HAIVISION

CoolSign 5.2
Network Manager User's Guide

HVS-ID-CNM-CS-5.2

Edition Notice

About Haivision

Founded in 2004, Haivision is now a market leader in enterprise video and video streaming technologies. We help the world's top organizations communicate, collaborate and educate. Recognized as one of the most influential companies in video by Streaming Media and one of the fastest growing companies by Deloitte's Technology Fast 500, organizations big and small rely on Haivision solutions to deliver video. Headquartered in Montreal, Canada, and Chicago, USA, we support our global customers with regional offices located throughout the United States, Europe, Asia and South America.

Trademarks

The Haivision logo, Haivision, and certain other marks are trademarks of Haivision. CoolSign is a registered trademark licensed to Haivision Systems, Inc. All other brand or product names identified in this document are trademarks or registered trademarks of their respective companies or organizations.

Disclaimer

The information contained herein is subject to change without notice. Haivision assumes no responsibility for any damages arising from the use of this content, including but not limited to, lost revenue, lost data, claims by third parties, or other damages.

If you have comments or suggestions, please contact **infodev@haivision.com**.

While every effort has been made to provide accurate and timely information regarding this product and its use, Haivision Systems Inc. shall not be liable for errors or omissions contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Contents

About This Document

Conventions

The following conventions are used to help clarify the content.

Typographic Conventions and Elements

Italics	Used for the introduction of new terminology, for words being used in a different context, and for placeholder or variable text.
bold	Used for strong emphasis and items that you click, such as buttons.
`Monospaced`	Used for code examples, command names, options, responses, error messages, and to indicate text that you enter.
>	In addition to a math symbol, it is used to indicate a submenu. For instance, **File** > **New** where you would select the New option from the File menu.
…	Indicates that text is being omitted for brevity.

Action Alerts

The following alerts are used to advise and counsel that special actions should be taken.

> ✅ **Tip**
>
> Indicates highlights, suggestions, or helpful hints.

> ⚠️ **Note**
>
> Indicates a note containing special instructions or information that may apply only in special cases.

> ⓘ **Important**
>
> Indicates an emphasized note. It provides information that you should be particularly aware of in order to complete a task and that should not be disregarded. This alert is typically used to prevent loss of data.

> ⬣ **Caution**
>
> Indicates a potentially hazardous situation which, if not avoided, may result in damage to data or equipment. It may also be used to alert against unsafe practices.

> ⬣ **Warning**
>
> Indicates a potentially hazardous situation that may result in physical harm to the user.

Obtaining Documentation

This document was generated from the Haivision InfoCenter. To ensure you are reading the most up-to-date version of this content, access the documentation online at **https://doc.haivision.com**. You may generate a PDF at any time of the current content. See the footer of the page for the date it was generated.

Getting Service Support

For more information regarding service programs, training courses, or for assistance with your support requirements, contact Haivision Technical Support using our Support Portal at: **https://support.haivision.com**.

Using CoolSign Network Manager

Topics Discussed

CoolSign Network Manager (CNM) provides easy, customizable access to all the information and data you need to manage a digital signage network. With CNM, you can import content, create channels and playlists, tune players, and monitor network transfers and status.

CNM is organized into different screens that allow you to view and manage different areas of your network:

- **Home Manager**—Provides a high-level dashboard where you can quickly seethe overall status and health of your network. Important alerts that may require your attention or management are displayed in the Alerts grid on the Home Manager, along with a log of all major actions that have been performed with CNM.

- **Content Manager**—Lets you view the entire repository of content available on your CoolSign network. You can import new content, modify numerous content properties that affect how the content is played back, retrieve the play history for content, and more.

- **Audio Manager**—Similar to the Content Manager, but specialized for managing audio content only. You can import MP3 files directly into the Audio Manager without needing to run them through Content Wizard.

- Data Table Manager—CoolSign uses data tables to provide dynamic data to content and scheduling expressions. With the Data Table Manager, you can manually create new data tables or input data into existing data tables.

- Data Watcher Manager—(Optional) You can install the Data Watcher to provide a bridge between a data source and a CoolSign network. The Data Watcher can read data from various types of data sources, parse that data, and then import it into a CoolSign data table.

- Channel Manager—Channels are the master schedules that you tune your players to. You can use the Channel Manager to create new channels and schedule content or playlists into channels. Once a channel is created, you can then use the Player Manager to tune players to your channel so they start playing the scheduled content.

- Playlist Manager—Playlists are specialized sub-schedules that you can insert into channels. Playlists provide extensive flexibility in how you create your schedules. You can use the Playlist Manager to create, edit, or delete playlists and to schedule content within the playlists.

- Player Manager—Players are the nodes in your network that play back content on a display device. The Player Manager provides functionality to manage your players, including the ability to remotely configure players, divide a player into multiple regions, tune a player to a channel, and review the play history for a player.

- Network Manager—Lets you see every node of your network and manage technical properties like software versions, bandwidth control, and configuration. Primarily intended for technical users, the Network Manager enables you to troubleshoot network issues and take corrective action when necessary.

To navigate to a manager screen, either:

- Click the manager's icon in the navigation bar on the left side of the screen.

Or

- Choose **VIEWS** > **GO TO** > and select the appropriate manager.

About Manager Pages

With the exception of the Home Manager, each of the manager screens share similar layouts and functionality. While the type of item that each screen manages differs, each manager provides the ability to customize how your data is displayed and to organize the data in ways that make sense to your specific use of the digital media network.
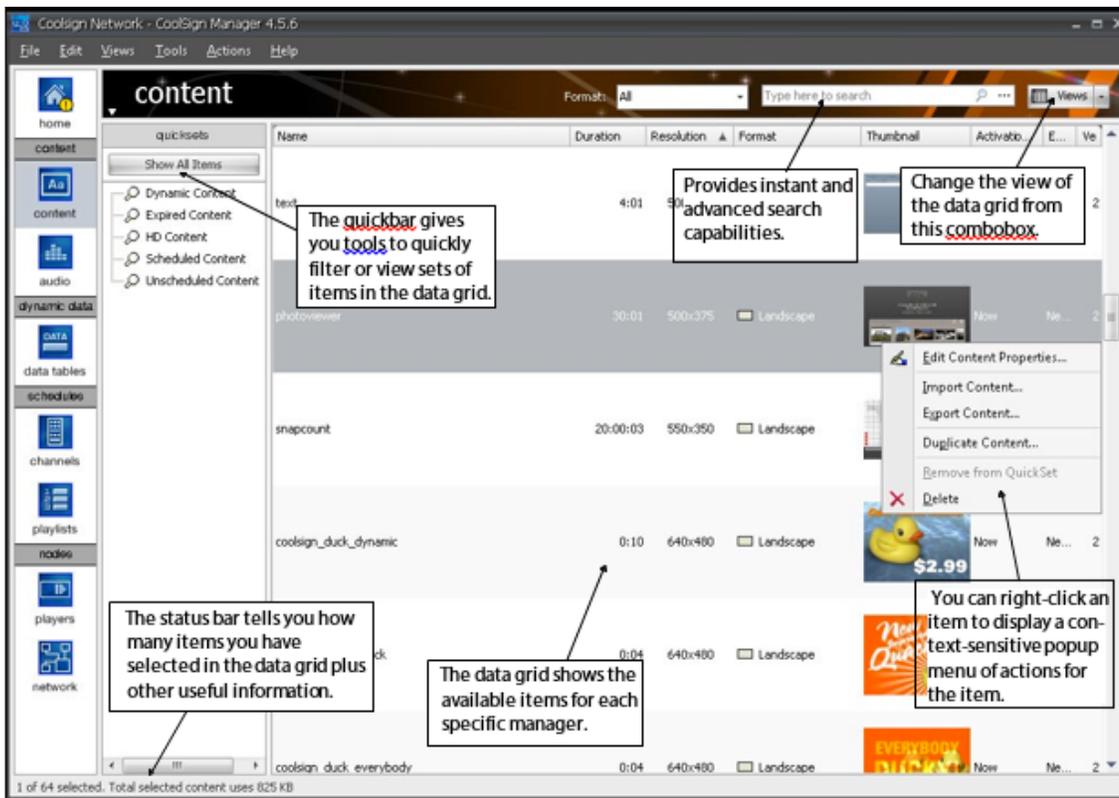
About the Data Grid

The most important element in each manager is the data grid. The data grid displays the items available in your network in a grid-like table of rows and columns. The data grid is a powerful tool that can be used to organize and customize what information you see about each of the objects in your network.

About Local Storage and Silverlight

CoolSign Network Manager uses Microsoft Silverlight, which, by default, is limited to 1 MB of local storage space. This space is used to cache thumbnail images, such as those displayed on the "Now Playing" screen. Silverlight should be configured to enable the use of local storage. To verify this, launch the Microsoft Silverlight Configuration utility and make sure "Enable application storage" is set to **ON**:
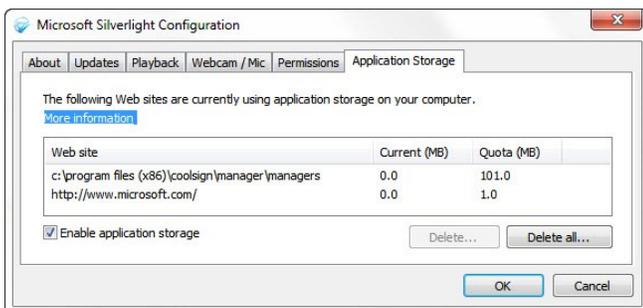
The first time you select the Player or Network Manager, you will see a Local Storage Error message:
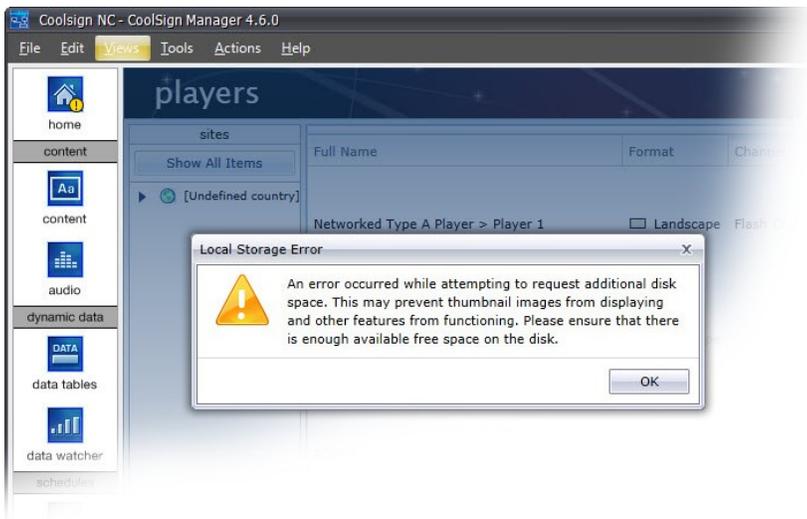
A Silverlight warning will also appear prompting you to allocate an additional 100 MB of space for use by Silverlight:
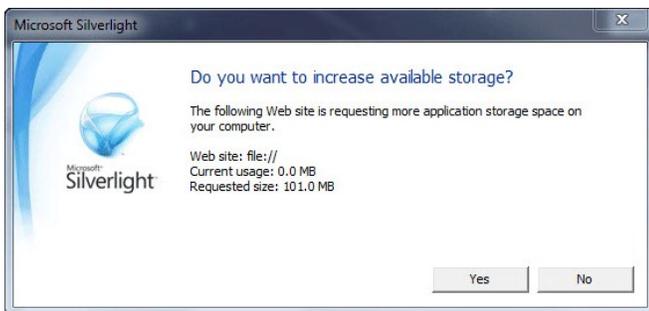
You should make sure that there is enough available space on your startup disk, and then click **Yes** in the Silverlight dialog.

Working with Items in the Data Grid

Each manager page's data grid lists all the available items of the specific type managed by that page. You can use the data grid to select one or more items and then perform contextsensitive actions on them.

- Selecting Items in the Data Grid
- Performing Context-Sensitive Actions on an Item

Selecting Items in the Data Grid

Before you can perform an action on an item, you must have selected one or more items in the data grid. The selected items in a data grid are highlighted in blue.

To select an item, do one of the following:

- Click the item in the data grid.
- Use the up and down arrow keys to change the current selected item.

To one of the following:

- Hold the **Shift** key down and click an unselected item to select all the items between the currently selected item and the clicked item.
- Hold the **Ctrl** key down and click an unselected item to add that item to the set of currently selected items.

To deselect and item, do one of the following:

- Hold the **Shift** key down and click a selected item to unselect all the items between the last clicked item and the clicked item.
- Hold the **Ctrl** key down and click a selected item to remove that item from the set of currently selected items.

Performing Context-Sensitive Actions on an Item

Once you have selected an item in the data grid, you can perform context-sensitive actions on it. The type of item determines the actions you can perform. The following describes specific actions you can perform in each manager page.

To perform an action on an item, do one of the following:

- Choose an action from the ACTIONS menu.
- Right-click the item or selected items and choose an action from the Actions popup menu.

Changing the Data Grid Layout

CoolSign provides a number of predefined views for each manager page. Each view defines which columns are displayed, how the grid is sorted, and any groupings that are applied to the grid. For more information on managing views and adding new views, see **Managing Views**.

- **Sorting Columns**
- **Grouping Columns**
- **Resizing Columns**
- **Changing which Columns are Visible**
- **Reordering Columns**

To change the data grid view:

- Use the view combobox to select the view you wish to use.

Sorting Columns

You can sort the items visible in the data grid by one or more columns. You can add additional columns to the current sort by holding down the **Shift** key while sorting.

> ✅ **Tip**
>
> The currently sorted columns are saved with the view's state.

To sort a column:

- To toggle between ascending and descending sort order, click on the header of the column you want to sort by.

Grouping Columns

> **ℹ Note**
>
> The CNM Player and Network managers no longer use this feature. You must use the Quick or Advanced Search functions for grouping (see **Searching for Items** for details).

You can group the items visible in the data grid by one or more columns.

This content did is grouped by the Format column.

The currently grouped columns and the group by box toggle state are saved with a view's state.

To group by a column, do one of the following:

- Right-click on the column header and choose GROUP BY THIS COLUMN.
- Drag a column into the Group By Box.

To toggle the group box:

- Right-click on any column header and choose TOGGLE GROUP BY BOX.

To clear all groupings:

- Right-click on any column header and choose CLEAR GROUPINGS.

Resizing Columns

> **✅ Tip**
>
> Column widths are saved with a view's state.

To resize a column:
Do one of the following:

- Click and drag on the column border to manually resize the column.
- Right-click on the column header and choose BEST FIT. The column will be resized to best fit the data visible in the column.

> **✅ Tip**
>
> To tell the grid to resize all the visible columns to best fit the data, hold down the **Ctrl** key while choosing BEST FIT.

HAIVISION

To lock a column width:
Right-click on the column header and choose LOCK COLUMN WIDTH. The column will no longer resize automatically when the window is resized.

Changing which Columns are Visible

> ✅ **Tip**
> Visible columns are saved with a view's state.

To add columns to a data grid:

1. Right-click on any column header and choose CHOOSE COLUMNS to show the Choose Columns toolbox.
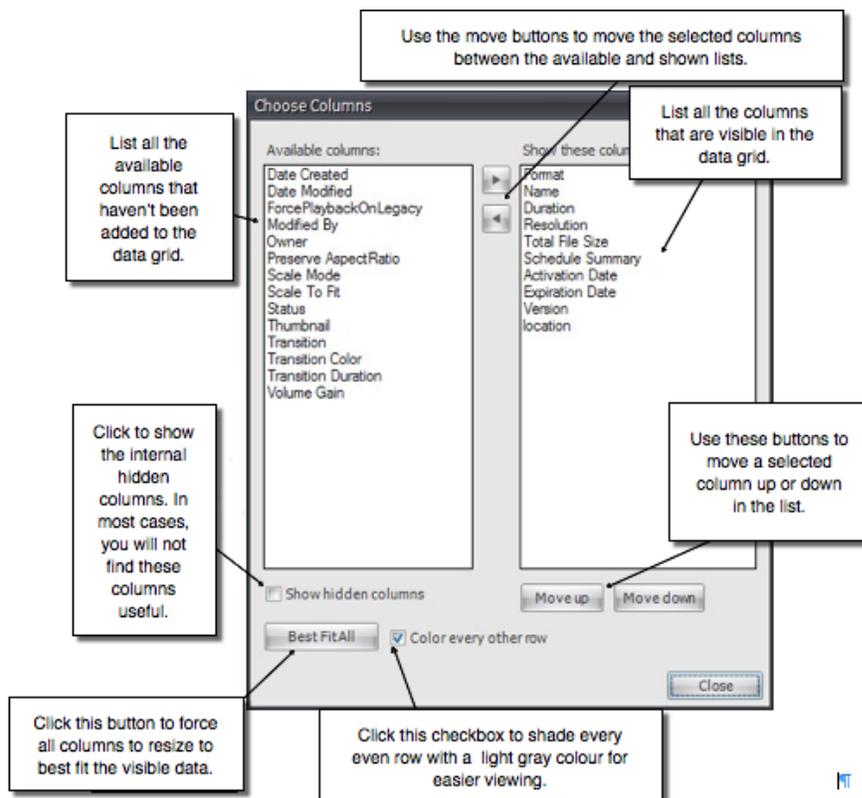
2. Select one or more columns in the AVAILABLE COLUMNS list.
3. Click the right arrow button to move the columns into the SHOW THESE COLUMNS list.
4. Click **Close**.

To remove columns from a data grid:

• Right-click on the column header and choose REMOVE THIS COLUMN.

Reordering Columns

> ✅ **Tip**
>
> Column ordering is saved with a view's state.

To reorder a column:

- Click on the column header and drag the column left or right to reposition it.

Managing Views

In addition to the predefined views that CNM provides for each manager page, you can add additional views to further customize how you work with items. The Manage Views dialog allows you to create new views, edit and delete existing views, import or export views, and reset views to their default state.

To add a new view:

1. Choose **VIEWS** > **MANAGE VIEWS** to display the Manage Views dialog.
2. Click **New**.
3. Enter a name for the view.
4. Choose columns for your view. For details, Changing which Columns are Visible.

To rename a view:

1. From the Manage Views dialog, click **Rename**.
2. Enter a new name for the view.
3. Click **OK**.

To delete a view:

- From the Manage Views dialog, click **Delete**.

Importing and Exporting Views

You can export views to a special CoolSign View File format (.cvw) so that you can transfer them between different CoolSign networks.

To export a view to a CoolSign View file:

- From the Manage Views dialog, click **Export** and enter a name to save your view.

To import a CoolSign View file:

- From the Manage Views dialog, click **Import** and choose a view file using the open file dialog.

Resetting and Restoring Default Views

CoolSign provides predefined default views for each of the manager pages. If you modify or delete these views, you can reset or restore them back to their default settings using the Manage Views dialog.

To reset a view back to its default settings:

1. From the Manage Views dialog, select the view to reset.
2. Click **Reset View**.

> ℹ️ **Note**
>
> You can only reset predefined default views created by CoolSign. User-created views cannot be reset.

To restore deleted default views:

- From the Manage Views dialog, click **Restore Default Views**.

Searching for Items

The search box at the top of the manager grid can be used to perform instant and advanced searches (**About Manager Pages**). When you type in the Search box, you are automatically using the instant search function. The instant search is performed on the first column only (usually, the first column is "Name" but it is not always the case.) Especially when there are multiple levels of grouping in the grid. For example, in the audio manager grid, if it is grouped by Artist, then the first column becomes "Title". As a result, the Instant search searches on Title.

The advanced search can be done by clicking the " **...** " button. You can also filter which items are displayed in a data grid by using the Search dialog.
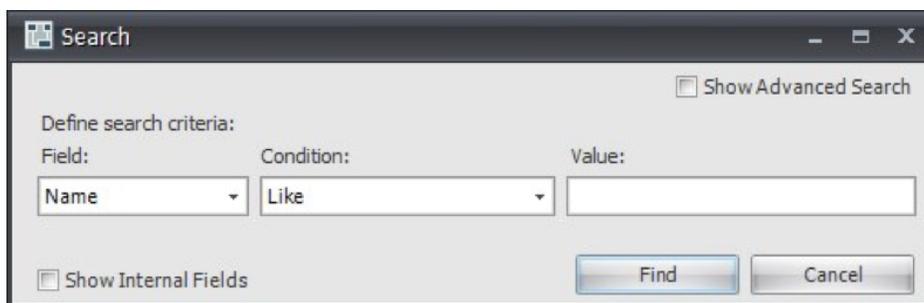
To search for items:

1. To display the search dialog, do one of the following:
- Choose **TOOLS** > **SEARCH**.
- Right-click in the QuickBar and choose **NEW SEARCH**.
- Type **Ctrl-F.**
- Define the search criteria using the Field, Condition and Value controls or click "..." in the search box at the top of the manager grid for advanced search capabilities.
- To create a search expression that contains multiple criteria, check the **Show Advanced Search** box.
- Click **Find**. The results of your search are displayed in the data grid and a temporary Search item is created in the QuickSets panel.

> **ⓘ Note**
>
> Temporary search items are no longer available after you restart CNM. To make the results of your search available to subsequent sessions, you can save your temporary search as a QuickSearch. For details, **Using QuickSearches**.

Using the QuickBar

Each manager page (except for the Home page) has a quickbar that contains tools to help you organize and filter the items that appear in the data grid. While each manager page can have page-specific quickbar features, all the quickbar panels contain the QuickSet panel.

About the QuickSet Panel

The QuickSet panel is available for every manager page (except for the Home page) and lets you create QuickSets, QuickSearches, and Folders to help you organize your data.
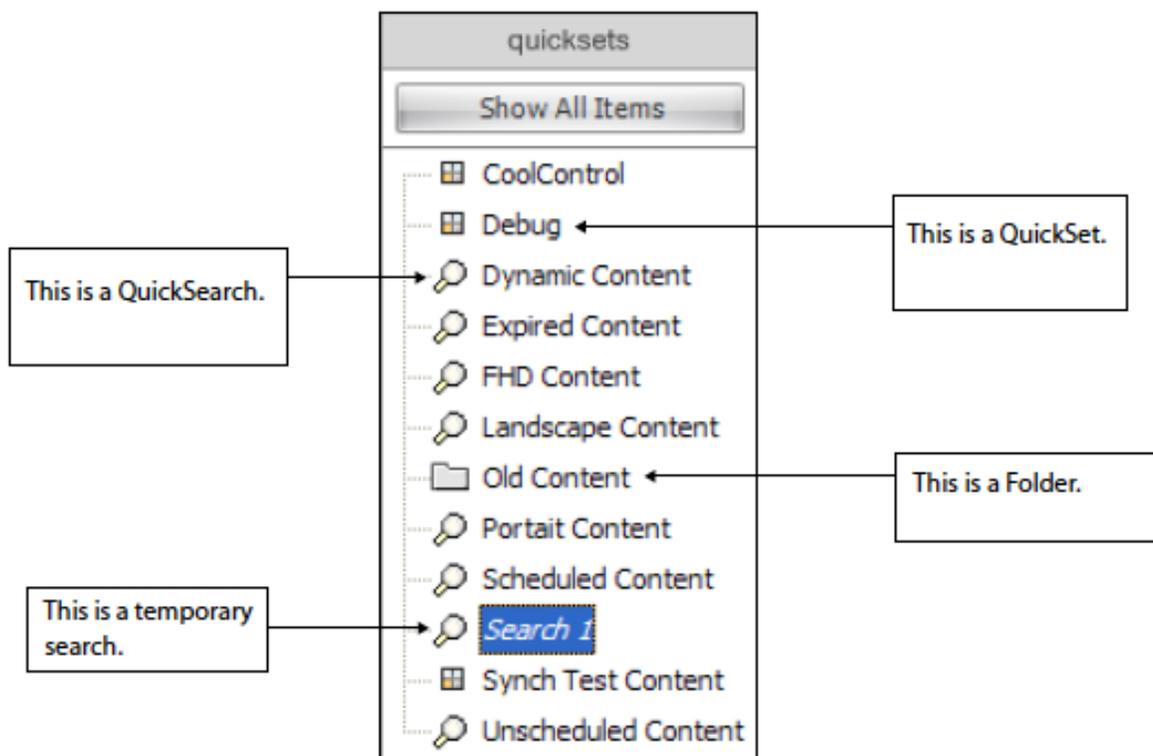
Using QuickSets

> ⓘ **Important**
>
> Only CoolSign administrators using the Network Manager can create QuickSets. Content administrators, users who only have access to the web-based interface, can only use existing QuickSets; they cannot create QuickSets.

To create a new QuickSet:

1. Right-click anywhere in the QuickSet panel and choose **NEW QUICKSET**.
2. In the QuickSet Properties dialog, enter a name for the new QuickSet.
3. Click **OK**.

To add an item to a QuickSet:

- Select one or more items in the data grid and drag them onto the QuickSet.

To remove an item from a QuickSet:

- Right-click the item in the data grid and choose **REMOVE FROM QUICKSET**.

To clear all the items from a QuickSet:

- In the QuickSet panel, right-click the QuickSet and choose **CLEAR QUICKSET**.

To edit the properties of a QuickSet:

- Right-click the QuickSet and choose **EDIT QUICKSET**. You can change the QuickSet name or modify security settings.

To delete a QuickSet:

- Right-click the QuickSet and choose **DELETE QUICKSET**.

> ⓘ **Note**
>
> Deleting a QuickSet does not delete the items in the QuickSet, just the QuickSet itself.

Using QuickSearches

QuickSearches are searches on your items that you can save persistently. When you click on a QuickSearch in the QuickSet panel, the data grid displays all the items that pass the filter expression of that QuickSearch. QuickSearches are "live"; if an item changes, the QuickSearch can automatically update to include the modified item.

Before you can create a QuickSearch, you must perform a search on the data grid. See **Searching for Items**. After you define a search, a temporary search item named *Search* (in italics) is created in the QuickSet panel. If you like this search, you can save it as a QuickSearch so that it is always available and so that other users can access it.

To convert a temporary search to a QuickSearch:

1. Right-click on the temporary search item and choose **SAVE AS QUICKSEARCH**.
2. Enter a name for your new QuickSearch.
3. Click **OK**.

To edit the filter expression on a QuickSearch:

1. Right-click on the QuickSearch and choose EDIT QUICKSEARCH.

The QuickSearch Properties dialog appears.

2. Click the **Edit** button to modify the search criteria.

3. In the Search dialog, define the search criteria, then click **Find**. For details, see Searching for Items.
4. Click **OK**.

To delete a QuickSearch:

- Right-click on the QuickSearch and choose **DELETE QUICKSEARCH**.

Organizing QuickSets and QuickSearches

> **ⓘ Note**
>
> You can use folders to help organize your QuickSearches, but folders do not aggregate the results of the QuickSearches stored in the folder.

To create a new folder:

1. Right-click anywhere in the QuickSet panel and choose **NEW FOLDER**.
2. Enter a name for the new folder.
3. Click **OK**.

