files, or a file can be contained in or referenced by other files.
- Variant – A file can be a variant of another file, or have other files as variants.
- Alternate – A file can be an alternate of another file, or have other files as alternates.
- Custom– in addition to the above listed relations, a Cumulus Catalog Administrator can add other relations to a catalog.

Asset Handling Module

When cataloging and accessing assets, Cumulus uses different modules: Asset Storage, Asset Processor, Metadata and Filter modules.

Asset Handling Set

A setting that defines how Cumulus handles assets – during the cataloging process and when accessing assets.

Asset Information

The information about an asset as stored in the record associated with the asset.

Asset Information window

A special Cumulus Desktop Client window that displays the information about a cataloged asset. This information is stored in the asset's record. (See also Record.) Cumulus also provides an Information View and an Information Pane.

Asset Reference

The mechanism by which Cumulus tracks the actual location of an asset managed in a Cumulus catalog.

AXR (Asset Cross References)

Automatic detection of usage and cross-references of assets within Cumulus. Cumulus is able to detect links and placed assets in compound documents such as QuarkXPress, EPS, Adobe InDesign, and Illustrator (version 8, 9) as well as Microsoft Word and PowerPoint documents.

Basket

A temporary or intermediate repository which is especially useful to collect files from different locations within the catalog hierarchy.

Boolean

A system of logic based on two possible values: true or false. Cumulus uses the Boolean operators "and" and "or" to combine search conditions.

Cache

A temporary storage area where frequently accessed data can be stored for rapid access.

Catalog

A special file (with the extension *.ccf*) that Cumulus creates to manage cataloged assets. See also Asset and Cumulus Catalog File.

Catalog file name

Name of the special file for a catalog (with the extension *.ccf*). The catalog name defaults to this file name (without the extension). The catalog name can be changed without changing the catalog file name. See also Cumulus Catalog File.

Cataloging

The process by which a user adds one or more assets to a catalog.

Catalog Administrator

Cumulus user with administrator permissions for a catalog who can edit the Catalog Settings.

Category

Cumulus categories are used to organize records, much like folders are used to organize files in a traditional filing cabinet. But the asset can appear in any number of

Cumulus categories at one time. They are similar in purpose to keywords used in other programs. See also Folder category and Related category.

Category Information window

A special Cumulus Desktop Client window that displays the information about categories.

Category Exchange File

See Cumulus Category Exchange File.

Category pane

With Cumulus Desktop Client, it is located on the left side of the Collection window and displays category names in a hierarchical list. Multiple tabs are provided so that categories can be created and displayed in separate tabs.

Category View Set

A setting that defines the display options for the Category Information window of the Cumulus Desktop Client. For each tab different display options can be set.

Central asset location

A central asset location is a single storage location used to store certain digital assets. Employing a central asset location ensures your assets remain accessible to all, and can more easily be accounted for.

Client

A computer user who accesses a server application (such as the Cumulus Server) across a network.

Client/server architecture

A software configuration in which users (also called clients) access a server application across a network.

Collection

Any set of records from any one catalog. With Cumulus Desktop Client, a collection includes the records' display properties and it can be saved (see Cumulus Collection File) and opened again. A collection – whether saved or unsaved – is always connected to its catalog. In order to open a particular collection you must have access to its catalog.

Collections overlay

List of all collections available to a user of Cumulus Portals.

Collection window

A Cumulus Desktop Client window featuring two panes (Category pane and Record pane) that function as the central user interface.

Compound search

A search query consisting of two or more search conditions.

Container

With Cumulus Web Client containers are used to organize files, much like folders are used to organize files in a traditional filing cabinet.

Container browser

Cumulus Web Client means to browse through and navigate in the container hierarchy.

Context menu

Also called shortcut menu. A menu that opens when clicking 🪟 the right mouse button / 🍎 **Control** key + mouse button. The available options are related to the selected object.

Controlled vocabulary

A restricted list of words or terms used for labeling, indexing or categorizing. Controlled vocabulary schemes provide a way to organize knowledge for subsequent retrieval. They mandate the use of predefined, authorized terms, in contrast to natural language vocabularies, where there is no such restriction.

CSS

Cascading Style Sheets. A stylesheet language used to describe the presentation of a document written in HTML or XML. A CSS file defines how elements should be rendered on screen, on paper, in speech, or on other media.

Cumulus

An indispensable digital asset management system for organizing and managing digital assets. See also Asset.

There are different editions of Cumulus designed to meet the needs of anyone who wants to keep track of their digital media: Cumulus Workgroup and Cumulus Enterprise.

Cumulus Administrator

A person who configures and manages Cumulus catalogs. The Administrator is responsible for keeping the catalogs running smoothly for Cumulus Client users, backing up catalogs, and other tasks.