Printing and Exporting Data

To add QuickSets or QuickSearches to a folder:

- Drag and drop the QuickSet or QuickSearch onto the folder. You can also nest folders within folders by dragging a folder onto another folder.

To remove a Quickset QuickSearch from a folder:

- Drag the QuickSet or QuickSearch out of the folder into the lower blank area of the QuickSet panel.

To rename a folder:

- Right-click the folder and choose **RENAME FOLDER**.

To delete a folder:

- Right-click the folder and choose **DELETE FOLDER**. You will be asked whether to delete the folder and its contents or just the folder.

Printing and Exporting Data

You can print or export the items displayed in any data grid. You can export data to a variety of file formats.

To print the items displayed in a data grid:

- Right-click in any column header and choose **Export Current View** (or **Export All Data**).

To export items to a file:

1. Right-click in any column header and choose **Export Current View** (or **Export All Data**).
2. Choose the file format that will be used to save the data.
- **CSV** (*.csv)—Saves the data in a comma-separated values text file.
- **HTML** (*.html)—Saves the file in an HTML format.
- **Excel** (.xls){*}—Saves the data in Microsoft Excel format. There are no additional options for this format.
- **Tab-Delimited** (*.txt)—Saves the data in a tab-delimited text format. You can use the Text export properties to set the delimiter character, whether fields should be quoted, and whether to pad data with spaces.
- **Word** (*.doc)—Saves the data in Microsoft Word format.

- **XML** (*.xml)—Saves the file in XML format.
- Select a name and location to save the file onto your hard drive.

About Content

Topics Discussed

- **Creating CoolSign Content**
- **Acquiring Content**
- **Supported File Formats**
- **Using Flash in CoolSign**
- **Using bitmaps in CoolSign**
- **Using PowerPoint in CoolSign**
- **Creating Video Capture Content**
- **Using Web Pages as Content**
- **Using Streaming Content**
  - **Streaming Direct**
  - **Streaming via a URL**
- **Working with Content Templates**
  - **Locating Available Templates**
  - **Creating a Template Instance**
  - **Editing Content that was Created from a Template**
  - **Deleting a Template**

What is CoolSign content?

Content is perhaps the most important element within a CoolSign Digital Media Network. Without content, your screens would be dark.

> **ⓘ Note**
>
> CoolSign Content Creator, a powerful authoring tool for creating digital assets, is available separately.

The CoolSign toolset provides extensive support for managing content:

- Supports the most popular standard digital file formats used by today's content creation applications including MPEG-2, H.264 , Windows Media 9, Flash, and Photoshop bitmaps.
- Converts Microsoft PowerPoint 2003 and 2007 presentations to JPG format, and PowerPoint 2010 presentations to WMV format.
- Integrates seamlessly with Vistar Media, a third-party content provider or ad broker, to help you meet the growing demand for relevant content to populate your screens.
- Allows you to stream live content and display web pages.

Creating CoolSign Content

Text, graphics, and multimedia assets to be used within CoolSign can be authored using any of the many available, professional content-authoring tools like Microsoft PowerPoint, Adobe After Effects, Adobe

Photoshop, Adobe Flash, and Apple FinalCut Pro. Once you have created the digital assets for your content, you can convert those assets into CoolSign content by using the CoolSign Content Wizard (optional). Then, you can use CNM to import the CoolSign content into a CoolSign network.

For more information, please refer to the following documents, also available from the Haivision Support Portal

- Using the CoolSign Content Wizard
- CoolSign Content Creator User's Guide

CoolSign Content Wizard

The CoolSign Content Wizard is included with all CoolSign software and is designed to convert supported file formats into CoolSign content. The Content Wizard has a simple interface that allows you to import a file; set content properties like name, duration, and transition; select a thumbnail frame; and save CoolSign content, all in a few quick steps. For installation instructions, see the CoolSign *Network Installation Manual*.

CoolSign Content Wizard can also be used to convert media files to CoolSign content by pointing to one or more media assets. However, when CoolSign Content Wizard creates video capture content, it doesn't have a media file. Instead, it requires specific information to convert a media file such as: Input, Standard, Channel, Resolution, etc. This information is output to a file called "

```
control.xml
```

", which prompts CoolSign players to play the specified video capture content. For detailed instructions, see "Creating video capture content".

CoolSign Content Creator

> ⬥ **Warning**
>
> The Content Creator tool is not compatible with remote desktop software.

Acquiring Content

In addition to authoring your own content, you can acquire content from other sources, such as streaming live content, displaying web pages, or subscribing to place-based advertising.

Streaming Live Content

With CoolSign, you can stream live video content to your CoolSign displays. Video streams (including those with FEC or encryption) from the Haivision Furnace solution are supported, as are HD and SD streams from the Haivision Makito encoders. Unencrypted video streams from other sources are also supported. For more information, see Streaming Content.

Displaying Web Pages

Another much requested feature that has been added to CoolSign, is the ability to include internet web pages as content on CoolSign displays. You can schedule and present news, weather, sports and other rich web content from any valid URL on your CoolSign network.

Integrating Vistar Media

Vistar Media (**www.vistarmedia.com**) operates a marketplace for digital place-based advertising. Vistar Media's platform automates the delivery of ads from buyers to digital signage networks. This enables advertisers to connect seamlessly to ad networks to sell their ads — Vistar Media effectively acts as a broker between ad sellers and ad buyers.

The CoolSign Vistar Content feature gives CoolSign administrators the ability to schedule ad content purchased through Vistar Media — an increasingly popular solution for filling spare capacity in a pipeline. A CoolSign administrator can schedule a piece of Vistar content, such that individual players in the CoolSign network grab ads for specified time slots, play them back, and then report the playback to Vistar Media.

Supported File Formats

Assets for CoolSign content can be authored using numerous industry-standard production tools available from companies like Adobe, Avid, and others. The remainder of this section discusses requirements for developing assets for CoolSign. The following digital formats are supported by CoolSign:

Audio	Image	Video	
MP3	bmp gif jpeg png psd	WMV Flash MPEG-1 MPEG-4	AVI M2V MOV MP4 (H.264 only) H.264 XVid DivX

Using Digital Video in CoolSign

Digital video is the most popular format for authoring CoolSign content. Digital video can be created in any number of production tools including Adobe After Effects, Avid MediaComposer, Apple FinalCut Pro, and Adobe Premiere. The preferred formats for encoding and playback of digital video in CoolSign are H.264 or Windows Media 9. Both formats are capable of high-quality video playback at both SD and HD resolutions.

H.264

> ℹ️ **Note**
>
> H.264 defines different standards for resolution and bit rate called profiles and levels. In order to encode MPEG-2 at greater resolution than NTSC (720x480), you will need an encoder that supports High Profile and High-1440 Level. Most hardware H.264 encoders do not support the higher profiles and levels.

The following are some applications that can be used to encode H.264:

- Adobe After Effects 6.5 (**www.adobe.com**) [1]
- Adobe Premiere Pro (**www.adobe.com**)
- MainConcept MPEG Encoder (**www.mainconcept.com**) [2]
- TMPGEnc Plus 2.5 (**www.pegasys-inc.com**)
- Discreet Cleaner XL (**www.discreet.com**)

> **ℹ Note**
>
> The Discreet Cleaner XL only supports encoding at 720 x 480.

CoolSign supports H.264 program streams (multiplexed video/audio) or video elementary stream (video only) at data rates up to 15 Mb/s.

MPEG-1

While CoolSign fully supports MPEG-1 digital video, we recommend that H.264 be used for its superior resolution and quality. In most cases, MPEG-1 can be encoded in the same way as H.264.

Windows Media 9

Microsoft Windows Media technology is an alternative to H.264 for full-screen, digital video playback. Windows Media has certain advantages: more authoring tools natively support encoding to WMV and, in many cases, the file size of Windows Media is significantly smaller than H.264.
The following are some applications that can be used to encode Windows Media 9:

- Adobe After Effects / Adobe Premiere Pro (**www.adobe.com**)
- Discreet Cleaner XL (**www.discreet.com**)
- Microsoft Windows Media Encoder 9 (**www.microsoft.com**)

Windows AVI

Although AVI is a supported technology, it's enclosed encoding must have a corresponding decoder on the player for proper playback.

CoolSign Encrypted Video Format

In cases where security of digital video assets is important, the CoolSign EVF format is available to encrypt MPEG-2 video so that only CoolSign can playback the assets. For more information, please contact your sales representative.

---

1. Please refer to "Using Flash-based Content" for detailed steps on encoding MPEG-2 using Adobe After Effects and MainConcept MPEG Encoder. ↩
2. Please refer to " Using Flash-based Content" for detailed steps on encoding MPEG-2 using Adobe After Effects and MainConcept MPEG Encoder. ↩

Using Flash in CoolSign

> **⚠ Warning**
>
> You can only control the volume of SWF files that are version 8 or older. With SWF version 9 files, it is not possible to control the player volume from CoolSign.

> **ⓘ Note**
>
> SWF files for use with CoolSign should be authored at a playback speed of 30 frames per second. Lower frame rates can be used, but playback will appear choppier than movies created at full 30 fps.

Take care to avoid animating complicated vector shapes, large bitmaps, and numerous objects simultaneously as this can result in poor playback performance. In these cases, it is recommended that you export into AVI or QuickTime format and then encode to H.264 or WMV formats using a standalone encoding application.

Using bitmaps in CoolSign

If you don't require animation in your content, CoolSign supports displaying static bitmap assets. Bitmap assets can be authored in any software that supports the following formats:

- **Photoshop** (.psd) [1]—Photoshop version 3.0 or higher supported. Layered files will be flattened. Only RGB mode is supported. Only the first alpha channel will be used.
- **Windows Bitmap** (.bmp) [1]—Windows Bitmap can be saved as either 24-bit or 32bit.
- **JPEG** (.jpg) [1]—JPEGs should be saved with maximum quality settings to minimize compression artifacts.
- **Portable Network Graphics** (.png) [1]
- **Graphics Interchange Format** (.gif) [1]—GIF animation is not supported.

> **ⓘ Note**
>
> CoolSign fully supports 32-bit images. If you are displaying 32-bit bitmap with an alpha channel, the transparent regions will be transparent to the black background. If you are using overlapping regions, you can use alpha channel transparency to show through from one region to the one below. Be sure to delete unwanted alpha channels before importing bitmap content as there is no mechanism for "turning off" an alpha channel once converted into content.

---

1. Assets should be saved at 16-bit, 24-bit, or 32-bit color depth. 1-bit and 8-bit images are not supported. ↩ ↩ ↩ ↩ ↩

Using PowerPoint in CoolSign

PowerPoint slides and shows can now be imported through the CoolSign Content Wizard:

- With PowerPoint versions 2003 and 2007, the .jpg format is converted to run slide-to-slide.
- With PowerPoint versions 2010, the .wmv format is converted to run slide-to-slide.

> **ⓘ Note**
>
> Microsoft PowerPoint has to be installed on the same box as the Content Wizard.

To adjust the slide duration and adjust the transition between content:

1. Go to the Content Wizard and select **Create**.
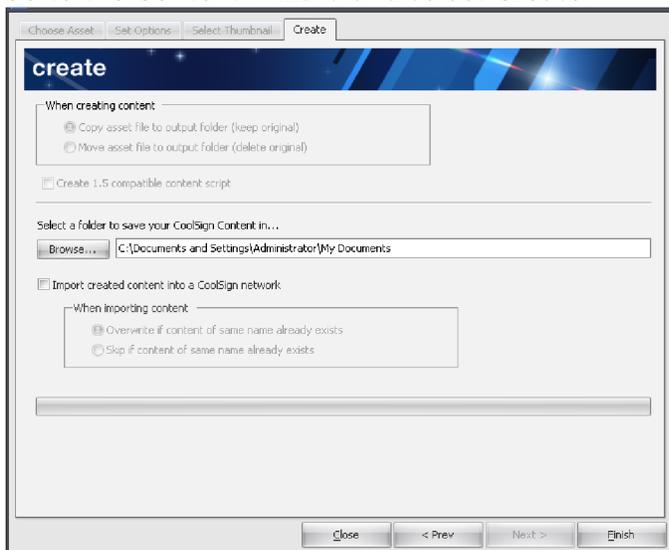
2. Select **CHOOSE ASSET** ("Convert single asset" is the default).
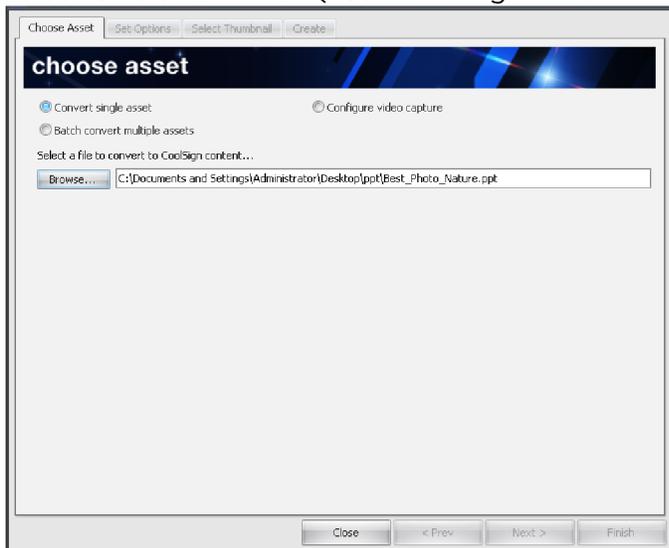
3. Browse to select a PowerPoint presentation to convert to CoolSign content.
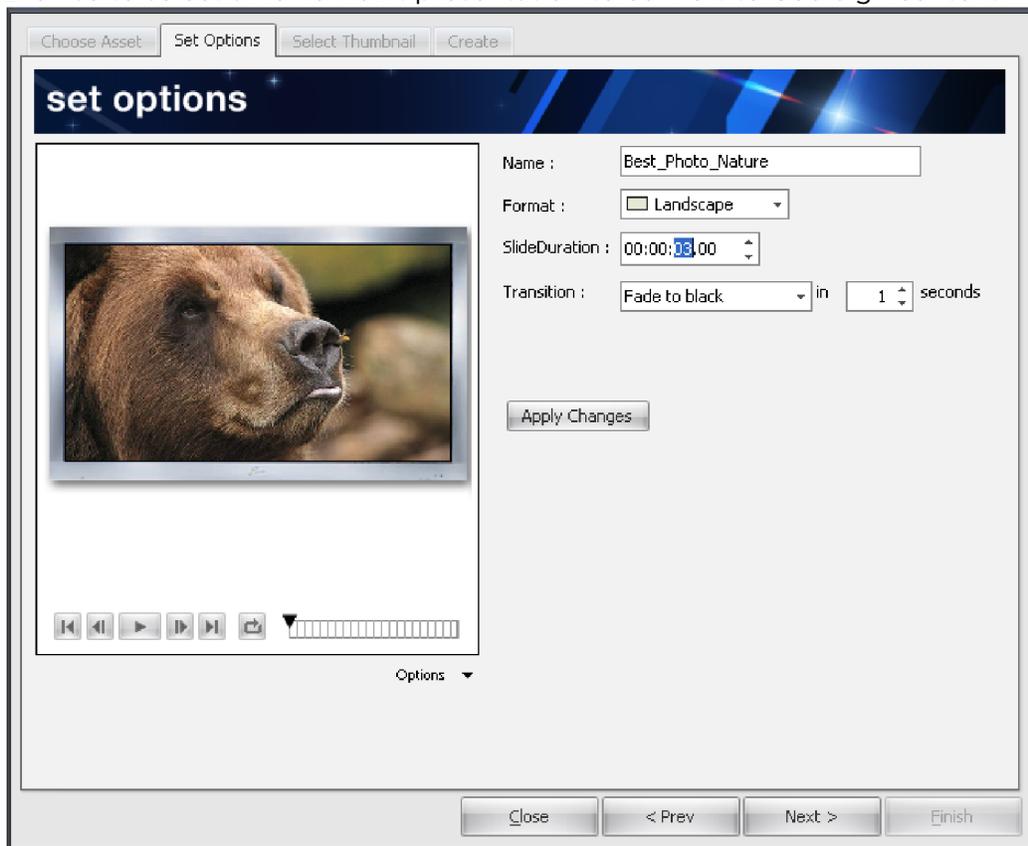
4. With PowerPoint 2010, you can import a PowerPoint file and Content Wizard will convert it into a .wmv file. Note that PowerPoint versions 2003-2007 do not support .wmv movie presentations.
5. If using PowerPoint 2010, these features are available to manipulate your converted .wmv content:
   • Volume Gain
   • Asset Properties
   • Content Resize Settings
   • Content Activation/Expiration

Creating Video Capture Content

To create video capture content:

1. On the CHOOSE ASSET tab, click **Configure video capture**.
2. Select your desired video capture specifics from the drop-down menus and then click **Next**. Video Capture options include:
   • Input—Composite, RGB, S-Video, and Tuner
   • Standard—NTFC and PAL
   • Channel—Channel number
   • Resolution—Resolution standard
   •

   > **ℹ Note**
   >
   > If you select Tuner as your input, you'll need to specify the type of antenna or cable along with the country/region.
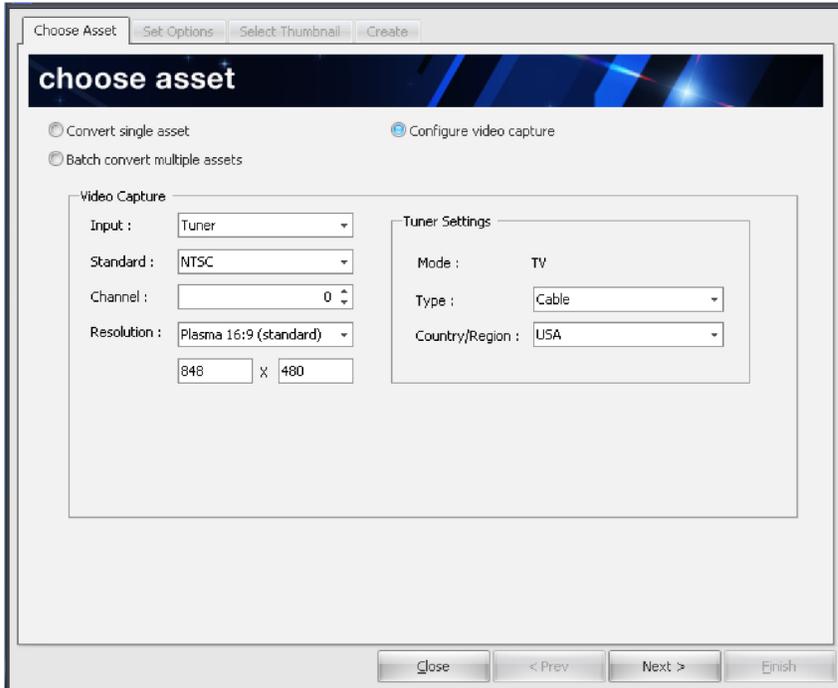
3. On the SET OPTIONS tab, select the desired video capture settings, and then click **Next**.
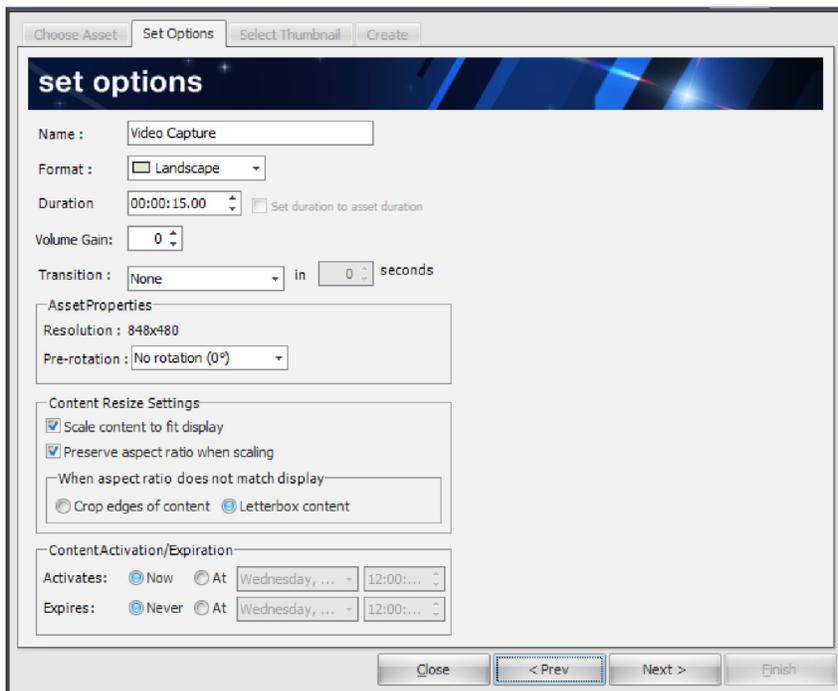
4. Click **SELECT THUMBNAIL**, select an external image as the content thumbnail, and then click **Next**.

> ℹ️ **Note**
>
> If no image is specified, CoolSign Content Wizard uses the default black thumbnail.
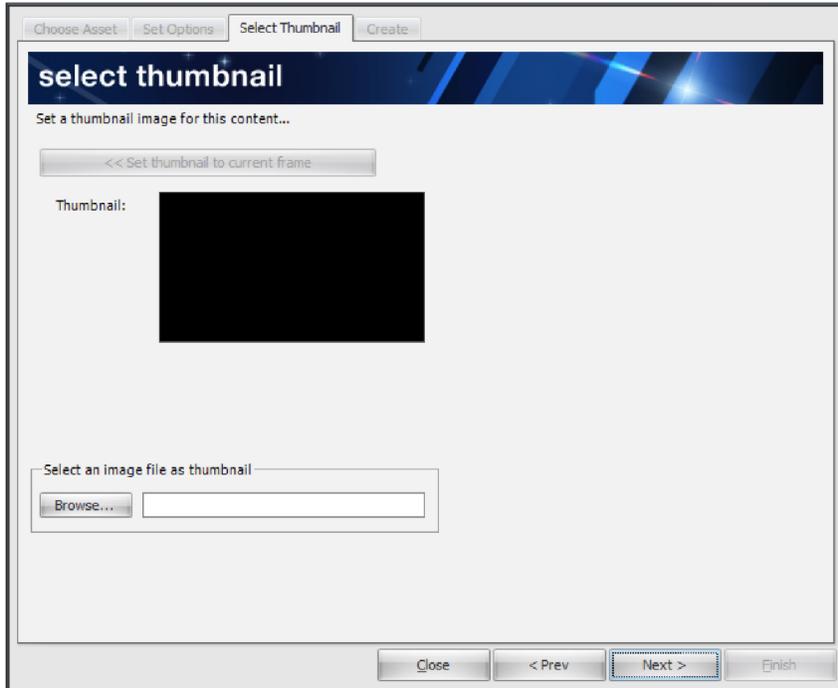
5. Click the **CREATE** tab. From this screen you can:
    • Select a folder in which to save your content.
    • Import created content into a CoolSign network.
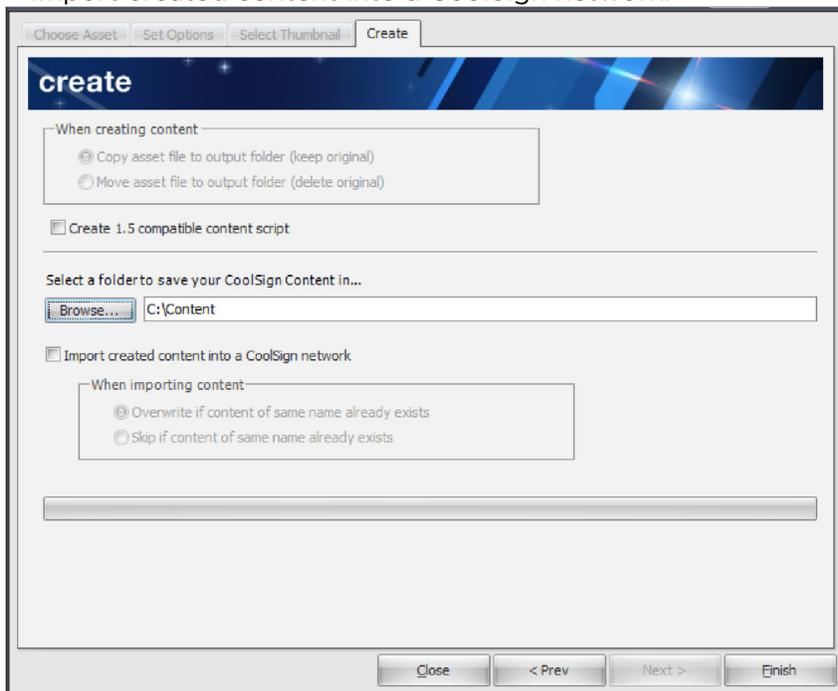
6. Click **Finish** to save your video capture content.

Using Web Pages as Content

This section provides instructions for displaying internet web pages on a CoolSign Player.