Cumulus application window

The main Cumulus Desktop Client window containing the menu bar, the toolbar, the statusbar, and – as "child" window(s) – the Collection window(s) with various panes.

Cumulus Action

See Asset Action.

Cumulus Catalog File

A special file (with the extension *.ccf*) that Cumulus creates to manage cataloged assets (digital media).

Cumulus Category Exchange File

A file (with the extension *.cce*) that Cumulus creates when exporting category information.

Cumulus Collection File

A special file (with the extension *.cfe*) that Cumulus creates to manage saved collections.

Cumulus Portals

The Cumulus tool to publish and market digital assets on dynamically generated Web pages to the Web.

Cumulus Record Exchange File

A special file (⊞ with the extension *.cre*) that Cumulus creates when exporting record information.

Cumulus Server

The computer where Cumulus Server software is installed and where Cumulus catalogs should reside.

Cumulus Vault

Cumulus full-featured Version Control System that manages user access to asset files and provides up-to-the-minute information on each asset's version history.

Cumulus Web Client

Provides Cumulus catalogs online and offers read/write access for metadata edits as well as asset uploads and downloads to users with a standard Web browser.

Details page

Can be displayed with Cumulus Portals. It provides a preview image of the file and selected metadata, as defined by an administrator.

Details view

Cumulus view mode. With Cumulus Desktop Client, each record appears in the Record pane as a text listing that includes fields you can define (e.g., record name, file format, resolution, etc.). See also Thumbnail view, Information view.

Drag and Drop

A way to move user-interface objects by dragging them with the mouse and drop-ping them into targets.

EJaP

Embedded Java PlugIn. Technology that provides unlimited possibilities to add new functionality or to integrate Cumulus into workflows. EJaPs are Java code that runs within the Cumulus application.

EJSP

Embedded Server Plug-In. Technology that provides possibilities to add new function-ality, or to integrate Cumulus into workflows. ESPs are similar to EJaPs (Embedded Java PlugIn). Whereas EJaPs are Java code that runs within the Cumulus application, ESPs are Java code that runs at the Cumulus Server.

EXIF

Exchangeable Image File Format. Standard for storing interchangeable information in image files, especially those using JPEG compression. Most digital cameras now use the EXIF format. The format is part of the DCF standard created by JEIDA (Japan Elec-tronics and Information Technology Industries Association) to encourage inter-opera-bility between imaging devices. Cumulus can read EXIF metadata information while cataloging. You can view and edit this metadata. See also Metadata.

Filters

Ambiguous:

- Software utilities that Cumulus uses to capture information about an asset during the cataloging process. For more information on the availability of new file filters, please see the Canto Website (www.canto.com).
- With Web Client and Portals: means to filter to narrow down the number of displayed files in order to just get what is needed.

Find window

Cumulus tool provided by the Desktop Client that enables users to search catalogs for records or categories that match search conditions.

Folder category

Folder categories are automatically created by Cumulus during the cataloging process. These automatically created categories resemble the folder or directory hierarchy in which the assets reside.

With Desktop Client, they are identified by a smaller folder in their icons. They are created by default but this option can be disabled.

FTP

File Transfer Protocol. A standard Internet protocol, which is the simplest way to exchange files between computers on the Internet.

HTTP

HyperText Transfer Protocol. A standard Internet protocol, which is the protocol most often used in the World Wide Web to transfer information between servers and browsers.

Information view

Cumulus view mode displaying a file's metadata. See also Thumbnail view, Details view.

Information window

Special Cumulus Desktop Client windows that display the information about records or categories. See also Asset Information window and Category Information window.

IPTC

International Press Telecommunication Council. Standard for digital text applied to an image. Applications used for professional imaging, support IPTC; e.g. the text information in Photoshop is a subset of the IPTC information. Cumulus can read IPTC metadata information while cataloging. You can view and edit this metadata and Cumulus can write your changes back to the asset. See also Metadata.

Java Server Page

Java Server Page (JSP) is a technology for controlling the content or appearance of Web pages through the use of servlets, small programs that are specified in the Web page and run on the Web server to modify the Web page before it is sent to the user who requested it.

JSON

JavaScript Object Notation. An open-standard format that provides a syntax for storing and exchanging data. This common data format is used for asynchronous browser/server communication.

LDAP

Lightweight Directory Access Protocol. Directories containing information such as names, phone numbers, and addresses are often stored on a variety of incompatible systems. LDAP provides a simple protocol that allows you to access and search these disparate directories over the Internet.

Media file

Any electronic or digital media file (including graphic, page layout, presentation, sound and video files). See also Asset.

Menubar

Horizontal bar containing the labels of drop down menus. The menu bar's purpose is to provide the majority of a program's essential functions at a standard place.