To display web page content:

1. Open the Network Content Manager and click the **Content** icon in the navigation sidebar.
2. From the **Actions** menu, select the option CREATE WEB CONTENT...
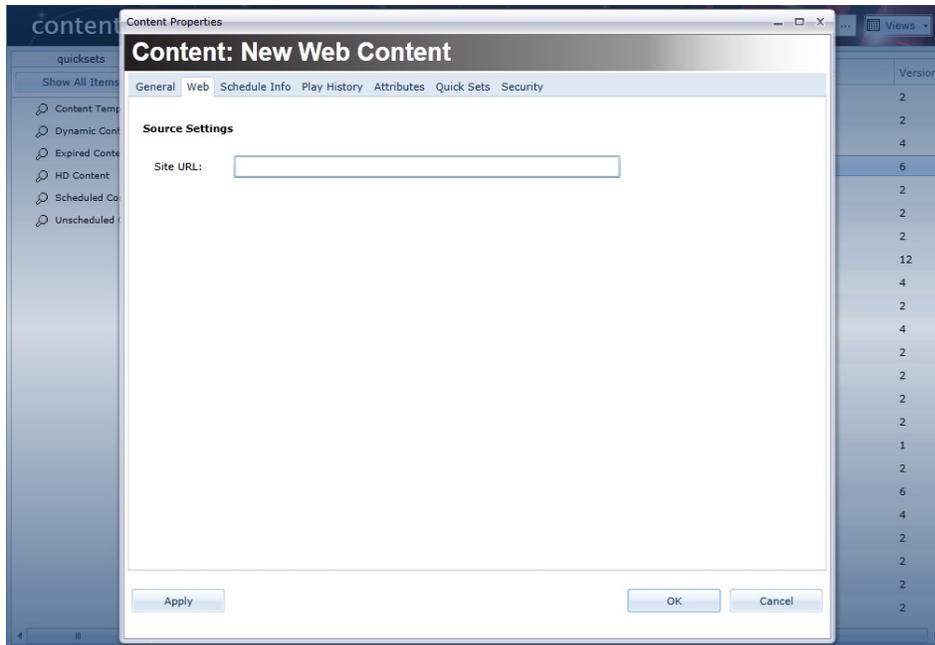
3. For the **Site URL** field, enter the internet address (URL) for the site that you want to display and click the **Apply** button.
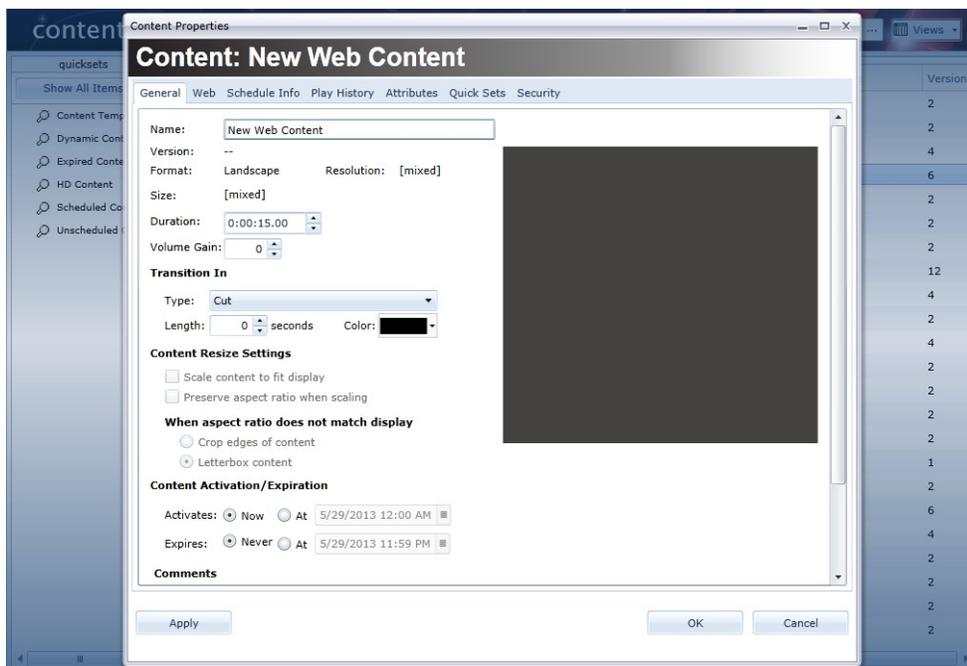
4. Click the **OK** button. At this point, the content can be scheduled into a channel like any other CoolSign content. See **Adding Items to a Channel**.

> 🛈 **Note**
>
> To display web content that contain Flash (for example YouTube), you will need to install the Mozilla Firefox browser and corresponding Flash plug-in on the Player Node.

Using Streaming Content

There are two ways to acquire streaming content:

- **Streaming Direct**
- **Streaming via a URL**

Streaming Direct

> 🛈 **Note**
>
> You can configure the player into multiple regions if you want to show the live feed in only a section of the screen. See **Configuring Multi-Region Players**.

- **Direct Setup (via Furnace v6.3)**
- **Content Acquisition**

Direct Setup (via Furnace v6.3)

For information on how to set up an output stream, please refer to the Furnace product documentation available from the **Haivision Support Portal** (**https://support.haivision.com**).

- Follow the instructions in the *Furnace Quick Start Guide* to power on the unit and log in to the Web Interface.

- Refer to the *Furnace User's Guide* or the online help (available from the Web Interface) for instructions on how to configure a Furnace Encoder to provide an FEC stream to a CoolSign Player.

> ❶ **Important**
>
> The Furnace device should be on the same subnet as the player.

Content Acquisition

Once the Furnace Encoder is configured, its output video stream can be displayed on a CoolSign Player Node across the LAN or Internet, as determined by the Network Administrator.

To stream content from a Furnace source:

1. Open the Network Content Manager and click the **Content** icon in the navigation sidebar.
2. From the **Actions** menu, select the option **CREATE STREAMING CONTENT...**
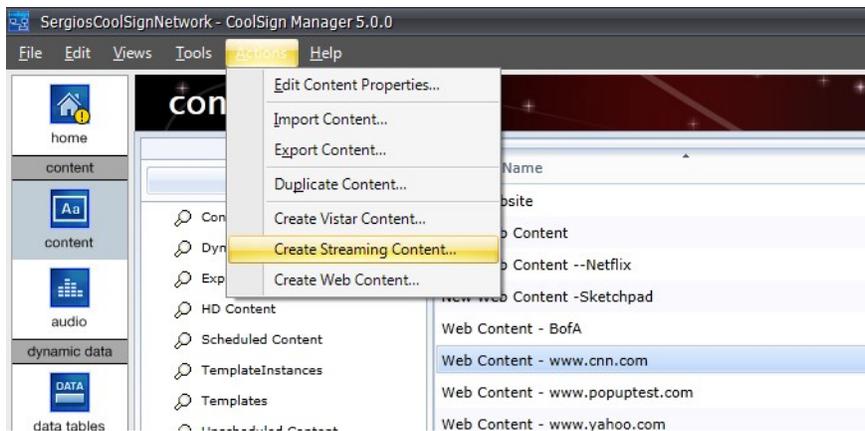
3. For the **Source Type** field, verify that the Haivision FURNACE [*Default*] drop-down menu item is selected.
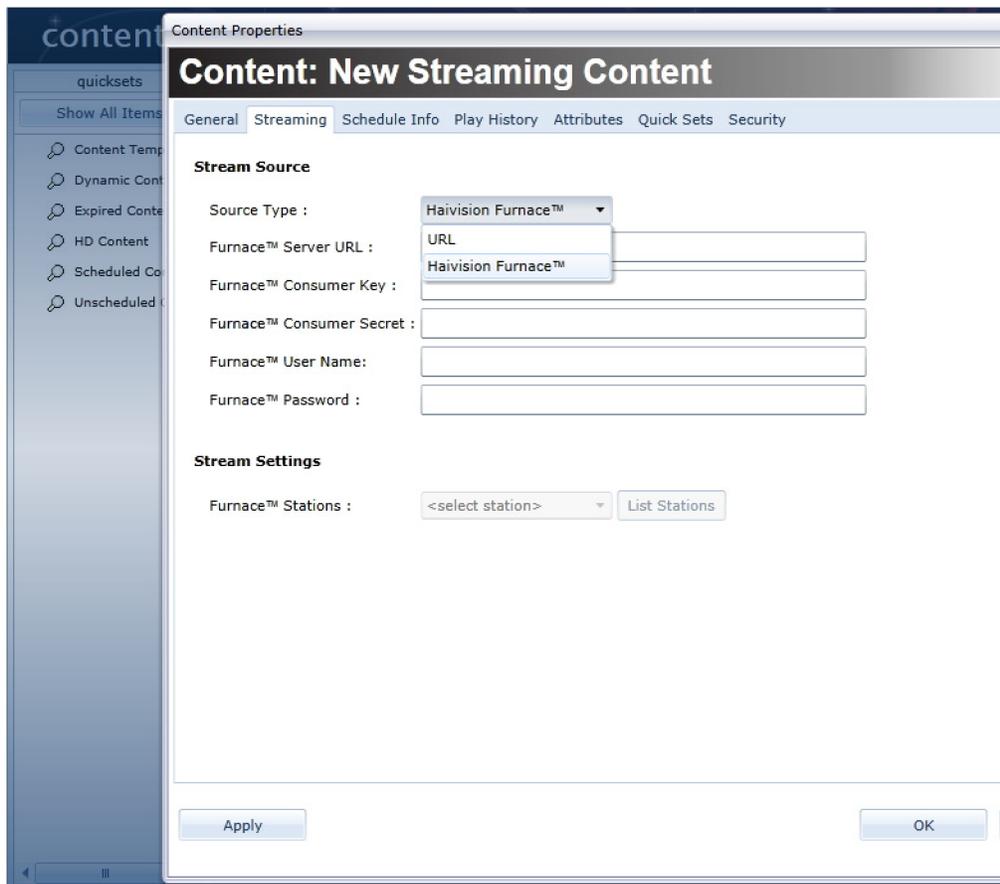
4. Provide the appropriate Furnace information in the remaining fields on the page and then click the **Apply** button.
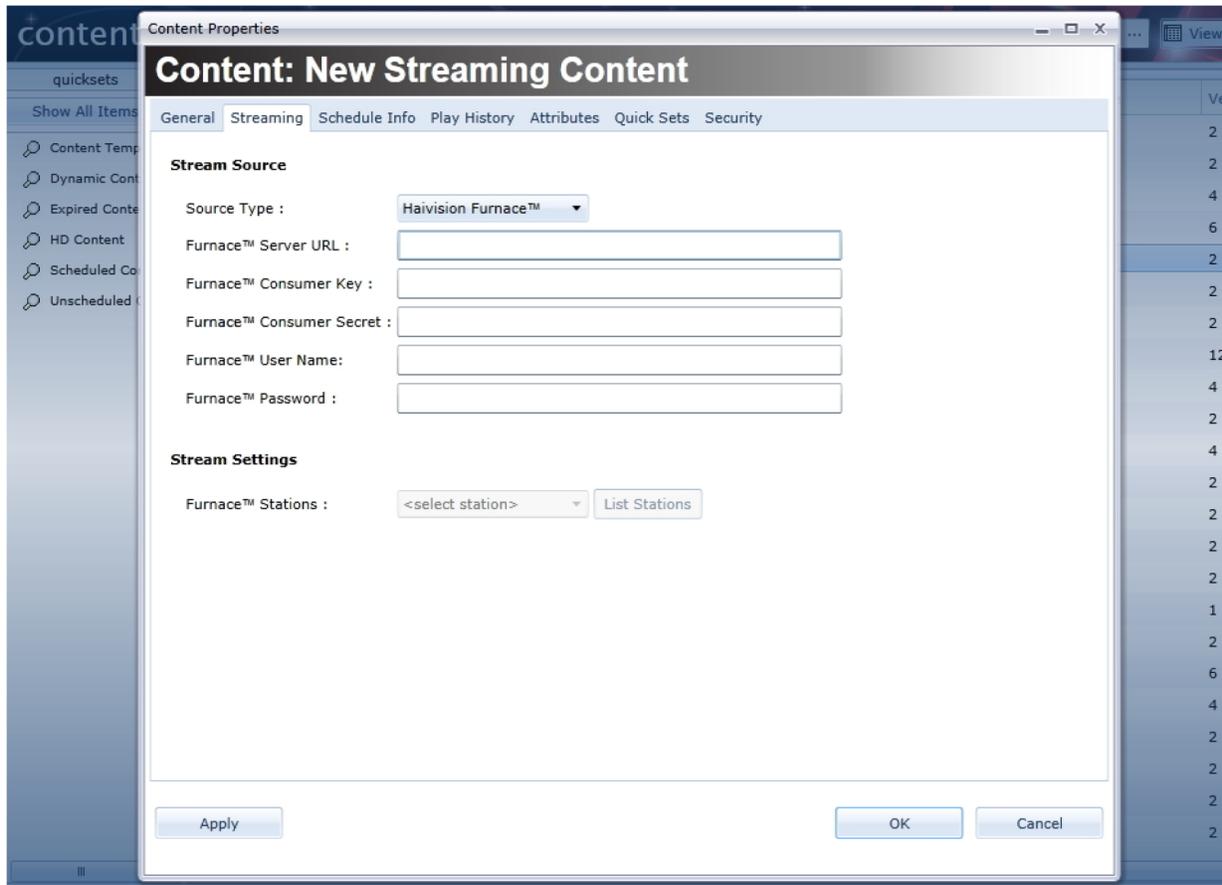
> ℹ️ **Note**
>
> This field is comprised of the UDP address and port

Content Properties

Content: New Streaming Content

General | Streaming | Schedule Info | Play History | Attributes | Quick Sets | Security

Stream Source

Source Type :	Haivision Furnace™ ▼
Furnace™ Server URL :	
Furnace™ Consumer Key :	
Furnace™ Consumer Secret :	
Furnace™ User Name:	
Furnace™ Password :	

Stream Settings

Furnace™ Stations :   `<select station>` ▼   List Stations

Apply   OK   Cancel

5. Switch to the **General** tab and define the content **Name** and **Duration** fields.
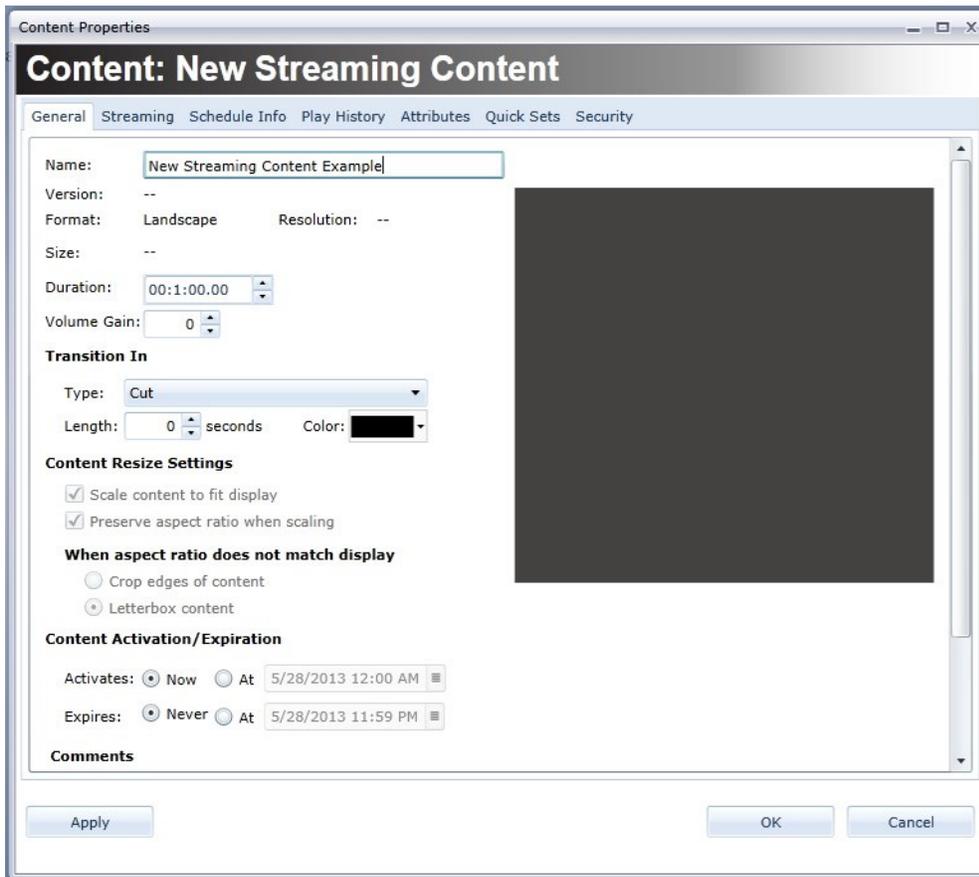
6. Click the **OK** button. At this point, the content can be scheduled into a channel like any other CoolSign content. See Adding Items to a Channel.

Streaming via a URL

This section provides instructions for configuring the Haivision Makito H.264 encoder to stream to a CoolSign Player.

- URL Setup (via Makito)
- Content Acquisition from Makito

URL Setup (via Makito)

For information on how to set up an output stream, please refer to the Makito product documentation available from the Haivision Support Portal.

- Follow the instructions in the *Makito Quick Start Guide* to power on the unit and log in to the Web Interface.
- Refer to the *Makito User's Guide* or the online help (available from the Web Interface) for instructions on how to configure a Makito Encoder to provide a stream to a CoolSign Player.

Content Acquisition from Makito

Once the Makito Encoder is configured, its output video stream can be displayed on a CoolSign Player Node across the LAN or Internet, as determined by the Network Administrator.

To stream content from a Makito source:

1. Open the Network Content Manager and click the **Content** icon in the navigation sidebar.
2. From the **Actions** menu, select the option **CREATE STREAMING CONTENT...**
3. For the **Source Type** field, use the drop-down menu to select URL.
4. In the next field, provide the Source URL information and click **Apply**.

> **ⓘ Note**
>
> This field is comprised of the UDP address and port.
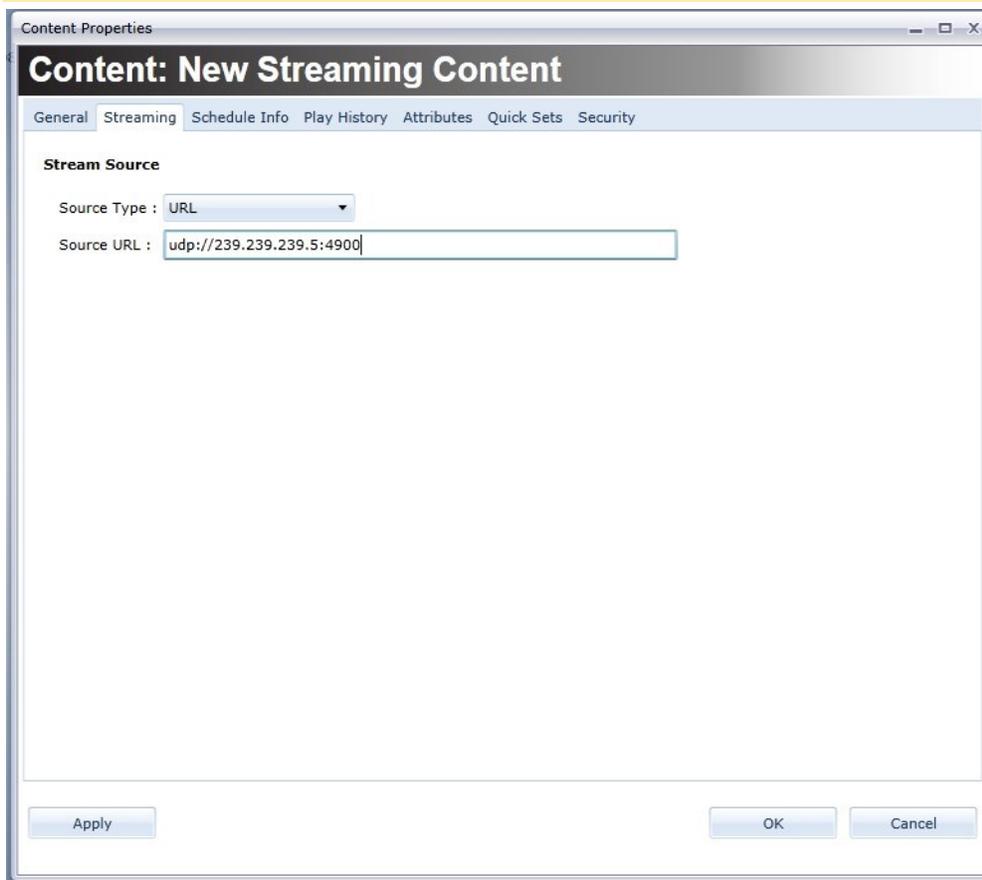
5. Switch to the **General** tab and define the content **Name** and **Duration** fields.
6. Click the **OK** button. At this point, the content can be scheduled into a channel like any other CoolSign content. See Adding Items to a Channel.

Working with Content Templates

Templates are a great way to kick start your content collection. A template allows you to produce multiple pieces of content with the same layout quickly. You use the web-based interface (WI) to create

an *instance*, or copy, of the template for editing. Then you modify that instance to create a new piece of content. Typically, modifying an instance involves updating data fields with new text and graphics.

> **ⓘ Note**
>
> Templates are created in the Content Creator tool. Refer to the **Content Creator documentation** for more information.

Locating Available Templates

> **ⓘ Note**
>
> Once a template is created with the Content Creator, it is available for use. You create an instance of the template using the web-based interface so you can modify it to create a new piece of content.

Choose the appropriate tab for the tool you are using...

Using the CoolSign Network Manager   Using the Web Interface

Using the CoolSign Network Manager

To locate a template:

1. Click the **Content** icon in the navigation sidebar to access the Content Manager. Any listing in blue is a template.
2. Click the **Content Templates** quickset filter to view only the available templates.
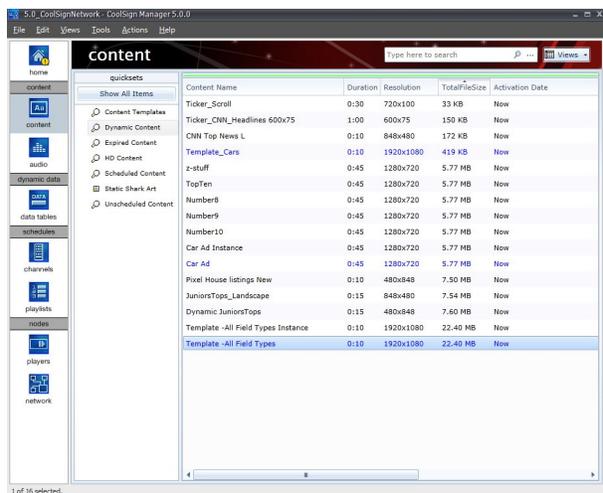
The templates are listed in blue.

3. Above the selected template, you can see an instance of that template that is listed as a piece of content (in black).

Using the Web Interface

To locate a template:

- Click the **Templates** tab along the top of the web-based interface.

Creating a Template Instance

When working with templates, you first create a new instance of the template and then modify the content elements (such as text or graphics) — not the layout. For example, a basic template might have a headline at the top of the layout with a picture beneath it. Each instance of the template could have a different heading and picture, but the layout would remain the same with the heading at the top and the picture beneath. Each instance, once modified, becomes a new piece of content that can be scheduled and played.

> ⓘ **Note**
>
> To create an instance from a template, use the web-based user interface (WI).

Using the Web Interface

To create a piece of content using a template:

1. Click the **Templates** tab.
2. Double-click the template that interests you.
3. Enter a name for this instance of the template in the **Name** field.
4. Fill out the available data fields with the text and graphics that you want.
5. Click **Create**.

The instance is now a piece of content that can be scheduled like any other content.

> ⓘ **Note**
>
> Templates are used to create only one piece of content at a time. You cannot add additional rows to the data table. If you are creating a series of ads, you must create multiple instances, modify them, and add them individually to the channel.

Editing Content that was Created from a Template

When revising data in a piece of content that you created from a template, use either the graphical user interface (GUI) or web-based interface (WI).

Choose the appropriate tab for the tool you are using...

Using the CoolSign Network Manager | Using the Web Interface

Using the CoolSign Network Manager *To edit a piece of content that was created using a template:*

1. Click the **Content** icon in the navigation sidebar.
2. Double-click the content that you want to revise.
3. In the Content Properties window, click the **Dynamic Data** tab.
4. Click on the appropriate data fields to make your revisions.
5. When finished, click **OK**.

Using the CoolSign Network Manager   Using the Web Interface

Using the Web Interface *To edit a piece of content that was created using a template:*

1. Click the **Library** tab.
2. Double-click the piece of content that you want to revise.
3. Edit the appropriate data fields to make your revisions.
4. When finished, click **Save Changes**.

Deleting a Template

> ℹ️ **Note**
>
> You use the CoolSign Network Manager graphical user interface (GUI) to delete an existing template. It is not possible to delete a template from the web-based user interface (WI).

Using the CoolSign Network Manager

To delete a template:

1. Click the **Content** icon in the navigation sidebar to open the Content Manager.
2. Locate the template that you want to delete. Use the **Content Template** quickset filter to simplify the search if necessary.
3. Right click on the listing you want to remove, and select DELETE from the pop-up menu.
4. When prompted to verify, click **Yes.**

Using the CoolSign Content Wizard

Topics Discussed

- Converting Content
- Setting Options
- Importing Content into a CoolSign Network
- Completing the Content Wizard

The CoolSign Content Wizard guides you through a series of steps to convert your digital media assets into content that can be played back on a CoolSign Digital Media Network. At any point, you can click the **Prev** button to return to previous steps.

Starting the CoolSign Content Wizard

To start the CoolSign Content Wizard:

1. From the Windows Start menu, select the CoolSign Content Wizard.

Or

1. Browse to the CoolSign directory and open the Content Wizard folder.
2. Double-click the `ContentWizard.exe` to open the tool.

Converting Content

Step 1: Choose Asset(s) to Convert

1. Determine the media assets that you want to create into CoolSign content. You can convert a single asset into CoolSign content, configure video capture, or batch convert multiple assets.
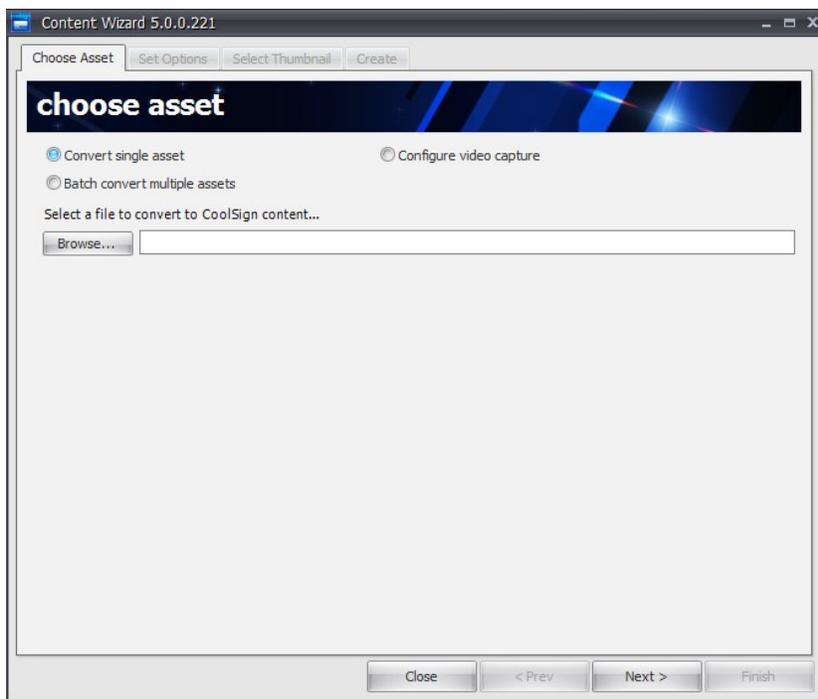
Converting Methods

- **Converting a Single Asset**
- **Configuring Video Captures**
- **Batch Converting Multiple Assests**

Converting a Single Asset

To convert a single asset into CoolSign content:

1. Select the CONVERT SINGLE ASSET radio button.
2. Click **Browse** to locate the asset file you wish to convert.

> **ℹ️ Note**
>
> If you are converting a Flash asset that needs to load external files (such as images) at run time, make sure that the external files are in the same folder as your Flash asset, or in one of its subfolders. For example:
>
> ```
>             ContentFolder\ (root folder)
>
>             ContentFolder\myFlash.swf (the asset that you're
> converting)
>
>             ContentFolder\Image\background.jpg
> ContentFolder\Image\banner.jpg
>
> ```

3. Click **Finish** to complete the content creation process.

The Content Wizard prompts you as to whether or not you want to include all files in the ContentFolder folder and its subfolders (in this example, `background.jpg` and `banner.jpg`). After you confirm your choice, the two image files are packaged with the Flash asset, resulting in a single piece of CoolSign content.

> **ⓘ Note**
>
> Do not include any unrelated files in the folder that contains your Flash assets. If the content folder (or any of its subfolders) contains any unrelated files, they are included into your content and eventually imported to the network as well.
>
> For this reason, avoid importing Flash content from the desktop. Attempting to do so causes the entire contents of your desktop to be imported as well.

Configuring Video Captures

To configure video capture:

1. Select the CONFIGURE VIDEO CAPTURE radio button.
2. Click **Browse** to locate the asset file you wish to convert.

Batch Converting Multiple Assests

To batch convert multiple assets into CoolSign content:

1. Select the **Batch convert multiple assets** radio button.

   > **ⓘ Note**
   >
   > If you select this button, you cannot include external files for a Flash asset, as described above.

2. Do one of the following:
   - Click **Add All Assets in Folder** to recursively add all the assets located in a specific folder and subfolders to the batch list.
   - Click **Add Asset** to add a single asset to the batch list.
   - Click **Remove Asset** to remove a selected asset from the batch list.
3. When you've added all the assets you want to batch convert, click **Next** to proceed to the Set Options step.

Setting Options

Step 2: Set Options

In this step, you can set properties regarding your content and preview how your content looks on different types of displays.
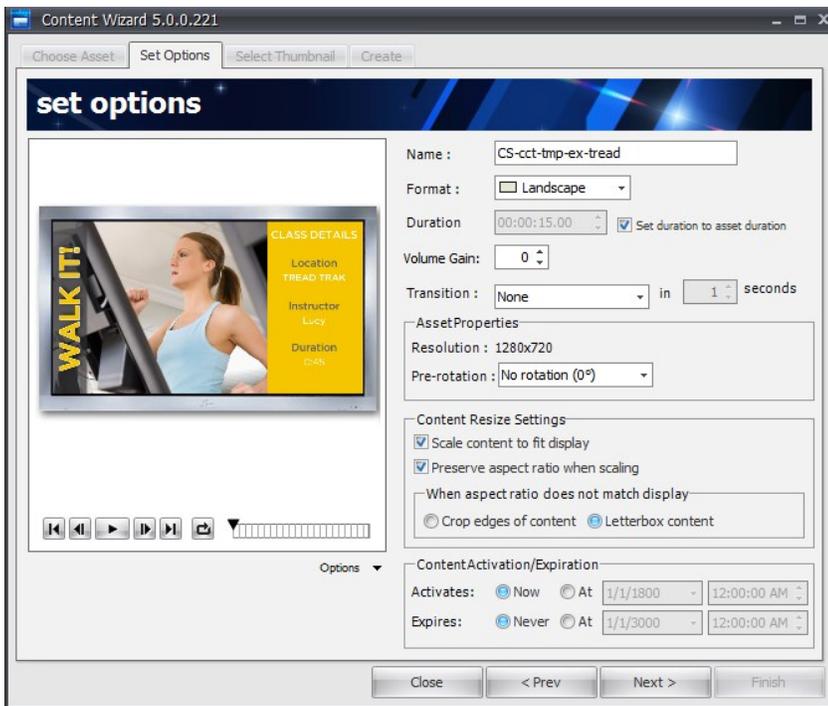
Options Include

- **Setting Content Properties**
- **Setting Asset Properties**
- **Setting Content Resize Settings**
- **Setting Content Activation and Expiration**
- **Previewing Content**
- **Copying or Moving Asset Files**
- **Selecting a Folder to Save Your Content In**

Setting Content Properties

You can set the following properties for your content:

- **Name**—Set the name of this content as you wish it to appear in the CoolSign Network Manager. The default name is the name of the imported asset.

  > **ⓘ Note**
  >
  > With multi-file Flash assets, be sure to specify a legal folder name, so that multi-file Flash content will work properly.

- **Format**—The format is automatically set based on the aspect ratio of the imported asset. You can change the format if the auto-detected value is incorrect. Once imported into CoolSign Manager, you can only schedule this content into channels with the same format.
- **Use Legacy Flash Player** (enabled only for assets that are Flash 4 or earlier)—When checked, provides backward compatibility for SWF files that are Flash 4 or earlier.
- **Duration**—You can adjust the length of time for which the content plays. If the content includes video or Flash assets, setting the duration to less than that of the video cuts off the video playing. Setting the duration to longer than that of the video asset causes the video to hold on the last

frame for the remainder of the content play. If the Set Duration to Asset Duration box is checked, the **Duration** field is greyed out.

- **Set Duration to Asset Duration**—This checkbox is enabled only when digital video or Flash assets are being converted. Checking this box automatically sets the duration of the content to match the duration of the imported asset. If the duration is set to within 0.1 of a second, it is rounded off to a the nearest second. For example, if the duration is any value between 9.90 and 10.1, it is rounded to 10 seconds. This is done to avoid unexpectedly strange values in the duration field.
- **Volume Gain**—You can use volume gain to modify the overall volume level of all video, flash, or sound assets used in the content. The value can be between -100 and 100, with 0 being the normal, unmodified volume level of the assets. You can use volume gain to normalize the volume of your content in relation to each other so that no one content item is softer or louder than the others.
- **Transition**—You can set a transition effect and duration that is used to transition into the CoolSign content when played back.

Enabling Support for Audio Alternatives

Unable to render include or excerpt-include. Could not retrieve page.

Enabling Support for Closed Captions

> **Note**
>
> Closed captioning and alternate audio are created on the video content. CoolSign extracts that information and makes it available for display.

You can enable closed captioning and alternative audio through various configurations:

- **Static** – the same settings across all players.
- **Dynamic** – different settings across various players.
- **LookUp** – where the settings are bound to a DataTable.

Use the following tabs to access appropriate instructions for your particular implementation.

Static Configuration   Dynamic Configuration   LookUp (in DataTable) Configuration

Static Configuration

This enables closed captioning and alternative audio support with the same settings for all players.

1. After creating content in Content Creator or the Content Wizard, browse to the location of your video content and open the corresponding `control.xml` file in your text editor.
2. Locate the desired asset XML block for which you want to enable CC or select an alternative audio channel.
3. If enabling closed captions, add a `<ClosedCaptions>1</ClosedCaptions>` property to the Video Asset XML block, where "1" represents the desired channel index.

4. If enabling alternative audio, add a `<AudioChannel>0</AudioChannel>` property to the Video Asset XML block, where "0" represents the desired channel index.

> **Enable Closed Captions – Static**
>
> ```xml
> <VideoProperties>
>   <AudioChannel>0</AudioChannel>
>   <ClosedCaptions>1</ClosedCaptions>
>   <File>C:\Coolsign\HomeDepot\homedepot.mp4</File>
> </VideoProperties>
> ```

5.
> ❗ **Important**
>
> If you later edit this file using the Content Properties dialog box, these attribute tags will be removed from the `Control.xml` file when the file is saved. You will have to manually edit the file to reinsert the `<ClosedCaptions>` and/or `<AudioChannel>` tags and then re-import the content via the CNM.

Static Configuration   **Dynamic Configuration**   LookUp (in DataTable) Configuration

Dynamic Configuration

This enables closed captioning and alternative audio support with different settings per player based on node attributes.

> ❗ **Important**
>
> Content must be created in Content Creator (CCT) and *not* in the Content Wizard (CW).

1. From the CoolSign Network Manager, click the **Network** icon in the sidebar.
2. In the main window, select the players (nodes) that you want to specify the closed captioning settings.
3. When finished selecting, right click and from the popup menu, select **Edit Node** Properties.
4. In the Node Properties – Multiple Nodes window, click the **Attributes** tab.
5. Click the **Define Attributes…** button.

6. In the Define Attributes dialog, click the **Add** button.

7. Scroll to the desired asset XML block for which you want to enable closed captions or alternative audio and locate the `appropriate` element.

8. As appropriate, add a `$(ClosedCaptionsDataSlotName) or $(AudioChannelDataSlotName)` property to the XML block. For example,

```
<VideoProperties>
    <File>$(DataFieldMedia1VideoFileName)</File>
    <ClosedCaptions>$(CC-PLAYER-ATTRIBUTE-NAME)</ClosedCaptions>
</VideoProperties>
```

9. In the `<DataSlots>` section of the `control.xml` file, add the following DataSlot definitions (one or both, as needed). Replace "CC-PLAYER-ATTRIBUTE-NAME" or "AUDIO-CHANNEL-PLAYER-ATTRIBUTE-NAME" with the name of the Player attribute(s) you want the content to read at playback time to figure out whether to enable CC or which audio channel to use. For example:

```
<DataSlot>
    <DefaultExpression>=GetCCAttributeValue(1,0);
      function GetCCAttributeValue(rowindex, timeoffset)
      {return GetAttributeValue("CC-ATTRIBUTE",1);}
      </DefaultExpression>
```

```
        <EvaluationFrequency>0</EvaluationFrequency>
        <Name>CC-PLAYER-ATTRIBUTE-NAME</Name>
        <Type>Text</Type>
        <UserProperties><RowIndex>1</RowIndex></UserProperties>
        <LogValue>False</LogValue>
    </DataSlot>
```

10. Save, publish, and schedule the content.
11. Using existing attribute management tools in CNM, set the desired player attribute values across your network to indicate which players should use CC and which audio channel they should select.

> ⓘ **Important**
>
> If you later edit this file using the Content Properties dialog box, these attribute tags will be removed from the `Control.xml` file when the file is saved. You will have to manually edit the file to reinsert the `<ClosedCaptions>` and/or `<AudioChannel>` tags and then re-import the content via the CNM.

Static Configuration   **Dynamic Configuration**   **LookUp (in DataTable) Configuration**

LookUp (in DataTable) Configuration

This enables closed captioning and alternative audio support with different settings as bound to a DataTable.

> **ⓘ Important**
>
> Content must be created in Content Creator (CCT) and *not* in the Content Wizard (CW).

1. Configure the content same as above, except instead of typing a specific setting value, use `$(ClosedCaptionsDataSlotName)` or `$(AudioChannelDataSlotName)` as appropriate. For example, the closed captions setting would look like:

Example

```xml
<VideoProperties>
    <File>$(DataFieldMedia1VideoFileName)</File>
    <ClosedCaptions>$(DataFieldCCChannel)</ClosedCaptions>
 </VideoProperties>
```

2. In the `<DataSlots>` section of the `control.xml` file, add the following DataSlot definitions (one or both, as needed). Replace "CC-CHANNEL-DATAFIELD-NAME" or "AUDIO-CHANNEL-DATAFIELD-NAME " with the name of the DataTable data field you want the content to read at playback time to figure out whether to enable CC or which audio channel to use. For example, assuming the dynamic content is bound to the following DataTable:

LookUp Example – Bound to a DataTable

```xml
<DataSlot>
      <DefaultExpression>=GetDataFieldCCChannelValue(1,0);
        function GetDataFieldCCChannelValue(rowindex, timeoffset)
        {
        return GetValueEx("CCChannel",rowindex,timeoffset,"");
        }</DefaultExpression>
      <EvaluationFrequency>0</EvaluationFrequency>
      <Name>DataFieldCCChannel</Name>
      <Type>Text</Type>
      <UserProperties>
          <RowIndex>1</RowIndex>
          </UserProperties>
          <LogValue>False</LogValue>
   </DataSlot>
```

3. Save, publish, and schedule the content.

> **❗ Important**
>
> If you later edit this file using the Content Properties dialog box, these attribute tags will be removed from the `Control.xml` file when the file is saved. You will have to manually edit the file to reinsert the `<ClosedCaptions>` and/or `<AudioChannel>` tags and then re-import the content via the CNM.

Setting Asset Properties

- **Resolution**—The horizontal and vertical resolution of your content in pixels.
- **Pre-rotation**—Rotation of the asset in degrees.
- **Show Transparency** (enabled only for Flash assets)—When checked, whatever areas of the Flash file were designated to be transparent are rendered with a transparent background. Checking this box has no visible effect if the Flash file contains no transparency.
- **Timeless** (enabled only for Flash assets)—When set, CoolSign Player ignores the Flash asset's timeline.

Setting Content Resize Settings

Use these settings to define how the content should be displayed on players that are of different resolution than the selected content. The preview window automatically updates to reflect the content resize settings so you can dynamically preview the options. The following options are available:

- **Scale Content To Fit**—Scales content to fit the resolution of the player the content is scheduled on. If the aspect ratio of the player does not match the content's aspect ratio, the content is stretched non-linearly to fill the player unless Preserve Aspect Ratio is checked.
- **Preserve Aspect Ratio**—Forces scaled content to preserve its original aspect ratio when played on players with different resolutions and aspect ratios than the content's. The behavior of this checkbox is further defined by the following radio buttons:
  - *Crop edges of content*—When scaling to fit, the content is scaled linearly until the smaller of the content's width or height matches the smaller of the player's width or height. This can result in pixels being cropped off the edge of the player.
  - *Letterbox content*—When scaling to fit, the content is scaled linearly until the larger of the content's width or height fits into the player's width or height. The empty area that remains is black.

Setting Content Activation and Expiration

Content can be set to activate and/or expire at a certain date and time.

- **Content Activation**—Restrict when content is available to start playing. Content can be scheduled at any time but if its activation date is set to something other than Now, it does not play until the current date and time is past the set date.
- **Content Expiration**—Automatically delete content after the specified date and time. Content that has expired is deleted from a CoolSign network, including any players it was scheduled on, and moved to the Content Recycle Bin. All schedule and play history is lost when the content expires.

Previewing Content

The Preview content window displays a preview of your content and how it looks on different display types.

Access the Preview Content window from the Options drop-down menu.
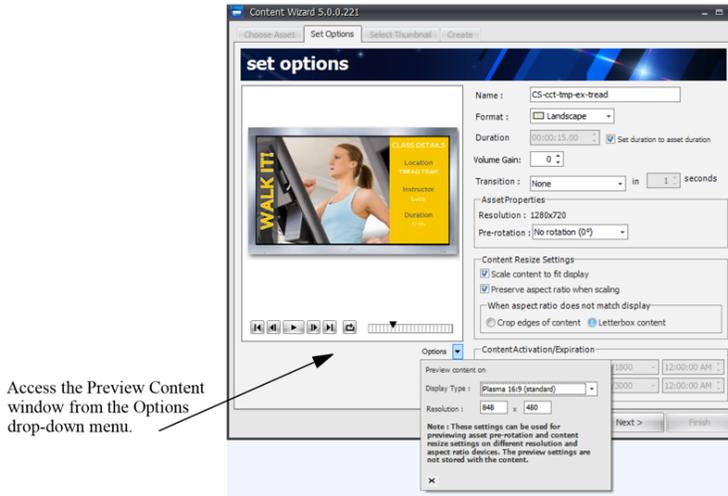
You can select different pre-defined display types or define your own custom resolutions.

> **ℹ Note**
>
> The Display type and Resolution settings are used for previewing only. They do not affect your content settings in any way.

To select a display to preview your content on:

1. Click the OPTIONS menu to open the Preview Options popup menu.
2. Do one of the following:
   - Select a pre-defined display type from the Display type pull-down menu. The appropriate resolution is automatically set and the preview window is updated to reflect your choice.
   - Enter custom x and y resolutions into the Resolution fields. The preview window is updated to reflect your values.
3. Use the transport buttons to control playback and looping of the content preview.

Step 3: Select Thumbnail

In this step, you can select a thumbnail image for your asset.
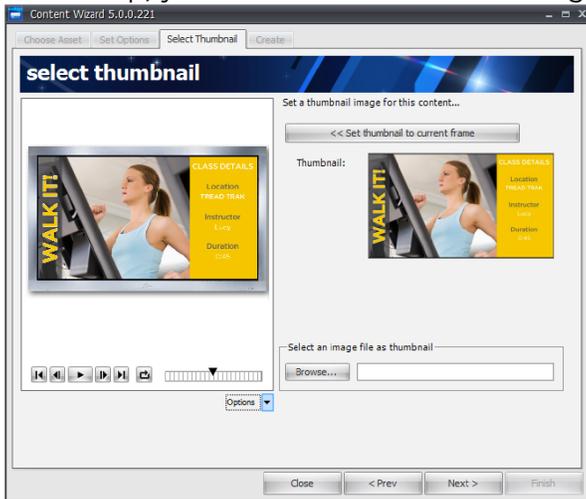
> **ℹ Note**
>
> If you are batch-converting multiple assets, a thumbnail for each content is automatically selected from a frame a few seconds from the end of the asset.

To select a thumbnail image for your content:

1. Using the content preview transport buttons or the time slider, set the preview to the frame of the asset you would like to use as a thumbnail.
2. Click **Set thumbnail to current frame** and the selected thumbnail image appears in the Thumbnail area.

or

1. Click **Browse** to locate an image file that you wish to use as a thumbnail for this asset. The image must be in one of the following formats: JPEG (**.jpg), Windows Bitmap (**.bmp), or Portable Network Graphics (*.png).
2. Use the **Options** button to preview how the thumbnail will render on a variety of monitor types at various resolutions.
3. When you're done, click **Next**.

Step 4: Create

In this step, you set the destination folder where your converted CoolSign content should be saved, along with some other settings.
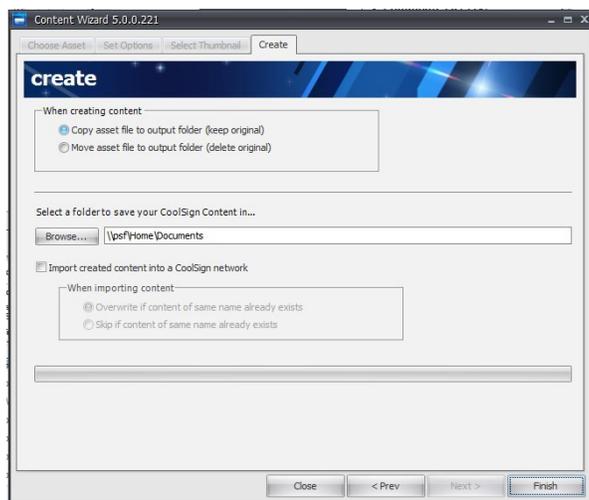
Copying or Moving Asset Files

> **ⓘ Note**
>
> You should always keep a separate backup of your original assets.

Selecting a Folder to Save Your Content In

Before you can finish converting your asset into CoolSign content, you must select a destination folder in which to save the converted content.

- To do so, click **Browse** to select a desired folder.

Importing Content into a CoolSign Network

Step 3: Import Content

1. If you want the Content Wizard to import your content directly into the CoolSign network, check the Import created content into a CoolSign network box.
2.
   > **ⓘ Note**
   >
   > To import content directly from the Content Wizard, you must have Write Content capability. For details, see "About Security" in the User's Guide.
3. When the CoolSign Manager login dialog appears, enter your user name and password and select the CoolSign network where you wish to import the content.
4. After verifying your login credentials, the Content Wizard imports the content into the CoolSign network, then disconnects you from the CoolSign network.

Completing the Content Wizard

Step 4: Complete the Content Wizard

- After completing each step in the wizard, click **Finish** to convert the selected asset(s) into CoolSign content.
  The wizard creates your content in the destination folder ready for import into a CoolSign network.

For more information, see **Managing Content** in the *user's guide*.

Managing Content

Topics Discussed

CNM provides a rich set of features to help you organize and manage the content in your CoolSign network. You can use CNM to stream, import, or update content; modify content properties like duration, transitions, scaling and volume; review play history and scheduling statistics; and even preview the content as it will appear on your CoolSign players.

Working with Content

Importing Content

Content in CoolSign must be imported into the system before it can be scheduled or played on the CoolSign players connected to your network.

To import content into your CoolSign network:

- From the Content Manager, choose **ACTIONS** > **IMPORT CONTENT** and select the content folder you wish to import. Note that you can also batch import content by selecting a folder that contains multiple content folders.

The Content Import dialog shows the progress of any current and pending content imports.

If content already exists with the same name as the content you are importing, an alert dialog will ask you if you want to replace or rename the imported content. Similarly, if the content that is importing contains a data table that is named the same as an existing data table, then a warning appears. You can then choose **Replace** or **Keep**.

If you select **Replace**, the old data table is deleted and a new data table is created, which means:

1. All the data is lost.
2. Any content currently binding to that data table will no longer have a binding table attached to it. Instead, you'll have to rebind it manually.

> ✅ **Tip**
>
> You can continue working with CNM while the import occurs in the background or you can queue up additional imports by repeating these steps.

> ✅ **Tip**
>
> You can also import content folders by dragging and dropping them from the Windows desktop directly into the Content Manager data grid or onto the Content Manager icon. You can drag multiple folders at once or drag new folders one at a time.

Importing Content

Content in CoolSign must be imported into the system before it can be scheduled or played on the CoolSign players connected to your network.

To import content into your CoolSign network:

• From the Content Manager, choose ACTIONS > IMPORT CONTENT and select the content folder you wish to import. Note that you can also batch import content by selecting a folder that contains multiple content folders.

The Content Import dialog shows the progress of any current and pending content imports.

If content already exists with the same name as the content you are importing, an alert dialog will ask you if you want to replace or rename the imported content. Similarly, if the content that is importing contains a data table that is named the same as an existing data table, then a warning appears. You can then choose "Replace" or "Keep".

If you select "Replace", the old data table is deleted and a new data table is created, which means:

1. All the data is lost.
2. Any content currently binding to that data table will no longer have a binding table attached to it. Instead, you'll have to rebind it manually.

> ✅ **Tip**
>
> Tip
> You can continue working with CNM while the import occurs in the background or you can queue up additional imports by repeating these steps.

> ✅ **Tip**
>
> You can also import content folders by dragging and dropping them from the Windows desktop directly into the Content Manager data grid or onto the Content Manager icon. You can drag multiple folders at once or drag new folders one at a time.

Using Template-Based Content

Templates are a new feature in CoolSign 5.1. Templates can only be created using the Content Creator tool (see the *Content Creator User's Guide* for more information). Several default templates are provided by default.

To use a template to create new content, you use the Web Interface (WI). See **Creating Content Based Upon a Template**.

Locating Templates Available for Use

Once a template is created with the Content Creator, it is available for use. You create an instance of the template using the web-based interface so you can modify it to create a new piece of content.
To locate a template:

1. Click the **Content** icon in the navigation sidebar to access the Content Manager. Any listing in blue is a template.
2. Click the **Content Templates** QuickSet filter to view only the available templates.
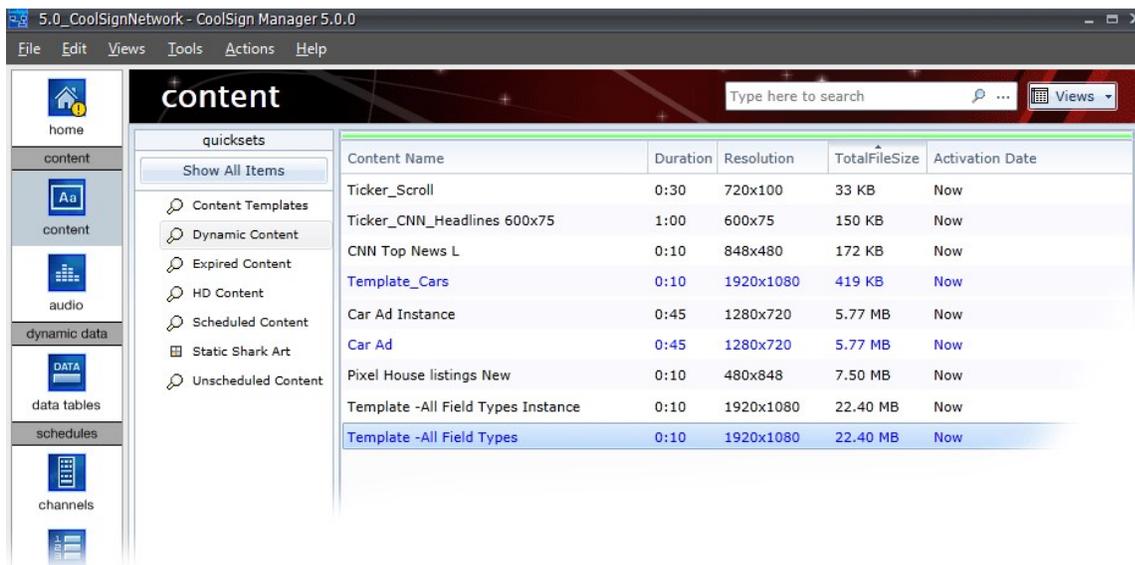
Templates are listed in blue. Above a selected template, you can see an instance of that template that is listed as a piece of content (in black).

Deleting an Existing Template

You use the CoolSign Network Manager (CNM) to delete an existing template. It is not possible to delete a template from the web-based user interface (WI).

To delete a template using CNM:

1. Click the **Content** icon in the navigation sidebar to open the Content Manager.
2. Locate the template that you want to delete. Use the **Content Template** QuickSet filter to simplify the search if necessary.
3. Right click on the listing you want to remove, and select DELETE from the pop-up menu.
4. When prompted to verify, click **Yes**.

Using Web-Page Content

You can display internet web pages on a CoolSign player.