Metadata

Metadata is any data that helps to describe the content or characteristics of an asset. It is the information stored with each asset—such as file name, location, etc. Different types of assets have different metadata fields: an image file, for example, would contain information on color and resolution, while an audio file would have a field for the playback duration.

Palette mode

Cumulus view mode that is specially designed for using Cumulus with another application, e.g. a desktop publishing application. In palette mode the Cumulus application shrinks to a palette that can conveniently be used with another application. That way you can easily drag and drop cataloged assets into other applications.

Path/Pathname

A description of the location where a file is stored on a computer hard drive, server, or removable medium (such as CD-ROM, Syquest, Zip, Jaz, or MO cartridges).

Preview

A special program mode in which you can examine cataloged assets such as video clips, sound files, and image files.

Query

A combination of search conditions. Queries can be saved to disk and loaded into the Find window or provided as a predefined search to Web Client users. See also Searches, predefined.

Record

The actual catalog entry that Cumulus creates when an asset is added to a catalog. Records store valuable information about an asset, such as the file name, file location, file type, resolution, etc.

Record Exchange File

See Cumulus Record Exchange file.

Record pane

Located on the right side of the Desktop Client Collection window, the Record pane displays records as thumbnails or plain text. See also Record, Thumbnail view and Details view.

Related category

An alias of an existing category that acts as a virtual cross reference to the original category. You can use related categories to place multiple instances of the same category under various parent categories, without having to copy the entire contents of the category. By default, the names of related categories are displayed in italics with a *"(related)"* appendix.

Record View Set

A setting that defines how records are displayed in the different view modes Cumulus Desktop Client provides: Thumbnail View, Details View, Info View and Information window.

Resolution

The number of pixels per inch in any graphic file format. Higher-resolution files have a higher number of pixels per inch than lower-resolution files. Working with higher-resolution files usually requires more memory and hard disk space than working with lower-resolution files.

Responsive Web Design (RWD)

Approach to web design allowing web applications to adapt to the size and capabilities of the device used and size of the browser window running in. Cumulus Portals is such a state-of-the-at web application.

Script

A list of instructions executed by a computer. Scripts are used by Cumulus to perform complex tasks automatically.

Search icon, customized

Customizable icons for queries available for Cumulus Web Client if an administrator has defined search criteria that fit with the currently open catalog.

Searches, predefined

Queries made available for Cumulus Web Client users by an administrator. They are displayed as search entries in the main menu.

Server/Client Asset Transfer

A Cumulus feature (especially useful in a cross platform environment) that allows users in a network to access assets for previewing, copying and transferring via their connection to the Cumulus Server. With this feature the user is not forced to have direct access to the computer where the asset is stored. Only the computer running the Cumulus Server requires this access.

Simple search

A search query consisting of one search condition.

Portals

See Cumulus Portals.

Skin

A term for the particular way in which information is arranged and displayed on a computer screen.

Statusbar

A Cumulus Desktop Client bar providing descriptions on category/record status.

Thumbnail

A miniature display of a cataloged asset.

Thumbnail view

Cumulus view mode. With Desktop Client the record appears with a miniature display of the cataloged asset in the Record pane.

Toolbar

A standard program tool that offers buttons as shortcuts to commonly used commands.

Tooltip

A small floating descriptive window that appears above a toolbar button when the cursor is positioned over it.

Trigger

A stored procedure that is activated automatically when a specified event occurs. Cumulus Triggers can be used to perform many tasks, such as auditing catalogs, records and categories. Cumulus Triggers can be set for catalogs, records and categories.

Trigger Action

The action performed when a Cumulus Trigger is activated. See also Action.

URL

Uniform Resource Locator. The address of a file (resource) accessible on the Internet.

Video Cloud

Utility for better availability, worldwide distribution and public streaming of videos. Videos in Cumulus can additionally be published to a

Video Cloud, as offered by various providers. The "original" video files and all their metadata remain safe in Cumulus (stored in a Vault or on a file server), but the delivery of the video to websites – including Cumulus Portals and the Web Client – is performed by the Video Cloud.

Workflow Administrator

Cumulus user with Workflow Administrator permissions. A Workflow Administrator can create, edit and delete workflows; add them to, delete them from and update them in catalogs; and remove them from assets (files).

XMP

Extensible Metadata Platform. Adobe's XMP™ is a labeling technology that allows you to embed metadata into the asset itself. With an XMP-enabled application (e.g. all applications of Adobe Creative Suite), information about a project can be captured during the content creation process and embedded within the file and into a content management system. Cumulus can read XMP metadata information while cataloging. You can view and edit this metadata and Cumulus can write your changes back to the asset. See also Metadata.

Web Client

See Cumulus Web Client.