To display web page content:

1. Open the Network Content Manager and click the **Content** icon in the navigation sidebar to open the Content screen.

2. From the **Actions** menu, select the option **CREATE WEB CONTENT...**
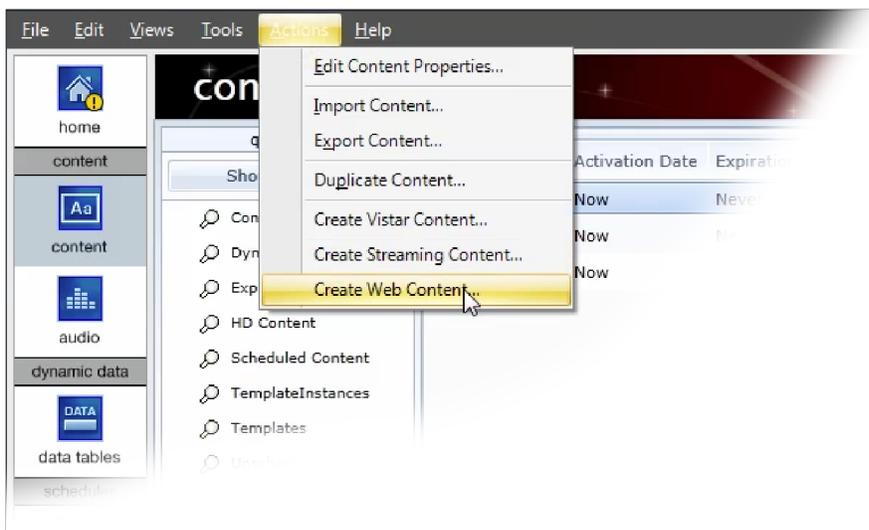
3. For the **Site URL** field, enter the internet address (URL) for the site that you want to display and click the **Apply** button.
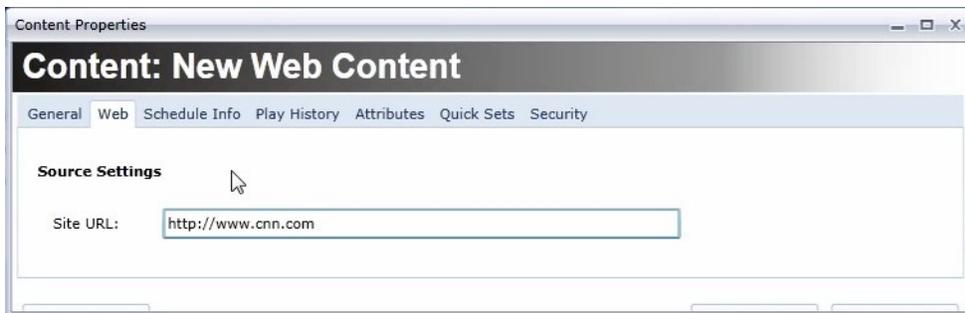
4. Switch to the **General** tab and define the content **Name** and **Duration** fields.
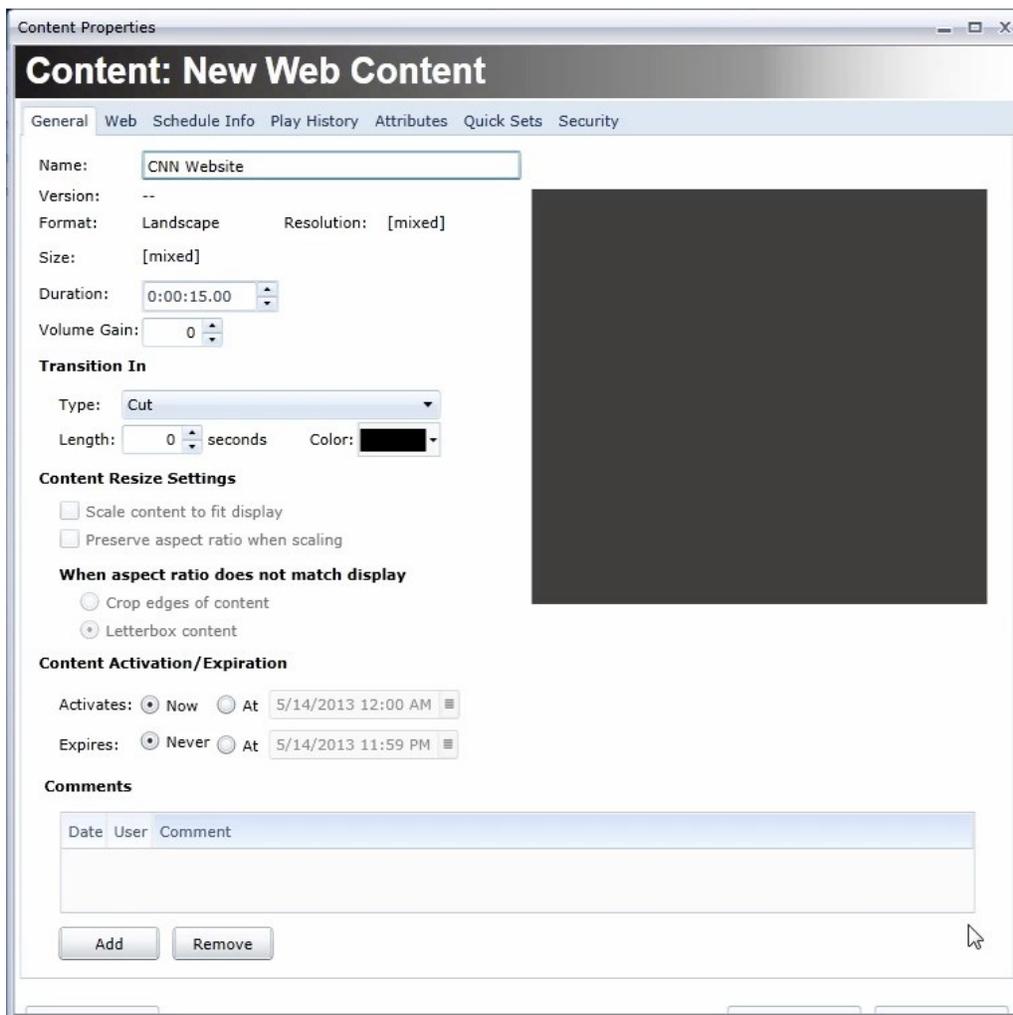
5. Click the **OK** button. The web site content will appear in the Content pane.
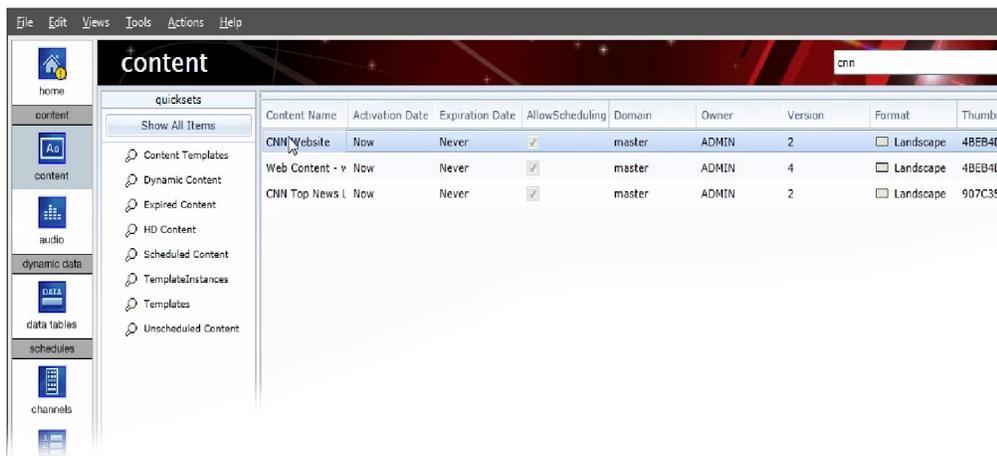
6. At this point, the content can be scheduled into a channel like any other CoolSign content. See **Adding Items to a Channel**.

Streaming Content

There are two ways to acquire streaming content:

- **Streaming Direct in CoolSign from a Furnace Device**
- **Streaming a URL in CoolSign from a Makito Device**

Streaming Direct in CoolSign from a Furnace Device

Before you can stream content from your Furnace device, you must configure it. Refer to "**Configuring Devices to Stream Content**". Make sure to make note of the following information regarding your Furnace device:

- Furnace Server URL (comprised of the UDP address and port)
- User name (with admin privileges)
- Password
- Furnace Consumer Key
- Furnace Consumer Secret

Once the Furnace Encoder is configured, its output video stream can be displayed on a CoolSign player node across the LAN or Internet, as determined by the Network Administrator.

To stream content from a Furnace source:

1. Open the CoolSign Network Manager (CNM) and click the **Content** icon in the navigation sidebar to open the Content screen.
2. From the **Actions** menu, select the option **CREATE STREAMING CONTENT...**
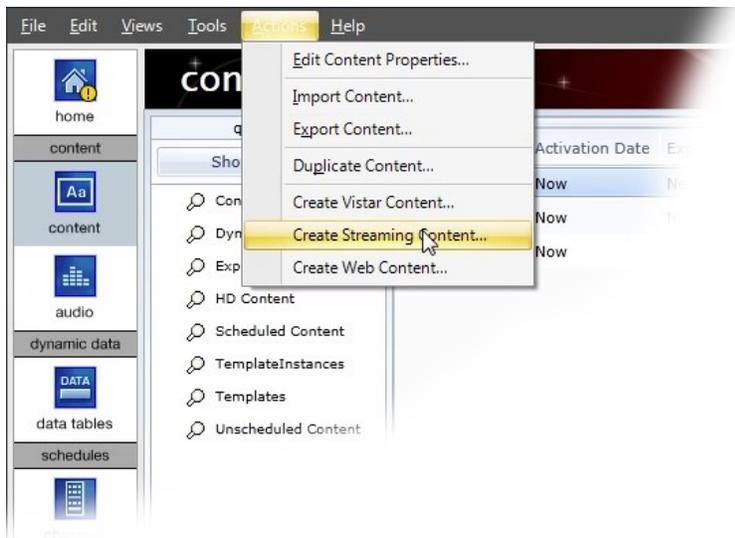
3. For the **Source Type** field, verify that the Haivision FURNACE [*Default*] drop-down menu item is selected.
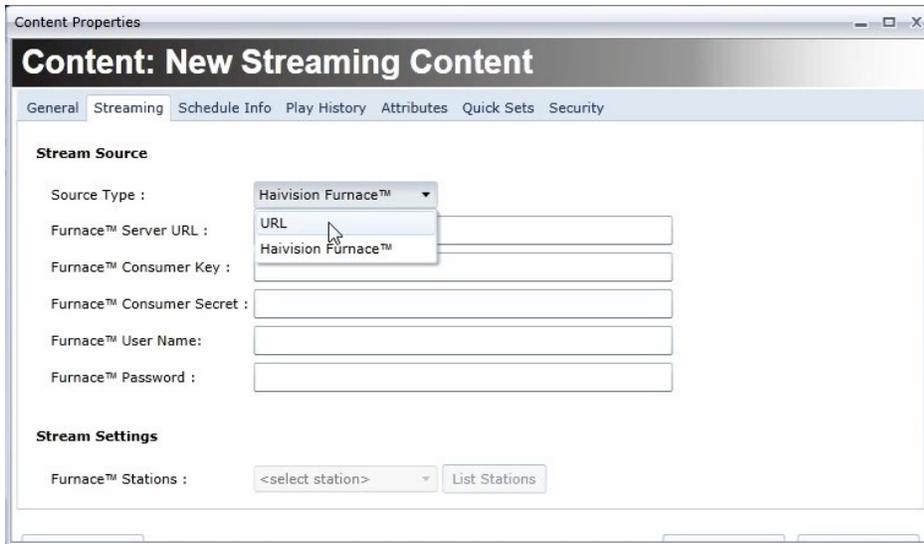
4. Provide the appropriate Furnace information in the remaining fields on the page (see "**Configuring Devices to Stream Content**") and then click the Apply button.
5. Switch to the **General** tab and define the content **Name** and **Duration** fields.
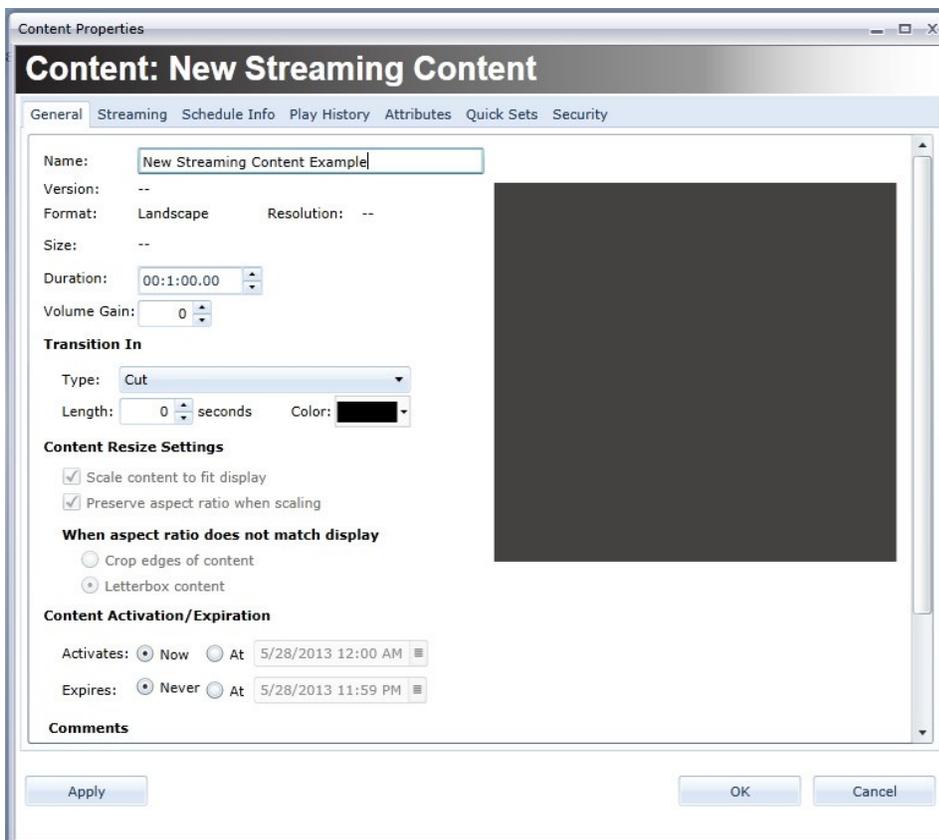
6. Click the **OK** button.

At this point, the content can be scheduled in a channel like any other CoolSign content.

Streaming a URL in CoolSign from a Makito Device

Before you can stream content from your Makito device, you must configure it. Refer to "**Configuring Devices to Stream Content**". Make sure to make note of the following information regarding your Makito device:

- Makito Source URL (comprised of the UDP address and port)

To stream content from a URL source:

1. Open the CoolSign Network Manager (CNM) and click the **Content** icon in the navigation sidebar to open the Content screen.
2. From the **Actions** menu, select the option **CREATE STREAMING CONTENT…**
3. In the Content Properties dialog window, click the **Source Type** drop-down menu and select the URL menu item.
4. Enter the **Source URL** data to which the Makito is streaming and click the **Apply** button.
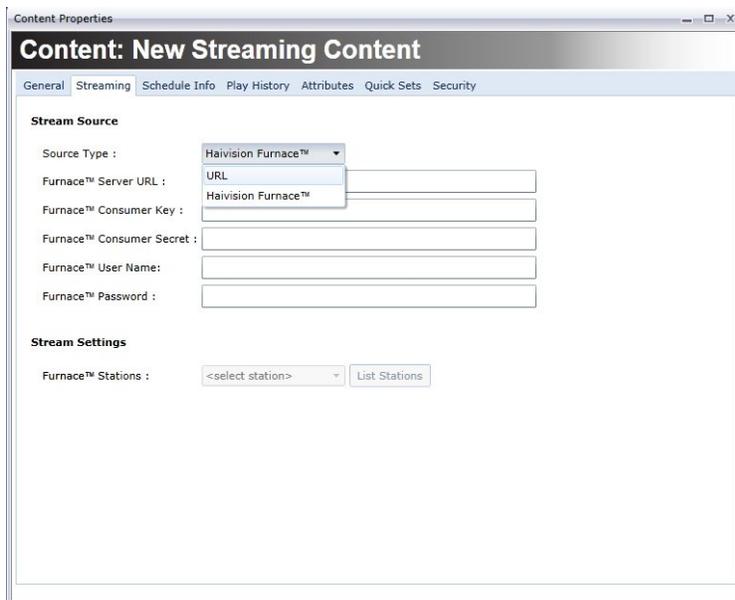
5. Switch to the **General** tab and define the content **Name** and **Duration** fields.
6. Click the **OK** button.

At this point, the content can be scheduled in a channel like any other CoolSign content.

Updating Content

Once imported, the assets within your content are locked down and can no longer be modified from within the system. If you modify either the content script or the assets within your content, you must re-import to update the existing content. If the content you are updating has been scheduled, CoolSign will automatically update the content on those players where it has been scheduled, including transferring any required files.

Exporting Content

You can export content that has been imported into CNM if you need to modify the content externally or transfer it to another network.

To export content from your CoolSign network:

1. In the Content Manager data grid, select one or more content items that you wish to export.
2. Choose **ACTIONS** > **EXPORT CONTENT**.
3. Select a destination folder from the Browse for Folder dialog.
4. Click **OK**. A content export progress dialog will appear.

> **ⓘ Important**
>
> You should always back up your content externally from CoolSign in case you experience any issues that result in loss of data or corruption.

Duplicating Content

You can duplicate content that has been imported into CNM.

To duplicate content from your CoolSign network:

1. In the Content Manager data grid, select one or more content items that you want to duplicate.
2. Choose **ACTIONS** > **DUPLICATE CONTENT** or right-click and choose **DUPLICATE CONTENT**.
3. Enter a name for the duplicated content. If you are duplicating multiple content items, a default name, Copy of [content name], is used.

Deleting Content

If you no longer plan to use a content item, you may choose to delete it from the network. Deleted content is immediately removed from any channels or playlists and ceases playback on all players where it is scheduled.

> **⚠ Warning**
>
> **Previous versions of CNM provided a recycle bin from which you could recover deleted content. This functionality is no longer available in CNM. Deleted content cannot be recovered. Be sure that you have a backup of your content outside of the system. If you want to export your content from the system before deleting, refer to Exporting Content.**

To delete content:

1. In the Content Manager data grid, select the content you want to delete. You can select multiple items.
2. Do one of the following:
   - Choose **EDIT** > **DELETE**.
   - Right-click and choose **DELETE**.
   - Press the **Delete** key on your keyboard.

Using the Content Properties Dialog

The Content Properties dialog allows you to modify certain properties of selected content and to view useful information about how your content is scheduled and how many times it has played.

To display the Content Properties dialog:

Do one of the following:

- Select the content item in the Content screen and choose **ACTIONS** > **EDIT CONTENT Properties**.
- Double-click the content item.
- Right-click on the content item and choose **EDIT CONTENT PROPERTIES**.

Editing Content Properties

> **ℹ Note**
>
> You can only modify properties of the content item itself. You cannot edit or change the individual assets used within the content. If you want to modify an asset (for example, change a bitmap or edit an MPEG-2 video), you must re-import the entire content item to replace the existing item in CoolSign.

To edit the properties of a content item:

1. From the Content Properties dialog, change one or more of the content properties.
2. Click **OK** or **Apply Changes**. Changes are immediately applied to the selected content and on any players where the content is scheduled.

> **ℹ Note**
>
> Content is only updated on players that are currently online. If a player is offline, it will automatically receive any updates to modified content as soon as it comes back online.
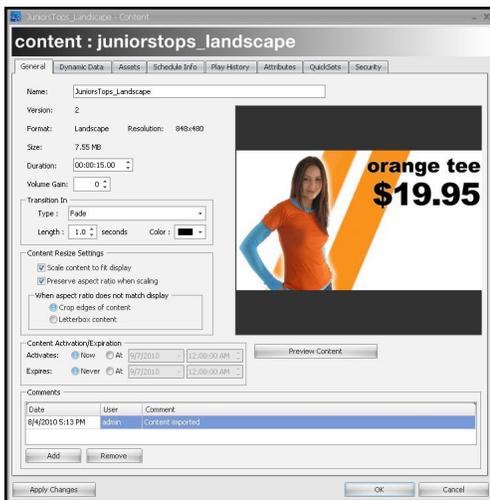
In the Content Properties dialog, the General tab allows you to view and/or modify the following properties of the selected content:

- **Name**—The content's name is used wherever the content is referred to, including playlogs and scheduled items.
- **Version**—Each time the content is modified or updated, the version number is incremented.

- **Format**—Displays the player format that this content was authored for. Content can only be scheduled in regions that match their format. This value cannot be modified.
- **Resolution**—Displays the pixel height and width at which the content was authored.
- **Size**—Displays the total size of the content including all its assets.
- **Duration**—Use this property to adjust the length of time for which the content plays. If the content includes video or flash assets, setting the duration to less than the video's duration will cut off the video playing. Setting the duration to longer than a video asset's duration will cause the video to hold on the last frame for the remainder of the content play. When the content contains a data panel and is set to Auto-fit duration, the duration cannot be adjusted and will display "Dynamic duration". The duration is determined by the number of rows of its binding data table.
- **Volume Gain**—Use volume gain to modify the overall volume level of all video, flash, or sound assets used in the content. The value can be between -100 and 100 with 0 being the normal, unmodified volume level of the assets.

> **ℹ Note**
>
> You can adjust the overall volume of player from the Player Properties dialog. You only need to adjust the volume gain if you want to "normalize" the volume of a content item relative to the other content.

> **❗ Warning**
>
> You can only control the volume of SWF files that are version 8 or older. With SWF version 9 files, it is not possible to control the player volume from CoolSign.

- **Transition**—Allows you to set the effect that is used to transition from the previously playing content into the selected content. In general, transitions first change to the transition color and then into the next content item. (If the transition type is FadeToBG, Cut, or CrossFade, the color property is ignored.)
- **Transition Length**—Use to set the number of seconds in which the transition will occur (defaults to one second).

Setting Content Resize Properties

In the Content Properties dialog, you use the Content Resize settings to define how the content should be displayed on players. The options are as follows:

- **Scale content to fit**—Scales content to fit the resolution of the player the content is scheduled on. If the aspect ratio of the player does not match the content's aspect ratio, the content is stretched non-linearly to fill the player unless Preserve Aspect Ratio is checked.
- **Preserve aspect ratio**—Forces scaled content to preserve its original aspect ratio when played on players with different resolutions and aspect ratios than that of the content. The behavior of this checkbox is further defined by the following radio buttons:
- **Crop edges of content**—When scaling to fit, the content is scaled linearly until the smaller of the content's width or height matches the smaller of the player's width or height. This may result in pixels being cropped off the edge of the player.
- **Letterbox content**—When scaling to fit, the content is scaled linearly until the larger of the content's width or height fits into the player's width or height. The empty area that remains will be black.

The following images show how a 320x240 MPEG-1 on a 848x480 display screen would appear with the different available content resize settings:

As a general rule, you should turn on **Scale content to fit display** and turn off **Preserve aspect ratio**. This ensures that the content always fills the screen regardless of the resolution and aspect ratio of the display device you are using.

Setting Content Expiration and Activation

You can use the content activation and expiration properties to globally control when content is enabled to play across all of your channels and players.

Choose the appropriate tab for your needs:

Content Activation   Content Expiration

Content Activation

You can use content activation to set a date and time when the content should be enabled to start playing.

> ✅ **Tip**
>
> You can use content activation if you want to schedule some content immediately so it is transferred to your players but you don't want it to start playing until a specific date and time. Content activation allows you to control the activation date globally across all channels and playlists, instead of within each individual schedule.

To set the activation date of content:
1. Click the **Activates At** radio button.

2. Click the **Activation Date Editor** to edit the activation date at which the content can start playing.

To set content to be active now:

- Click the **Activates Now** radio button.

Content Activation   **Content Expiration**

Content Expiration

You can use content expiration to set a global date and time for your content to stop playing everywhere regardless of its scheduling properties. When content expires it is automatically removed from all channels and playlists across your network.

To set the expiration date of content:

1. Click the **Expires At** radio button.
2. Click the **Expiration Date Editor** to edit the expiration date at which the content should stop playing.

To set content to never expire:

- Click the **Expires Never** radio button.

> ❗ **Important**
>
> In CoolSign 4.0, expired content is not automatically deleted but is displayed in the Content Manager in red to indicate that it is expired. If you want to remove the expired content, you must manually delete it.

Previewing Content for Playback

You can preview your content as it will play back in a CoolSign player directly from the Content Properties dialog.

To preview content:

- In the Content Properties dialog, click the **Preview Content** button.

> ℹ **Note**
>
> When you first preview a content item, the asset files required for that content are transferred from the CoolSign Network Controller and cached in a temporary folder in your CNM installation directory. When you preview a portion of dynamic content binding to a data table, that contains more than 20 rows, you can only preview the first 20 rows.

> ⚠ **Warning**
>
> Content preview is only supported on PCs that meet the minimum requirements for a CoolSign player. Older PCs or unsupported video cards may not be capable of content previewing.

Setting the Thumbnail Image for Content

You can set the thumbnail image displayed in the Content Manager grid and in the Content Properties dialog when you are previewing the content.

To set the thumbnail for content:

1. In the Content Properties dialog, click the **Preview Content** button.
2. Use the preview content transport controls to pause the preview on the frame you want to use for your thumbnail. You can use the frame advance and rewind buttons to fine-tune the frame to use.
3. Click the **Set Thumbnail to Current Frame** button.

Adding Comments to Content

You can add comments to any content item if you want to track additional information about the content. When you add a comment, the user who entered the comment and a timestamp is automatically added.

To add a comment:

- Click the **Add** button beneath the comments grid and enter your comment into the field provided.

To remove a comment:

- Select the comment in the comments grid and click the **Remove** button.

Viewing Information About Content

You can use the Content Properties dialog to view information about your content. For example, you can review where your content is scheduled, any issues that the content may be having, and retrieve play history reports for the content.

- **Viewing Where Content is Scheduled**
- **Retrieving Play History for Content**
- **Using the Attributes Tab**
- **Using Enabling Expressions**

Viewing Where Content is Scheduled

You can quickly view all the channels and players where a selected piece of content is scheduled from the Schedule Info tab of the Content Properties dialog.
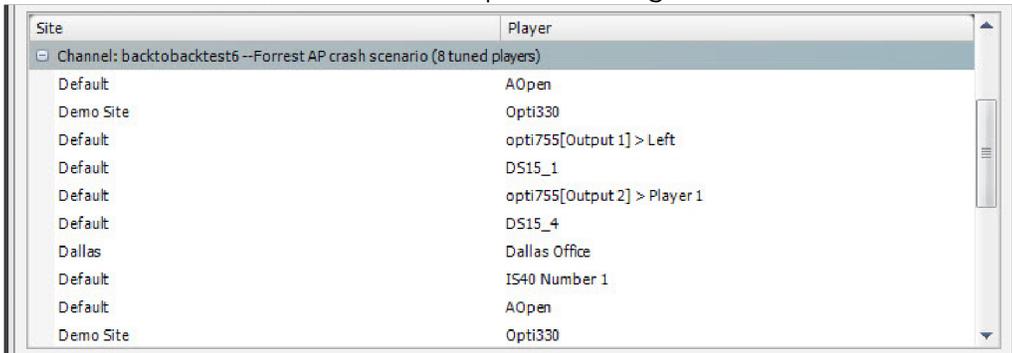
Retrieving Play History for Content

You can retrieve the play history of one or more selected content items from the Play History tab of the Content Properties dialog. Play history provides a summary of the number of times a piece of content has played on each player it is scheduled over a period of time.
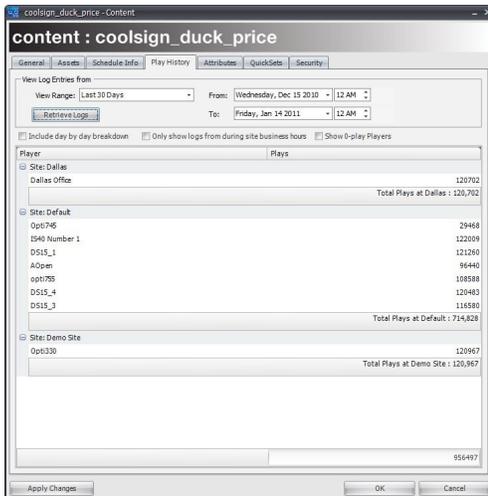
To retrieve the play history for content:

1. From the Play History tab of the Content Properties dialog, select the View Range for which you wish to retrieve the content's play history. Alternatively, you can manually enter the From and To dates, using the date and time editors.
2. Set one or more of the following options:
   - To include daily play summaries, check **Include day by day breakdown**.
   - To only show plays that occurred while the site was open, check **Only show logs from during site business hours**. This option can also significantly increase the amount of time required to retrieve the logs.

> ✅ **Tip**
>
> For more information on sites and defining site business hours, see **Setting the Hours for a Site**.

To show all the players on your network, including those on which the content didn't even play, check "Show 0-play Players".

- Click the **Retrieve Logs** button.

> **ℹ Note**
>
> Retrieving playlogs for view ranges of over a week or for large networks can sometimes take a few minutes to complete.

To export the play history logs to a file:

1. Right-click on the column header of the Play History grid and choose **SAVE GRID DATA TO FILE...**
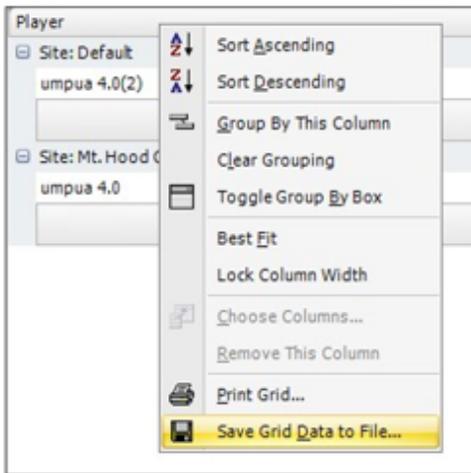
2. In the Export to File settings dialog, select the File format you would like to export to and set any available options.
3. Click **OK**.

To print the play history logs:

- Right-click on the column header of the Play History grid and choose **PRINT GRID...**

Using the Attributes Tab

You can define your own custom attributes for content if you want to track specific information with each content item. For example, you may want to add a Client field so you can track the name of the client within a media advertising network. Attribute fields can be displayed within your views in the Content Manager and used within searches or QuickSearches.

Using Enabling Expressions

> **ℹ Note**
>
> Attributes can only be used to help organize and manage content within CNM. You cannot access the attributes as dynamic data or to display within content playback.

To add an Attribute to content:

1. From the Content Properties dialog, click the **ATTRIBUTES** tab.
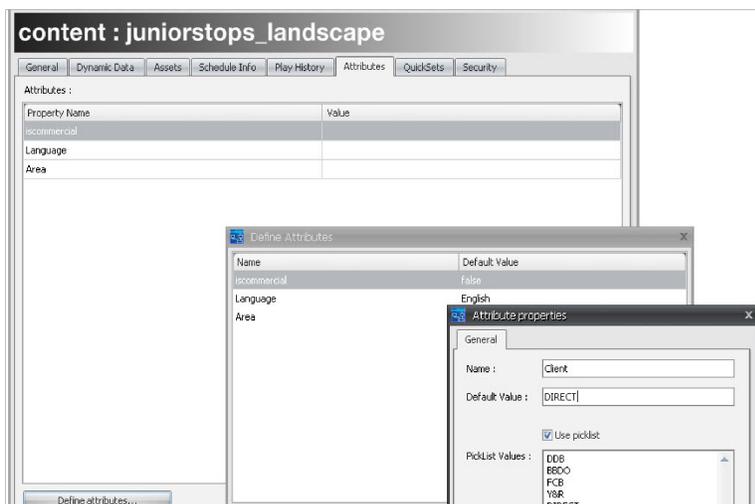
2. From the **ATTRIBUTES** tab on any Content Properties dialog, click the **Define Attributes** button.
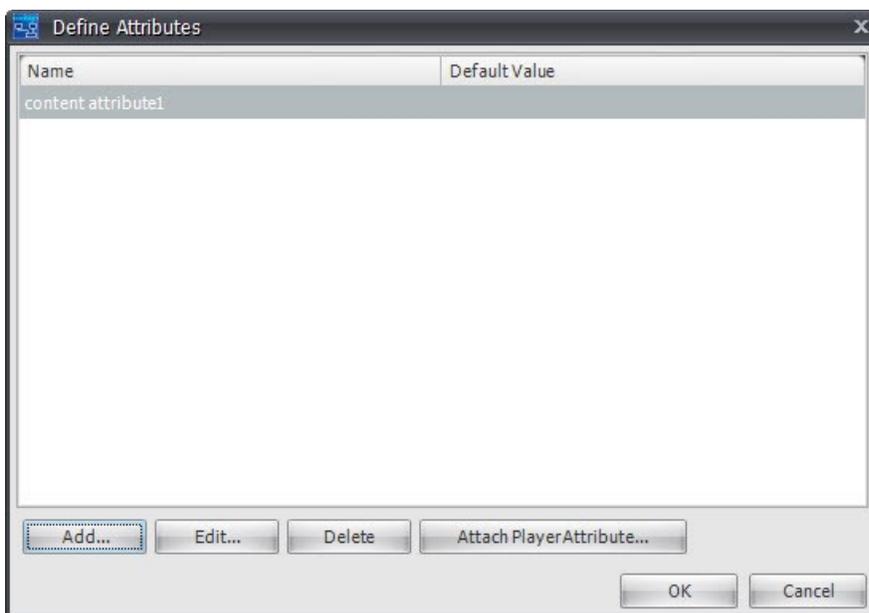
3. In the subsequent Attributes dialog, click the **Add** button to open a blank Attribute Properties dialog.
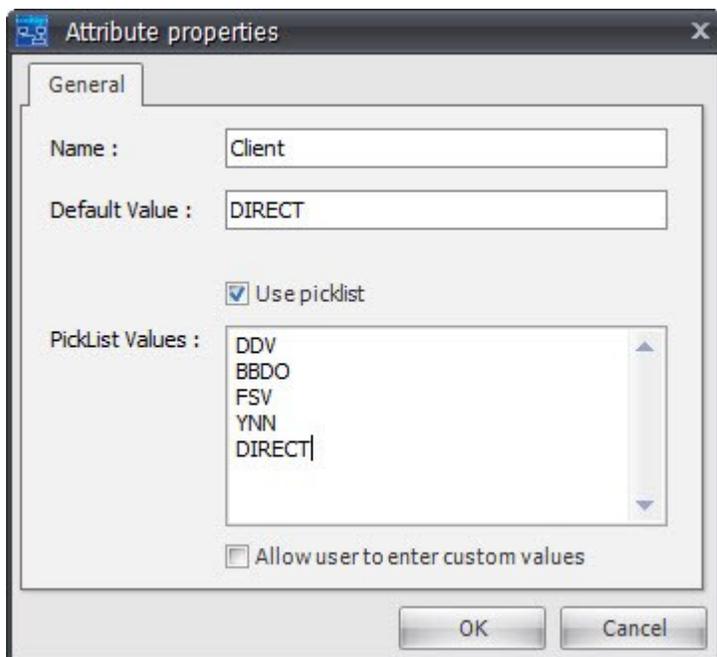
4. Type a name for the new Attribute.
5. Set one or more of the following options:
   • If you want to restrict the options available for input, click the **Use picklist** checkbox.
   • Enter one or more lines of text into the PickList box. Each line of text will appear as an option in the picklist when editing a user field.
6. If you want to let users enter their own data in addition to being able to choose from the options in your picklist, click the **Allow user to enter custom values** checkbox. Click **OK**. The new Attribute will be added to all existing and new content.

To attach a player Attribute:

   • If you want an attribute on your content to match the schema of an attribute on your player, you can attach the existing player attributes instead of re-defining it as a new content attribute. This is helpful if you are comparing the values of both attributes in an enabling expression, for example, and you want to make sure the schema for both attributes always matches.

To edit the value of a custom Attribute for content:

1. From the **ATTRIBUTES** tab of the Content Properties dialog, edit one or more of the Attributes.
2. Click **OK** or **Apply Changes** to save your changes.

Working with Dynamic Content

Dynamic content is content that is defined with one or more placeholder fields that can be filled with data from a CoolSign DataTable when the content is played back. You can use dynamic content to update information or assets within content without needing to modify the original content assets or script. For example, you can create dynamic content that displays the current weather and updates instantly when weather conditions change. Or you can create dynamic content that displays product descriptions, prices, and even pictures.

Sample dynamic content
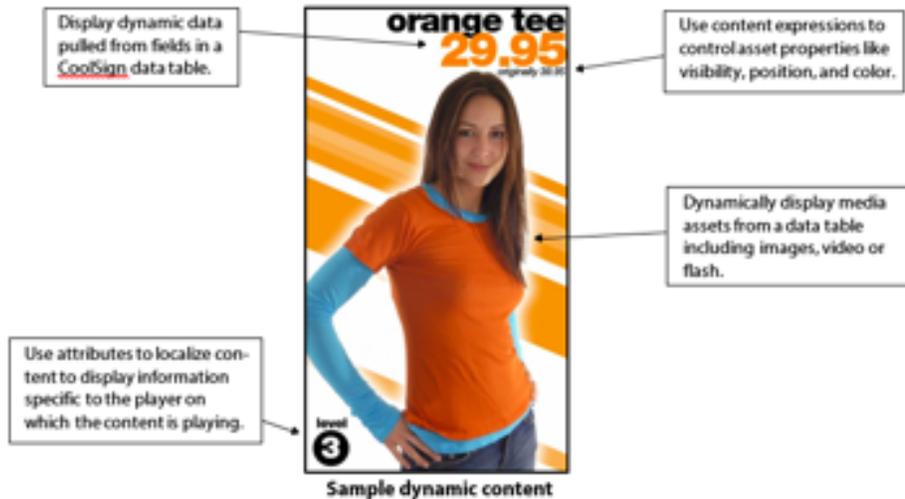
For more information on dynamic data, see "About Dynamic Data."

About the Dynamic Data tab

When you are editing the properties of dynamic content, the Content Properties dialog includes a Dynamic Data tab in which you can view the current data table binding for dynamic content. You can use the Dynamic Data tab to change data table bindings, edit static bindings, and modify advanced data slot properties like enabling data slot logging.

Binding Dynamic Content to DataTables

Content that references the data in a DataTable is said to be "bound" to the DataTable. Binding content to a DataTable lets CoolSign know that the DataTable is required wherever that content is scheduled.

When you import content created using CoolSign Content Creator, an empty DataTable for the content will be created, if it doesn't already exist, and the content will be automatically bound to the DataTable.

In CNM, you can use the Content Properties dialog to bind the content to a different DataTable.

To bind dynamic content to a DataTable:

1. From the Content page, open the Content Properties dialog by right-clicking the desired item or clicking **ACTIONS** > **EDIT CONTENT PROPERTIES**, or simply double-click the item's name in the list.
2. From the Content Properties dialog for your content, select the **Dynamic Data** tab.
3. Choose the DataTable you wish to bind your content to from the WATCH DATABASE pull-down menu.

> **ⓘ Note**
>
> The pull-down menu only lists DataTables that match the field structure defined within the content. If you want to bind the content to a DataTable that doesn't appear in the list, click the **Show All DataTables** checkbox to list all the DataTable in your network.

> **⬥ Warning**
>
> Binding content to a DataTable that doesn't contain fields required by the content usually results in a content error when trying to play back the content.

4. Click **OK** or **Apply Changes**.

> **ⓘ Note**
>
> You can override DataTable bindings when you schedule so that the same piece of content can be bound to different DataTables depending on where it is scheduled. For more information on overriding DataTable bindings at schedule time, see "Overriding Dynamic Data Settings".

Enabling Data Slot Logging

CoolSign content uses data slots to internally connect data fields to fields within a bound data table. Normally, you don't need to worry about the properties of a data slot, because CNM complexity from you. However, there is one option for the properties of a data slot that can be useful to enable under certain conditions: data slot logging. By default, the detailed play logs for a player only include when and why content played. For dynamic content, you can also track the value of one or more of the dynamic data fields used in the content. With this feature enabled, you can retrieve a full audit history for your dynamic content including the actual values of any data at the time of each play.

For more information on retrieving detailed play logs, see "Viewing Detailed Play Logs for a Player."

To enable data slot logging:

1. From the DYNAMIC DATA tab, click Edit Advanced Properties.
2. For each data slot that you want to log data, check **Log Data**.
3. Click **OK**.

> ℹ **Note**
>
> Logging data slot values can dramatically increase the size of your play history logs. You should only enable data slot logging if you need an audit history for the dynamic content.

Using Closed Captions and Alternative Audio

> ℹ **Note**
>
> Closed captioning and alternate audio are created on the video content. CoolSign extracts that information and makes it available for display.

You can enable closed captioning and alternative audio through various configurations:

- **Static** – the same settings across all players.
- **Dynamic** – different settings across various players.
- **LookUp** – where the settings are bound to a DataTable.

Use the following tabs to access appropriate instructions for your particular implementation.

Static Configuration   Dynamic Configuration   LookUp (in DataTable) Configuration

Static Configuration

This enables closed captioning and alternative audio support with the same settings for all players.

1. After creating content in Content Creator or the Content Wizard, browse to the location of your video content and open the corresponding `control.xml` file in your text editor.

2. Locate the desired asset XML block for which you want to enable CC or select an alternative audio channel.
3. If enabling closed captions, add a `<ClosedCaptions>1</ClosedCaptions>` property to the Video Asset XML block, where "1" represents the desired channel index.
4. If enabling alternative audio, add a `<AudioChannel>0</AudioChannel>` property to the Video Asset XML block, where "0" represents the desired channel index.

Enable Closed Captions – Static

```
<VideoProperties>
  <AudioChannel>0</AudioChannel>
  <ClosedCaptions>1</ClosedCaptions>
  <File>C:\Coolsign\HomeDepot\homedepot.mp4</File>
</VideoProperties>
```

5. ❗ **Important**

   If you later edit this file using the Content Properties dialog box, these attribute tags will be removed from the `Control.xml` file when the file is saved. You will have to manually edit the file to reinsert the `<ClosedCaptions>` `and/or` `<AudioChannel>` tags and then re-import the content via the CNM.

Static Configuration   **Dynamic Configuration**   LookUp (in DataTable) Configuration

Dynamic Configuration

This enables closed captioning and alternative audio support with different settings per player based on node attributes.

❗ **Important**

Content must be created in Content Creator (CCT) and *not* in the Content Wizard (CW).

1. From the CoolSign Network Manager, click the **Network** icon in the sidebar.
2. In the main window, select the players (nodes) that you want to specify the closed captioning settings.
3. When finished selecting, right click and from the popup menu, select **Edit Node** Properties.
4. In the Node Properties – Multiple Nodes window, click the **Attributes** tab.
5. Click the **Define Attributes...** button.

6. In the Define Attributes dialog, click the **Add** button.

7. Scroll to the desired asset XML block for which you want to enable closed captions or alternative audio and locate the `appropriate` element.

8. As appropriate, add a `$(ClosedCaptionsDataSlotName)` or `$(AudioChannelDataSlotName)` property to the XML block. For example,

```
<VideoProperties>
    <File>$(DataFieldMedia1VideoFileName)</File>
    <ClosedCaptions>$(CC-PLAYER-ATTRIBUTE-NAME)</ClosedCaptions>
</VideoProperties>
```

9. In the `<DataSlots>` section of the `control.xml` file, add the following DataSlot definitions (one or both, as needed). Replace "CC-PLAYER-ATTRIBUTE-NAME" or "AUDIO-CHANNEL-PLAYER-ATTRIBUTE-NAME" with the name of the Player attribute(s) you want the content to read at playback time to figure out whether to enable CC or which audio channel to use. For example:

```
<DataSlot>
    <DefaultExpression>=GetCCAttributeValue(1,0);
       function GetCCAttributeValue(rowindex, timeoffset)
       {return GetAttributeValue("CC-ATTRIBUTE",1);}
       </DefaultExpression>
```

```
    <EvaluationFrequency>0</EvaluationFrequency>
    <Name>CC-PLAYER-ATTRIBUTE-NAME</Name>
    <Type>Text</Type>
    <UserProperties><RowIndex>1</RowIndex></UserProperties>
    <LogValue>False</LogValue>
</DataSlot>
```

10. Save, publish, and schedule the content.
11. Using existing attribute management tools in CNM, set the desired player attribute values across your network to indicate which players should use CC and which audio channel they should select.

> ⓘ **Important**
>
> If you later edit this file using the Content Properties dialog box, these attribute tags will be removed from the `Control.xml` file when the file is saved. You will have to manually edit the file to reinsert the `<ClosedCaptions>` and/or `<AudioChannel>` tags and then re-import the content via the CNM.

Static Configuration   Dynamic Configuration   **LookUp (in DataTable) Configuration**

LookUp (in DataTable) Configuration

This enables closed captioning and alternative audio support with different settings as bound to a DataTable.

> **❗ Important**
>
> Content must be created in Content Creator (CCT) and *not* in the Content Wizard (CW).

1. Configure the content same as above, except instead of typing a specific setting value, use `$(ClosedCaptionsDataSlotName)` or `$(AudioChannelDataSlotName)` as appropriate. For example, the closed captions setting would look like:

Example

```
<VideoProperties>
   <File>$(DataFieldMedia1VideoFileName)</File>
   <ClosedCaptions>$(DataFieldCCChannel)</ClosedCaptions>
</VideoProperties>
```

---

2. In the `<DataSlots>` section of the `control.xml` file, add the following DataSlot definitions (one or both, as needed). Replace "CC-CHANNEL-DATAFIELD-NAME" or "AUDIO-CHANNEL-DATAFIELD-NAME " with the name of the DataTable data field you want the content to read at playback time to figure out whether to enable CC or which audio channel to use. For example, assuming the dynamic content is bound to the following DataTable:

LookUp Example – Bound to a DataTable

```
<DataSlot>
    <DefaultExpression>=GetDataFieldCCChannelValue(1,0);
       function GetDataFieldCCChannelValue(rowindex, timeoffset)
       {
       return GetValueEx("CCChannel",rowindex,timeoffset,"");
       }</DefaultExpression>
    <EvaluationFrequency>0</EvaluationFrequency>
    <Name>DataFieldCCChannel</Name>
    <Type>Text</Type>
    <UserProperties>
        <RowIndex>1</RowIndex>
        </UserProperties>
        <LogValue>False</LogValue>
   </DataSlot>
```

---

3. Save, publish, and schedule the content.

> ❶ **Important**
>
> If you later edit this file using the Content Properties dialog box, these attribute tags will be removed from the `Control.xml` file when the file is saved. You will have to manually edit the file to reinsert the `<ClosedCaptions>` `and/or` `<AudioChannel>` tags and then re-import the content via the CNM.

Managing Audio

Topics Discussed

- **Creating Audio Content**
- **Editing Audio Content Properties**
- **Viewing Information about Audio Content**
- **Scheduling and Playing Audio Content**
  - **Batch Import Audio**
  - **Make a Playlist**

In addition to the Content page, CNM includes a specialized manager page for working with audio-only content. If you plan to use CoolSign to drive an audio-only player or create a special audio region on a player, you can use the Audio page to import and manage audio content. The Audio page lets you organize your audio content using the more intuitive categories of Artist, Title, and Album instead of a single content name.

Creating Audio Content

> ℹ️ **Note**
>
> The Audio manager currently only supports MP3 files with ID3v1 tags. Certain applications (notably iTunes) only apply IDv2 tags, requiring you to use a third-party application to set the ID3v1 on the file.
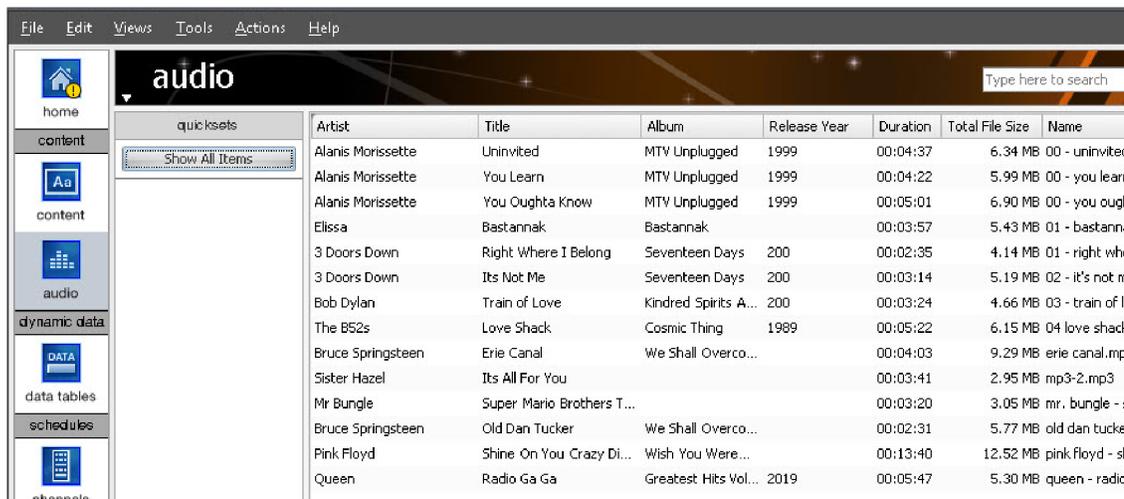
To create audio content:

1. Choose **ACTIONS** > **IMPORT AUDIO**.
2. Select an MP3 file using the file browser dialog.
3. Click **OK** to import the MP3 and create audio content.

> ✅ **Tip**
>
> You can also directly import MP3 files by dragging and dropping them from the desktop into the Audio page grid.

Editing Audio Content Properties

You can edit the properties of audio content on the Audio Properties dialog.
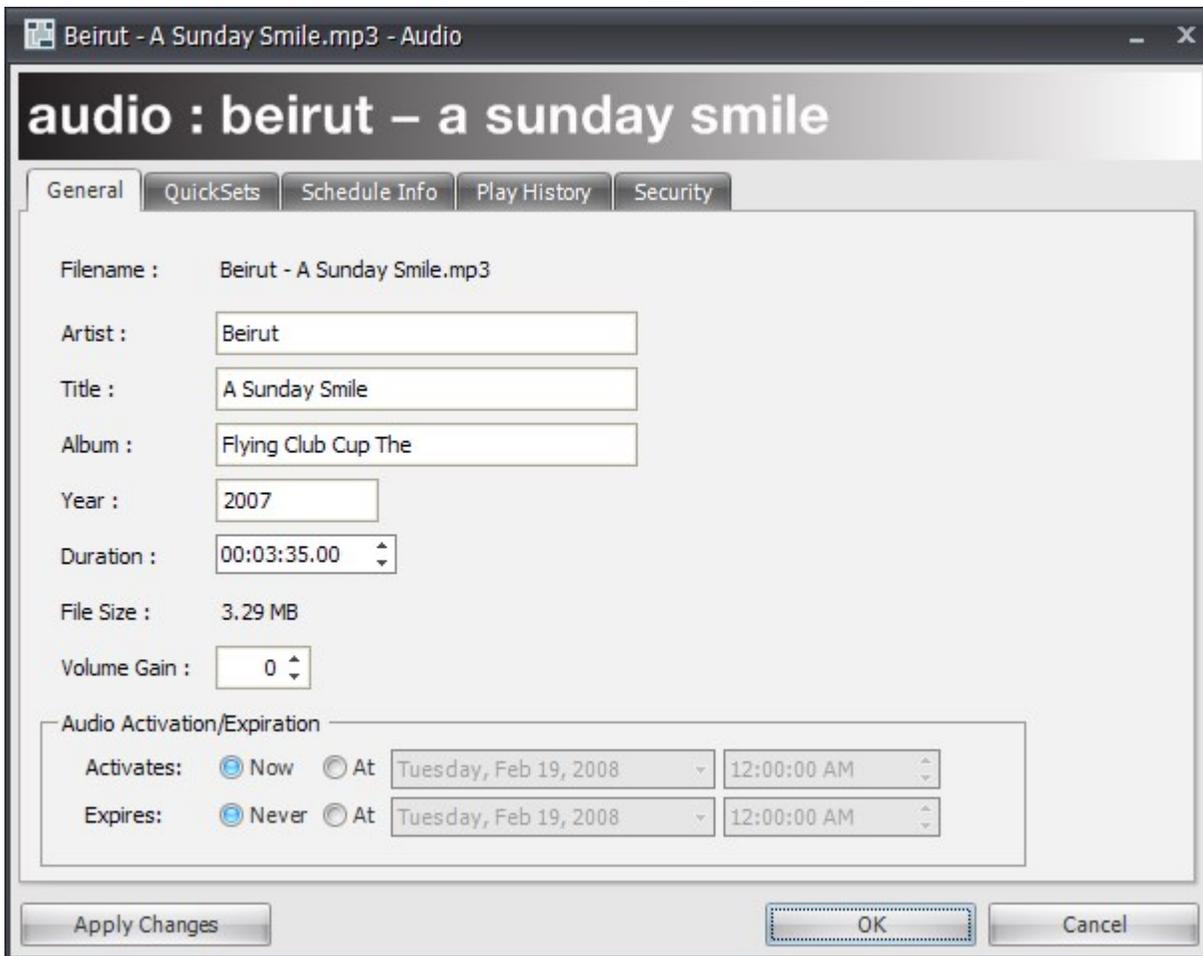
To edit the properties of audio content:

1. To display the Audio Properties dialog, do one of the following:
   - Select the Audio content in the Audio page and choose **ACTIONS** > **EDIT AUDIO PROPERTIES**.
   - Double-click the Audio content in the Audio grid.
   - Right-click the Audio content and choose **EDIT AUDIO PROPERTIES**.
2. Review or change any of the following properties:
   - **Filename**—Displays the original audio filename imported into CNM. You cannot modify the filename.
   - **Artist, Title, Album, Year**—These properties are read from the ID3v1 tags embedded into the MP3 file at import. You can modify these properties as desired.

- **Duration**—The amount of time that the audio content plays for. Entering a duration that is less than the actual length of the imported MP3 will truncate playback. Extending the duration beyond the length of the MP3 will play silence.
- **File Size**—The disk space used by the imported MP3 file.
- **Volume Gain**—Use volume gain to modify the overall volume level of all video, flash, or sound assets used in the content. The value can be between -100 and 100, with 0 being the normal, unmodified volume level of the assets.

> ℹ️ **Note**
>
> You can adjust the overall volume of the player from the player properties dialog. You only need to adjust the volume gain if you want to "normalize" the volume of a content item relative to the other content.

- **Activation/Expiration Date** —You can use the activation and expiration date to set when your audio content is able to play back in any channels or playlists. For more information, see "Setting Content Activation and Expiration".

> ⛔ **Warning**
>
> You can only control the volume of SWF files that are version 8 or older. With SWF version 9 files, it is not possible to control the player volume from CoolSign.

- Click **OK** or **Apply Changes**.

Viewing Information about Audio Content

You can use the **QuickSets**, **Schedule Info**, and **Play History** tabs to view or retrieve additional information about how your audio content is organized, scheduled, and how often it has played. The use of these tabs is identical to the Content Properties dialog.

- For more information on managing QuickSets, see "Using QuickSets".
- For more information on viewing content schedule info, see "Viewing Where Content is Scheduled".
- For more information on retrieving content play history, see "Retrieving Play History for Content".

Scheduling and Playing Audio Content

CoolSign doesn't treat audio content any differently than standard content in how it can be scheduled, transferred or played back other than the fact that audio content does not display anything visually when played.

All audio content is automatically created with the Audio format. You cannot modify the format of audio content.

You can only schedule audio content into channels created with the Audio format and can only play back on players or regions set to the Audio format.

Batch Import Audio

1. Right click the grid and then select BATCH IMPORT AUDIO.
2. Import all audio files inside the selected folder.
3. The Select QuickSet dialog appears. From there you can:
   - Create a QuickSet.
   - Select from an existing QuickSet.
   - Don't use a QuickSet.

4. The audio files are imported and are put/or not (depending the selection of step 3) into a specified QuickSet.

Make a Playlist

1. Right click a QuickSet and then select MAKE PLAYLIST.
2. The playlist dialog appears with all items inside the quick set. The default name is the same as the name of the QuickSet.

About Scheduling

Topics Discussed

- **About Channels**
- **About Playlists**

CNM provides great flexibility in how you can schedule your content to appear on your CoolSign players. By using CoolSign channels and playlists, you can easily create schedules ranging from simple in-order playback. For CNM you can also do complicated nested schedules with weighted frequency and dynamic enabling expressions.

About Channels
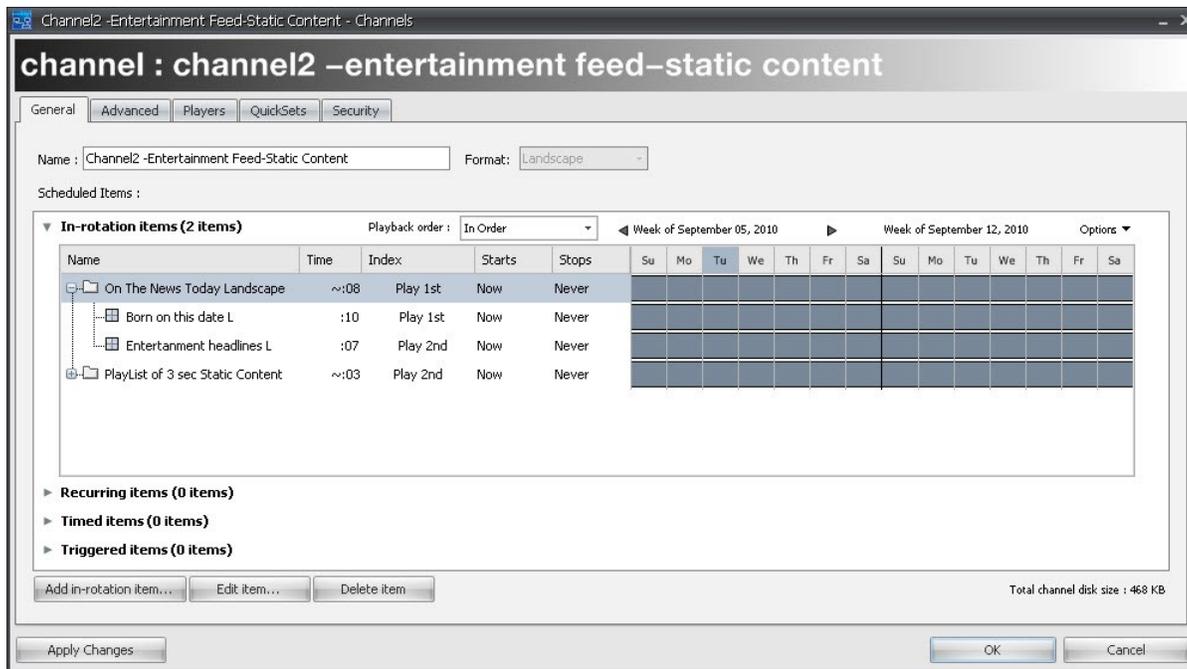
Channels are the primary tool for scheduling how content will play back on your players. Channels are programmed with schedule items that define when and how content will be played back. You can schedule individual content items to play in your channel or, for more complicated scheduling, you can add playlists, which are sub-schedules of content. Once your channel is programmed, you can "tune" as many players as desired to the channel and all the necessary content will automatically be downloaded to the player before the channel starts playing.

A great advantage of channels is that if you need to change what is playing on your players, you can just edit the channel once and all players tuned to that channel will automatically be updated. There is no limit to the number of channels that you can create.

Channels are managed from the Channels page of CNM. For details, see "Managing Channels".

About Playlists
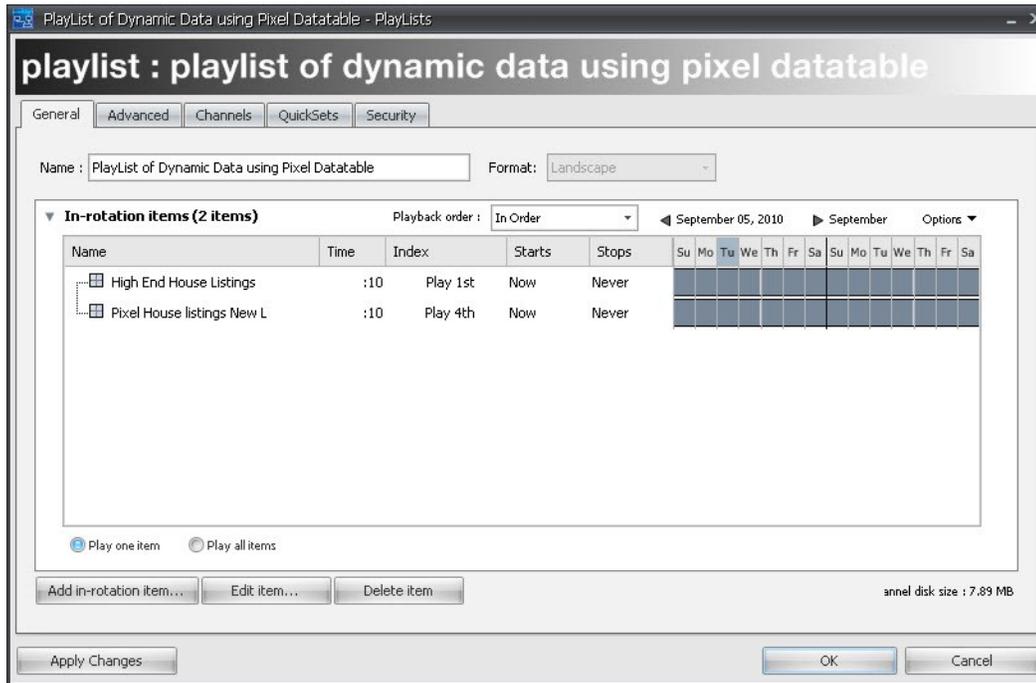
Playlists are similar to channels except that they are limited to in-rotation items and players cannot be tuned directly to them. You can use playlists within channels to provide more flexible scheduling than you could otherwise accomplish with just a flat schedule. For example, you can use playlists to ensure that multiple content items always play back-to-back or to cycle through a set of content one at a time.

You can also use playlists to help manage regional or local schedules across large numbers of players and sites. For example, you might decide to create a "National" playlist and schedule it in all your channels across your CoolSign network. You can then update the "National" playlist once and all players in your network would be updated automatically as well. Playlists can be nested within other playlists for even more scheduling flexibility.

Playlists are managed from the Playlists page of CNM.

Managing Channels

Topics Discussed

- **Working with Channels in the CNM**
- **About the Channel Properties Dialog**
- **Adding Items to a Channel**
  - **About Scheduled Items**
  - **Adding and Editing an In-Rotation Schedule Item**
  - **Setting the In-Rotation Playback Order**

Channels are the primary tool for scheduling how content will play back on your players. Channels allow you to centrally manage all the schedules for a player from one convenient page. Rather than scheduling content directly onto a player, you use channels to program how content should play and then tune a player to the channel. Multiple players can all be tuned to the same channel. If at any point you modify a channel by adding, editing, or removing scheduled items, any players that are tuned to that channel will automatically be updated with the changes.

For more information on tuning players to channels, see "Tuning a Player to a Channel".

Working with Channels in the CNM

You can use the Channels page of CNM to create new channels, edit or delete existing channels, and to program content or playlists within channel.

To navigate to the Channels page:

- Click the Channels icon ▦ in the navigation bar.

To create a new channel:

1. From the Channels page, do one of the following:
   - Choose ACTIONS > NEW CHANNEL.
   - Right-click on the Channels Manager grid and choose NEW CHANNEL.
     The Channel Properties dialog appears.
2. Enter a name for your new channel in the Name field.
3. Choose a format for your new channel from the Format combobox.

   If you select either of the Portrait or Landscape format options, only content with the same format can be scheduled into the channel, and only players with the same format can tune to the channel. For example, you can only schedule portrait content into a portrait channel and only portrait players can be tuned to portrait channels.

   If you select the ANY option, content and playlists can contain both Portrait and Landscape

formats.
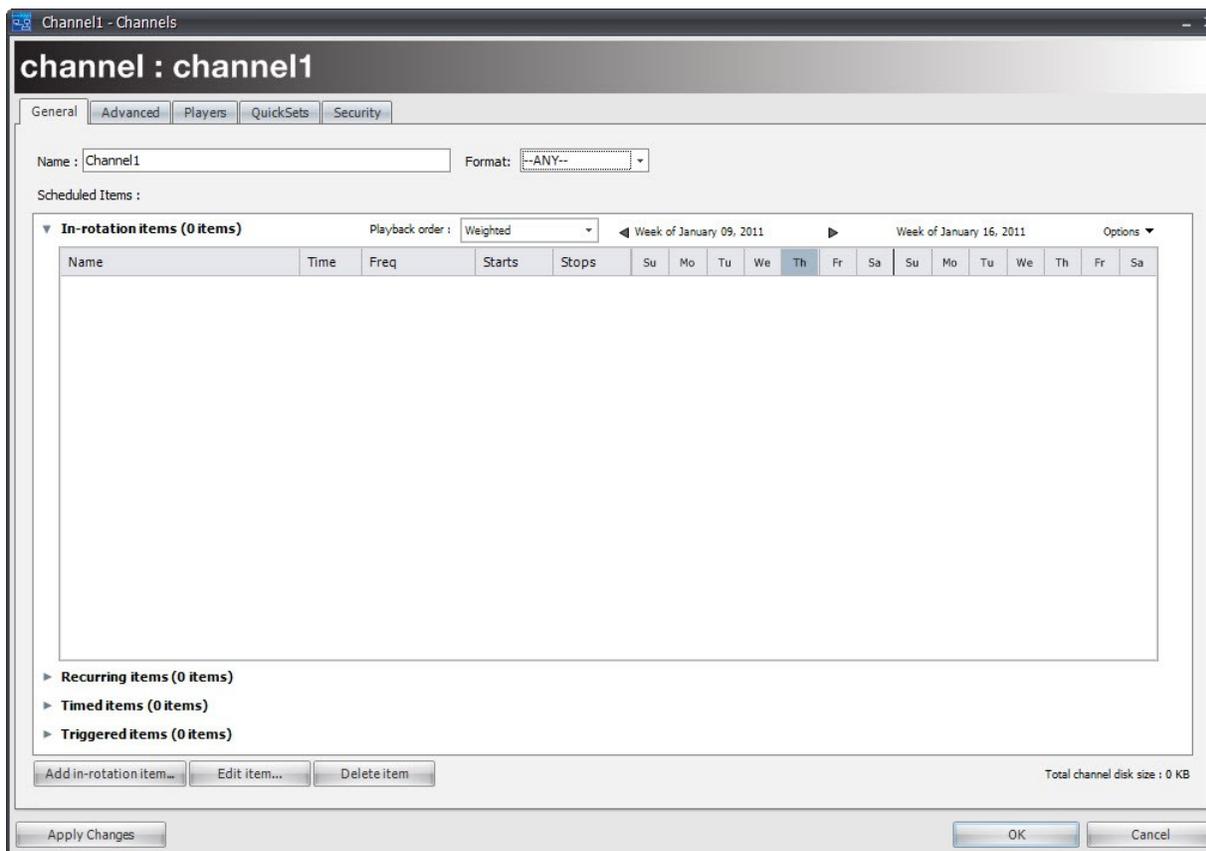
> **ⓘ Note**
>
> Once you add items to a channel, you will no longer be able to modify its format. If you need to change the format of a channel, delete any scheduled items first

4. Add content items and/or playlists to the channel. See "Adding Items to a Channel".
5. Click OK.

To edit an existing channel:

1. From the Channels page, do one of the following:
   - Select the channel and choose **ACTIONS** > **EDIT CHANNEL PROPERTIES**.
   - Right-click the channel and choose **EDIT CHANNEL PROPERTIES**.
   - Double-click on the channel.
2. Change any available properties or add, edit, or remove scheduled items in the channel. See "Adding Items to a Channel".
3. Click **OK** or **Apply Changes**. Any players tuned to this channel will automatically update to reflect changes made to the channel.

To delete a channel:
1. From the Channels page, do one of the following:

   - Select the channel and choose **EDIT** > **DELETE**.
   - Right-click the channel and choose **Delete**.

You will be warned before attempting to delete any channels that are currently in use by a player.

To create an ANY format channel:
In previous CNM releases, a player's orientation was set as portrait and landscape. Consequently, players with a certain orientation could only play channels with a matching format. For example, a portrait player could only use a channel using portrait format. With this release, a new channel format named "ANY" is available to enable you to schedule both portrait and landscape content within a channel. Players can be tuned to an ANY channel to avoid a format mismatch.

1. Create a new channel.
2. Define the format orientation (in this case ANY).
3. Add content as normal.
4. If you select landscape, the CNM automatically filters out any portrait content. Similarly, if you select portrait, all landscape content is filtered out.

> 🛈 **Note**
>
> An "ANY" format channel is designated with angle brackets, for example, <New Channel>.
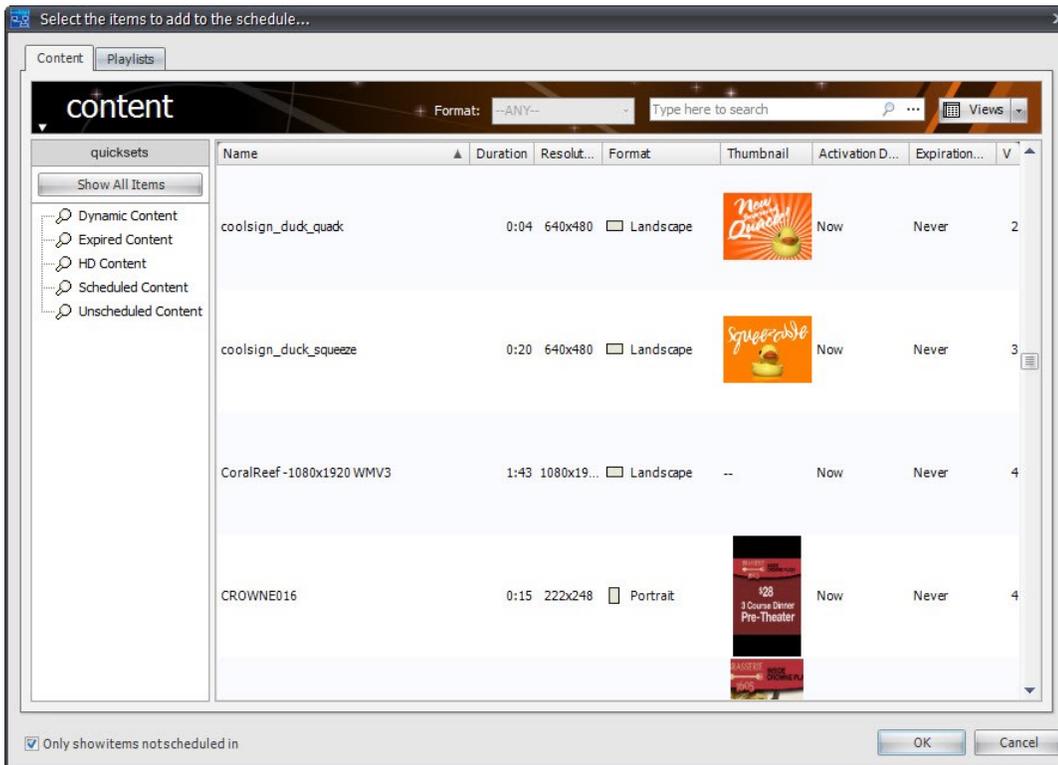
About the Channel Properties Dialog

You can use the Channel Properties dialog to modify the properties of a channel and to manage the scheduled items programmed to play when a player is tuned to that channel.

The Channel Properties dialog contains a collapsible schedule grid that lets you organize how your scheduled item will play and visualize the schedule.
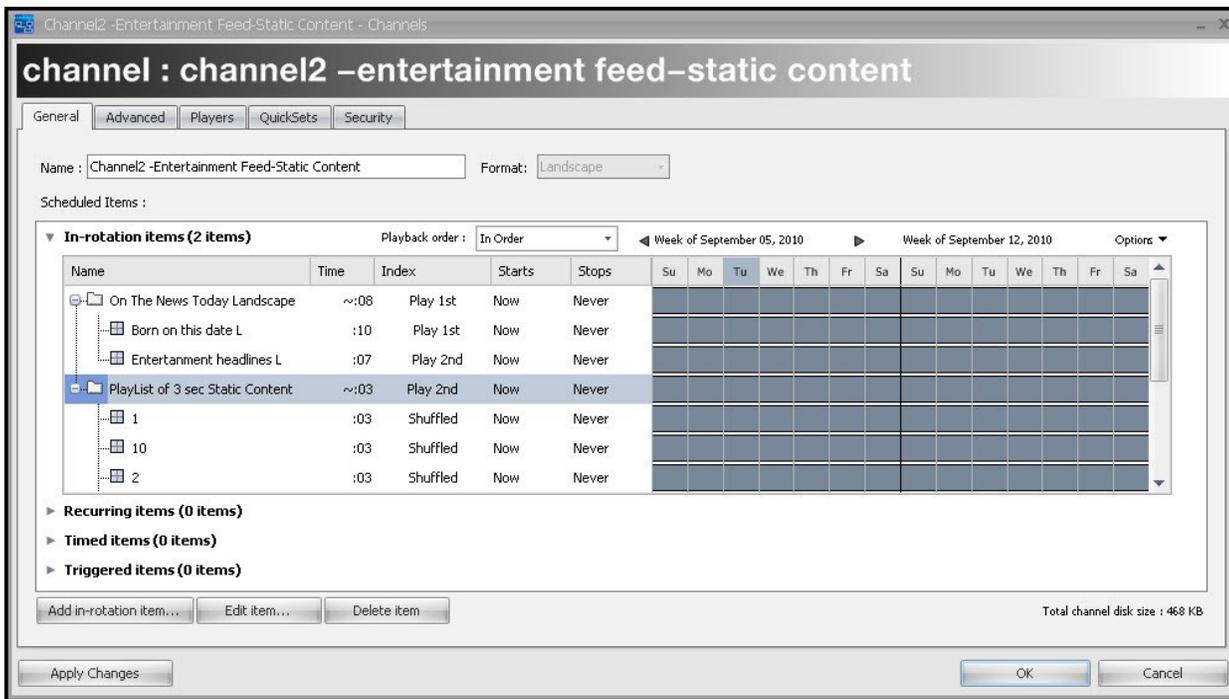
Adding Items to a Channel

When you add content or playlists to a channel, you can set properties that define how the scheduled item will play back in the channel including daypart scheduling, activation/expiration dates, and enabling expressions.

To add a scheduled item to a channel:

1. To add content to the channel, select a content item to add. You can select multiple items if you want to add more than one item at once with the same scheduled item settings.
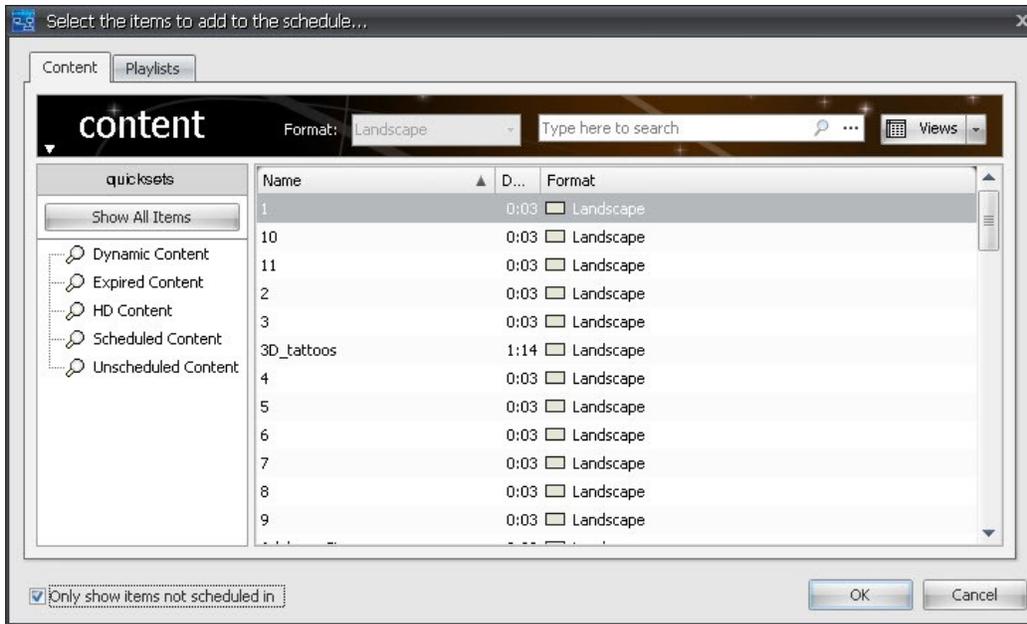
2. To add a playlist to the channel, click the **PLAYLISTS** tab and select one or more playlists to add.
3. Click **OK** to close the Content Chooser dialog and open the Scheduled Items Properties dialog.
4. Set any scheduled items properties and the daypart schedule to define how the content or playlist will play within your channel. For more information, "About Scheduled Items".
5. Click **OK**.

To add non-in-rotation schedule items (recurring, timed, or triggered):

1. Add any desired in-rotation content. See "Adding and Editing an In-Rotation Schedule Item" for details.
2. Edit the in-rotation item and then change the schedule type from the content properties window.

To change an in-rotation schedule item:

1. Select a schedule item and then press **Edit**.
2. From the Schedule Item Properties window, set the desired schedule type from the pull-down menu.

About Scheduled Items

You can use the Scheduled Item Properties dialog to define how an item will be played back in a channel. Set advanced properties including activation/expiration date and enabling expression, and to override dynamic data bindings for that scheduled instance.
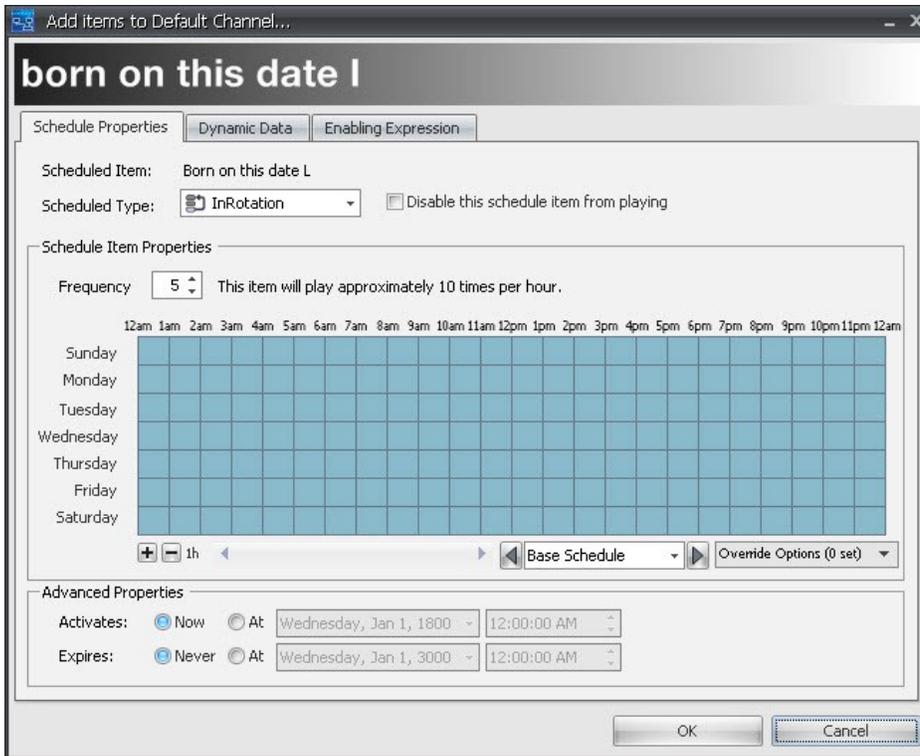
There are five ways that scheduled items can be played within a channel:

In-rotation (''Adding and Editing an In-Rotation Schedule Item'')—This is the most common way to schedule content or playlists in a channel. A channel repeatedly plays its in-rotation items unless one of the specialized schedule items described below takes precedence. You can choose the order in which in-rotation items are played back by setting the channel or playlist picker type. The in-rotation picker can be set to play back items in order, shuffled or randomly using a weighted frequency. Each in-rotation item can additionally be set with a daypart schedule that enables or disables the item during specific hours or days of the week and activation/expiration dates that define when the item should start and stop playing.

Recurring ('' Adding a Recurring Scheduled Item'')—You can use this schedule type to schedule content to play at regular repeated intervals, for example, every 15 minutes or every hour. A recurring item can be set to either interrupt playing content when it's time for it to play or to wait politely for the playing content to end before starting. Like In-rotation items, you can set a daypart schedule to only enable the recurring item during specific hours of the day.

Timed (''Adding a Timed Scheduled Item'')—When you want content to play once at a specific time on a specific date or day of week, you can use this schedule type. Like recurring items, timed items can be set to interrupt playing content at the play time if desired.

Triggered (''Adding a Triggered Scheduled Item'')—Content that is scheduled using the triggered type only plays when triggered via the CNM trigger manager or an external data source.

Merged (Playlists only) ('' Adding a Merged Scheduled Item'')—Merged playlists treat the scheduled items of a playlist as if they were directly added to the channel. This enables you to take advantage of the organizational advantages of using playlists while retaining full

flexibility for scheduling. The "Merged" schedule-type does not appear in the Scheduled-Type drop-down list of the Scheduled Item Properties dialog unless Playlist content is added.

Adding and Editing an In-Rotation Schedule Item

In-rotation scheduled items are the most common way to add items to a channel. You can set a daypart schedule for in-rotation items. For CNM you can also set a frequency setting if the channel is using the Weighted Frequency picker ("Setting the In-Rotation Playback Order").

You can add in-rotation scheduled items to a channel. For example, a day-part schedule for in-rotation items as well as a frequency setting if the channel is using the Weighted Frequency picker. (See "Setting the In-Rotation Playback Order".)

To add an in-rotation scheduled item:

1. Click the **Add in-rotation item** button.
2. Select a content item.
3. An item is added to the channel with default values, such as frequency and activation/expiration settings, etc.
4. Select **Edit item** to edit any in-rotation properties.
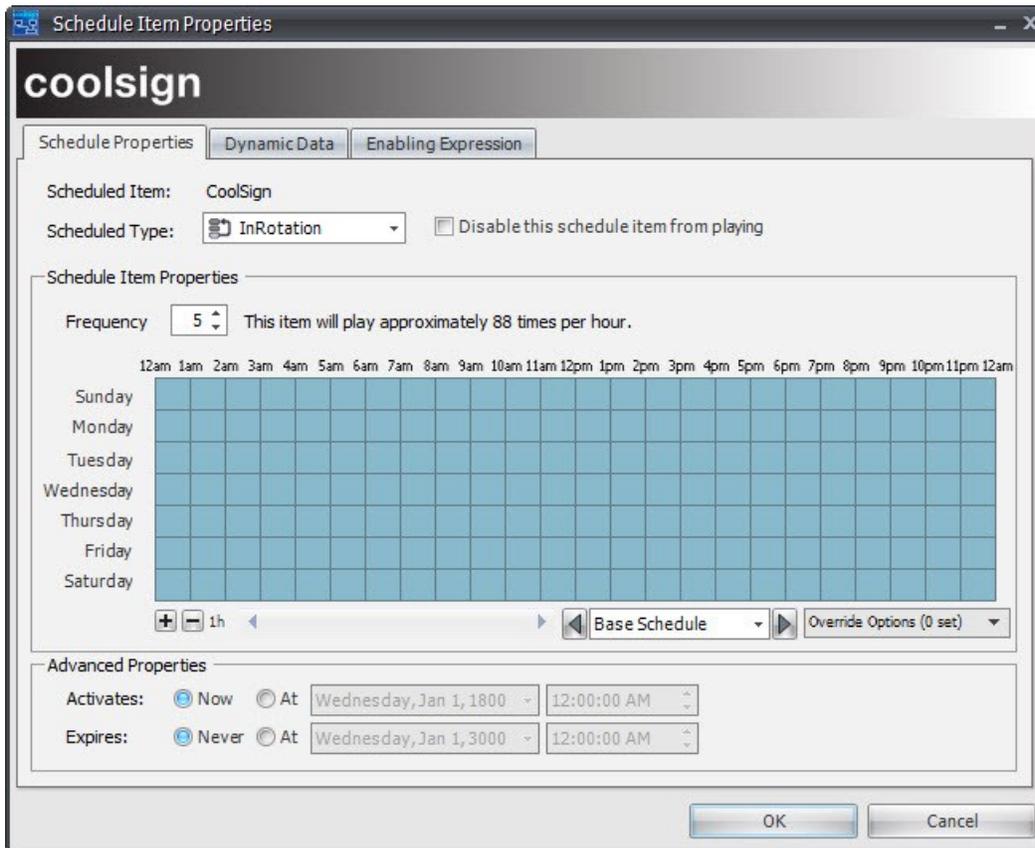
To set schedule item properties:

1. The default setting is to use the Weighted Frequency picker. You can set the relative frequency of the in-rotation item from 1 to 10. For more information on pickers, "Setting the In-Rotation Playback Order".
2. Define the times and days for which the scheduled item should be played. The blue cells of the schedule grid indicate that the item will be played in rotation with any other active scheduled

items. The white cells indicate that the item will not play. For more information, " Using Schedule Grids".

3.
> **ⓘ Note**
>
> The "Use local time" or "Use UTC time" selected above doesn't affect the activation and expiration dates.

4. If you have selected dynamic content and want to override the data bindings for this scheduled item only, click the DYNAMIC DATA tab. For more information, see "Overriding Dynamic Data Settings".

5. Click **OK** to add the scheduled item to the channel.

Setting the In-Rotation Playback Order

To determine the order in which in-rotation scheduled items should play back within a channel, you can choose one of the following playback algorithms:

- **Weighted Frequency**—The default picker that uses a frequency value assigned to each scheduled item to determine which item should play next. Items with higher frequency play more often than items with a lower frequency. The frequency value for a scheduled item represents its relative frequency when compared with other items in the channel.
- **In Order**—Any active in-rotation items are played back in the order they appear in the Channel grid.
  > **ⓘ Note**
  >
  > You can reorder scheduled items in the channel grid by clicking and dragging the item to a new position.

- **Shuffled**—Randomly shuffles all the in-rotation scheduled items and plays them back in the random order. All the items play back before the list is shuffled again. This algorithm ensures that the same scheduled item never plays back-to-back. Note that if there is only one item, then it has to play back-to-back.

In addition, you can either allow or not allow back-to-back playback when using the Weighted Frequency option. These options are set through the CNM (CHANNEL DIALOG > ADVANCED TAB). See "Advanced Playback Settings".

> **✓ Tip**
>
> Due to the randomness inherent in the weighted frequency picker, it is impossible to predict exactly how often an item will play, but you can view an approximate estimate on the Scheduled Items Properties dialog.

> **ⓘ Note**
>
> When fewer than seven items are scheduled using the Weighted Frequency picker, the picker allows items with higher frequencies to play back to back to preserve the relative frequency ratios.

To select the in-rotation playback order:

- Select the playback order type in the In-Rotation Items area of the Channel Properties dialog (**About the Channel Properties Dialog**).

Managing Playlists

Topics Discussed

- **Working with Playlists**
  - **About the Playlist Properties Dialog**
  - **Adding Items to a Playlist**
  - **Scheduling a Playlist in a Channel**
  - **Advanced Playback Settings**
  - **Localizing Schedules**

Playlists add additional flexibility when programming your channels by providing the capability to create "sub-schedules" within the channel's schedule. You can also use playlists to help in "localizing" your schedules across multiple sites and players. Playlists are similar to channels with the following differences:

- You can only add In-Rotation scheduled items to a playlist.
- You can't tune a player to a playlist. You must schedule a playlist within a channel.
- Playlists can be scheduled within other playlists.

Working with Playlists

You can manage the playlists in your network from the Playlists manager page of CNM. From the Playlists page, you can create new playlists, edit or delete existing playlists, and program content within your playlists.

To navigate to the Playlists page:

Click the Playlists icon [icon] in the navigation bar.

To create a new playlist:

1. From the Playlists page, do one of the following:
   - Choose **ACTIONS** > **CREATE NEW PLAYLIST**.
   - Right-click on the PlayList Manager grid and choose CREATE NEW PLAYLIST.
   - In content or audio manager, right click on a quickset and then select MAKE PLAYLIST.
   - On the Channel and Playlist dialogs, select one or more schedule items and then select "**Make Playlist from selected items**".

   The Playlist Properties dialog appears.
2. In the **Name** field, enter a name for your new playlist.
3.
> ℹ️ **Note**
>
> Once you add items to a playlist, you can no longer modify its format. If you need to change the format of a playlist, delete any scheduled items first.

4. Add content items and/or other playlists to the playlist. See "About the Playlist Properties Dialog" on page 165.
5. Click **OK**.

To edit an existing Playlist:

1. From the PlayList page, do one of the following to display the PlayList Properties dialog:
   - Select the channel and choose **ACTIONS** > **EDIT PLAYLIST PROPERTIES**.
   - Right-click the channel and choose **EDIT PLAYLIST PROPERTIES**.
   - Double-click on the playlist.
2. In the Playlist Properties dialog, change any available properties or add, edit, or remove scheduled items in the channel. See "About the Playlist Properties Dialog".
3. Click **OK** or **Apply Changes**. Any channels using this playlist will automatically update to reflect the changes.

To delete a playlist:
• Select the playlist and choose **EDIT** > **DELETE** or right click to select a playlist and then select **Delete**.

About the Playlist Properties Dialog

You can use the Playlist Properties dialog to set or modify the properties of a playlist, add scheduled items to the playlist, and review which channels currently use the playlist. The Playlist Properties dialog is very similar to the Channel Properties dialog.
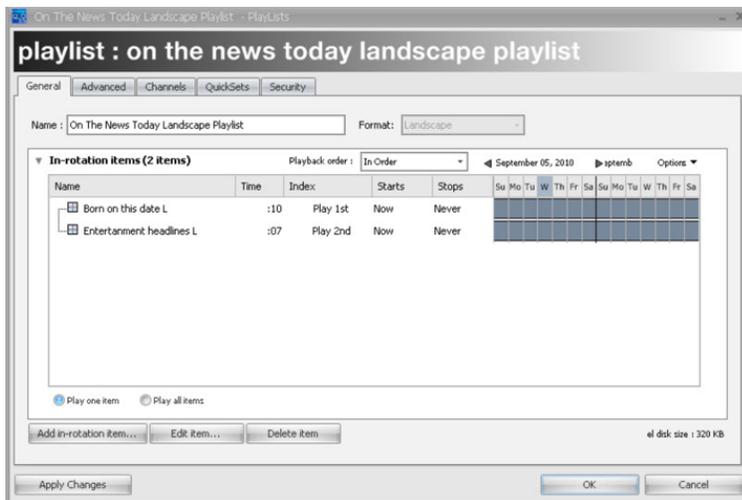
Adding Items to a Playlist

The process for adding items to a playlist is identical to adding items to a channel except that you can only add In-Rotation scheduled items.

For more information on adding items to a channel, see "**Adding Items to a Channel**".

Scheduling a Playlist in a Channel

Playlists can be scheduled into a channel (or other playlists) with all the same properties as a piece of content. You can schedule a playlist as In-rotation, Recurring, Timed, or Triggered. Playlists can have daypart schedules, activation/expiration dates, and enabling expressions just like content. However, when

it comes time for a playlist to "play", the channel lets the playlist pick which content or playlist should play, based on the items scheduled within the playlist and its own playback order settings.

Determining how a Playlist Plays

Just as with a channel, you can set the playback order for a playlist using the Playback order combobox. For more information on setting playback order, see "**Setting the In-Rotation Playback Order**".

Additionally, you can define whether the playlist should just play one item or all the items each time it is picked to play by its parent channel.

Play One Item—When a playlist is set to Play One Item, it will play one item picked from its scheduled items. After playing the one item, it will return control to the parent channel or playlist.
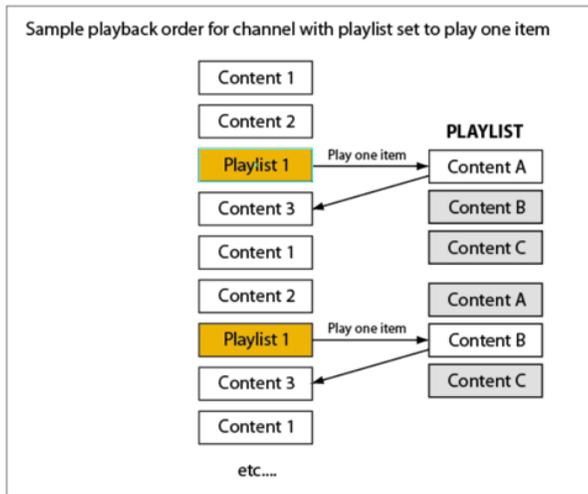
Play All Items—When a playlist is set to Play All Items, it will play all of its scheduled items before returning control to the parent channel or playlist.
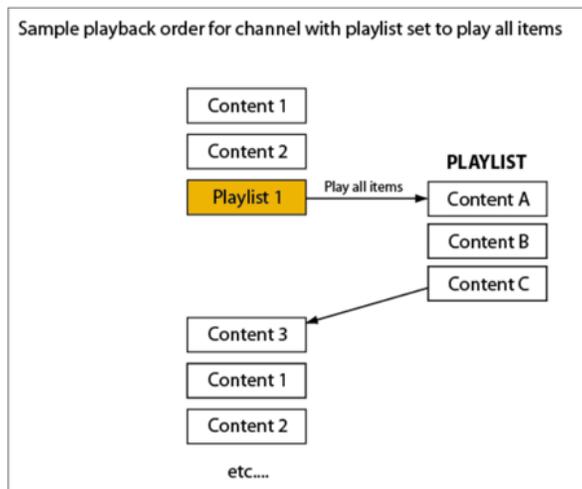
Advanced Playback Settings

You can use the Playlist Properties dialog to evaluate channels that contain multiple instances of a dynamic content item. Two evaluations are available via the Advanced tab in the Playlist Properties dialog.

Data Context Sharing—The default for this setting is to have the "next" data row used each time it plays so the context of "where are you in the list" is maintained for the entire channel. Alternately, if unchecked, the dynamic content maintains "independent" contexts and as such plays the same row from within the data table.

Picker Context Sharing—The default for this setting is to have the "next" playlist item used each time it plays so the context of "where are you in the list" is maintained for the entire channel. Alternately, if unchecked, the playlists maintain "independent" contexts and as such plays the same item from within the playlist (if they're reset to in-order).
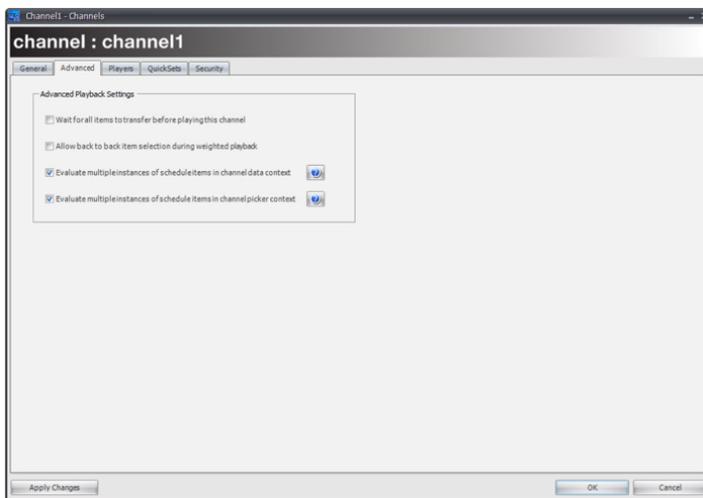
Localizing Schedules

If your network contains a large number of sites or players, you may find that, while each player or site has some unique content playing on it, there is also a large amount of content that should be played across all the sites as well. You can use playlists to optimize your schedules so you can manage a large number of channels across a large number of players but still easily add content to the entire set or a subset of channels.

For example, if you are using CoolSign for a national advertising network, you may have national content that needs to play across your entire network, regional content that only plays on the West Coast, and specific content that plays at each site. By using merged playlists, you can build up channels for each player or site that can contain both the player-specific content items as well as a National and/or Regional merged playlist you have defined. By scheduling the National playlist into every channel used by every player, you can now quickly add or remove scheduled items from every player by just editing the National Playlist once.

Sample localized channels using merged playlists

San Francisco Channel	Los Angeles Channel	New York Channel
National Playlist (merged)		
West Coast Playlist (merged)	East Coast Playlist (merged)	
SF-only Content 1	LA-only Content 1	NY-only Content 1
SF-only Content 2	LA-only Content 2	etc.
etc.	etc.	
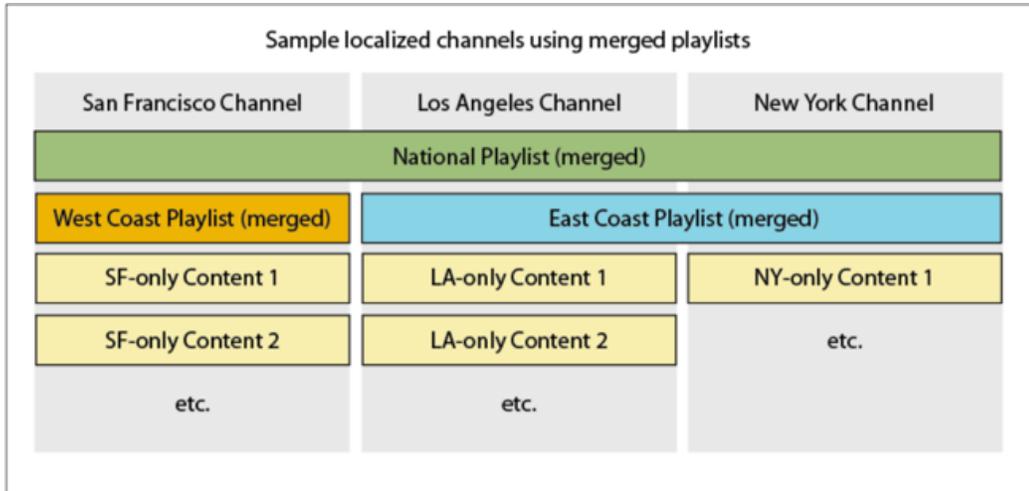
Managing Players

Topics Discussed

The Players page of the CoolSign Network Manager (CNM) lets you view all the players connected to your network. You can do any of the following on the Players page:

- Tune a player to a channel.
- Review both detailed and rollup play history for a player.
- Set a schedule for the volume level of a player.
- Remotely configure the player, including defining multiple regions and display control.
- View the current status of both the player and any displays connected to the player.
- View the current content that is now playing on the player.
- Organize the players by geographic distribution, using the Sites panel.
- Create QuickSets and QuickSearches to filter which players are visible in the grid.
- Force content to play immediately on the player.

About Players and Channels

The CNM uses a channel metaphor for scheduling content to play back on your players. You create channels and then program content and playlists within each channel. Once your channels are designed, you can then tune players to that channel.

Once you tune a player to a channel, the CNM automatically takes care of everything required to distribute the content, playlists, and data tables to the player. The CNM checks to see which files need to be transferred and immediately starts sending them across your network to each player. Depending on the settings of the channel, items in the channel can start playing as soon as they are available, or the player can wait for all the items in the channel to be available before switching to the channel.

> **ℹ Note**
>
> While each player can only be tuned to a single channel at a time, any number of players can be tuned to the same channel. This enables you to update a single channel and have those changes automatically applied to all the players tuned to that channel.

For more information on working with channels, see "Managing Channels" for details.

About the Player Properties Dialog

You can use the Player Properties dialog to tune a player to a channel, review play history, and schedule volume control.

To edit the properties of a player:

Do one of the following:

- Double-click on the player in the grid.
- Select one or more players and choose **Actions** > **Edit Player Properties** or right-click and choose **Edit Player Properties**.
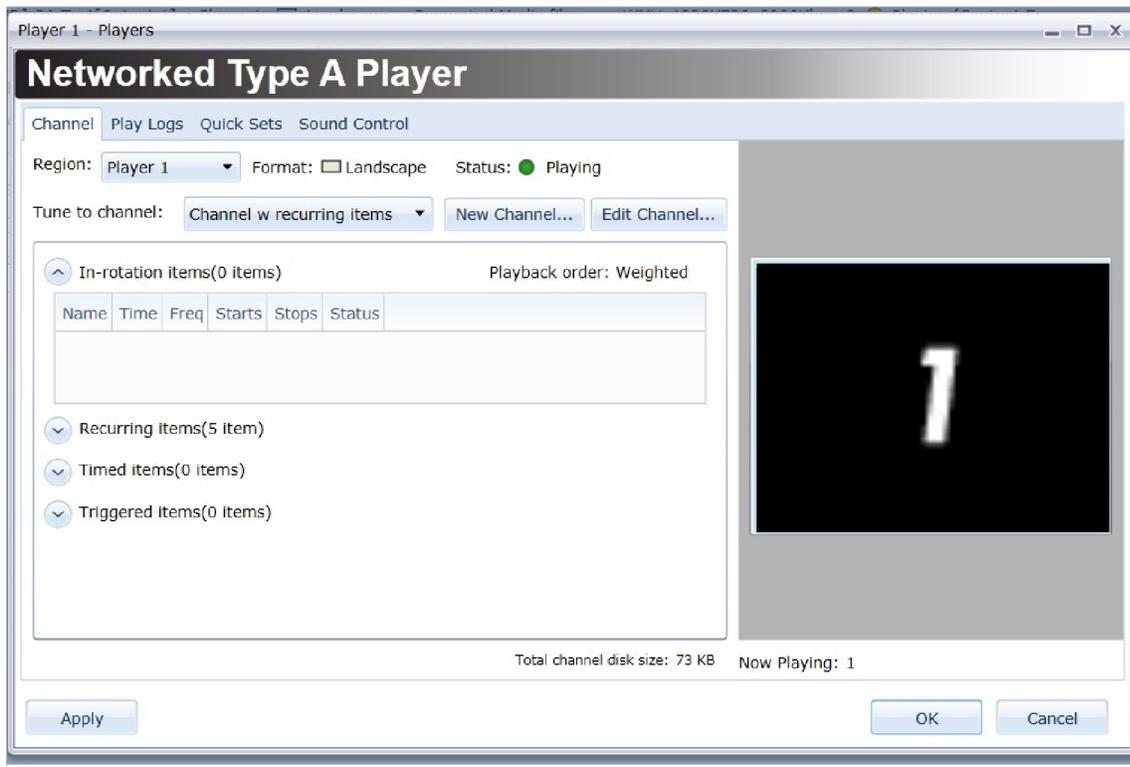
Tuning a Player to a Channel

You can use the Player Properties dialog to tune a player to the channel it should use to play back content. The Player Properties dialog displays the currently tuned channel, using the same grid as appears on the Channel Properties dialog.

For more information on working with channels and the channel schedule grid, see "About Scheduling".

To tune a player to a channel:

1. Select a new channel from the Tune to channel drop-down menu ("**About the Player Properties Dialog.**"). The channel grid is updated to reflect the new channel.
2. Click **OK** or **Apply Changes**. Any needed files will immediately begin transferring to the player.

> ℹ **Note**
>
> To tune multiple players to the same channel at the same time, select multiple players before opening the Player Properties dialog. If you set the player to tune to a channel behind a firewall, you must open up a port corresponding to the streaming route.

Reviewing a Channel Before Tuning

Before you commit to tuning a player to a channel, you can see what the channel contains as well as which content items in the channel will need to be transferred to the player before they can play.

The status of each item in the proposed schedule can be either of the following:

- **Available** —The content item is already available on the local player hard disk and will not require any transfer to play.
- **Transfer required (345 KB)** —The content must be transferred to the player before this item can be played. If the channel is marked as "Wait for all items before playing", the player will not switch to the new channel until all needed content has been transferred to the player.

> ℹ **Note**
>
> All content in a tuned channel will be transferred to a player regardless whether it is currently active or pending activation due to the setting of a future activation date on the content or schedule item. This feature allows you to "stage" content on the player at the time you tune it so that you can be assured that the content is available when it comes time for it to play.

Viewing Transfer Status of Items to a Player

When you tune a player to a channel, all of the content, playlists, data tables, and files required to play that channel will automatically start transferring to the player. If, at any point, you modify either the channel or any content or playlists included in the channel, any changes will also be automatically transferred to the player for you.

The status of each transferring item can be any of the following:

- **Checking...** **Checking**—Either a transfer has not yet started and the system is checking to see if it is necessary to transfer content to the player or CNM is still waiting for the server to send an updated transfer status report.
- The **transfer bar** displays the current progress of a transfer to a player.
- An all-green transfer bar indicates that all necessary files for the content have been transferred to the player but that the content has not been loaded yet. You may see this status temporarily when the channel is marked to "Wait for all items to transfer before playing" or when there are additional files required for the content to play, for example, data tables with imported media files that have not yet completed transfer.

During the transfer, the Player Properties dialog shows the progress of the entire transfer required for the player:

Total Transfer (3% complete)
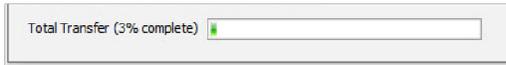
Viewing the Status of Scheduled Items on a Player

Once all the necessary files required to play back content have been transferred to the player, the content will be loaded and should start playing back as scheduled. There are a number of reasons why content that has been scheduled and transferred to a player might not be actively playing. Once a content item has been transferred to the player and loaded, you can review its current status in the status column of the Player Properties dialog.

The status of each loaded item can be any of the following:

- Ok —The content is loaded and should be playing back as scheduled.
- Ok (Pending) —The content is loaded but is pending a future activation date, either set in the schedule item or the content.
- Ok (Expired) —The content is loaded but has expired due to a past expiration date set in the schedule item or content. Expired items are automatically deleted from a channel after 24 hours.
- Inactive —The schedule item has been disabled from the Schedule Item Properties dialog.
- Error —A problem occurred while the content was playing back. The status includes additional information about the type of error and the version of the content which is playing.

For more information on content errors, see "Troubleshooting display errors".

Quick Tuning a Player to a Channel

You can quick tune a player (or players) directly to a channel without using the Edit Player Properties dialog. When using this feature, all players (or nodes) that are currently highlighted are automatically tuned to the desired channel(s).

To quick tune a player or player node:

1. From the Player Manager, select **QUICKTUNE...**
2. From the Quick Channel Tuner dialog, select a channel (or channels) to which you want to tune the selected players.

   > **ⓘ Note**
   >
   > Channels that have angled brackets are in "ANY" format.

3. Click **OK**.

Jump to Node

If you have multiple player nodes, you can use the Jump to Node feature to display the node for a specific player in the CoolSign Network Manager. Once selected, this node appears in the Network Manager along with the filter that was created in the Quicksets dialog.

To filter on a specific player node:

1. From the Players Manager, highlight the desired player node and select Jump to Node (see "**Quick Tuning a Player to a Channel**" for details).
2. From the Network Manager, configure the player node as desired.

Modifying Channels

While you will usually create and edit channels from the Channels page, the Player Properties dialog provides some shortcuts to help you manage the available channels.

Creating a New Channel

You can create a new blank channel directly from the Player Properties dialog and tune the player to it in one step.

To create a new channel:

1. Click New Channel to open a new Channel Properties dialog (see "To edit the properties of a player:")
2. Enter a name for the new channel and add schedule items as desired. For more information on working with channels, see "**Using Schedule Grids**".
3. Click **OK** .

Editing the Currently Tuned Channel

If you want to make changes to the currently tuned channel, you can do so directly from the Player Properties dialog without having to close the dialog and navigate to the Channels page.

> **ℹ Note**
>
> Changes you make to a channel will be applied to every player that is tuned to that channel. If you want to make changes to a channel for the current player *only* , refer to "**Overriding Channels**".

To edit the current channel:

1. Click **Edit Channel** to open a Channel Properties dialog for the currently tuned channel (see "To edit the properties of a player:").
2. Make any desired changes to the channel.
3. Click **OK**. Any changes made to the channel will automatically start transferring to the player.

Viewing Play Logs

You can retrieve the play history for a specific piece of content from the Content Properties dialog (see "**Retrieving Play History for Content**") but if you want to review all of the content that played on a player, you can use the **Play logs** tab of the Player Properties dialog.

Viewing Play Summaries for a Player

You can retrieve rolled-up summaries of all the content that has played on a player or set of players across any time range. Each content item that has played during the defined view range will be displayed with the total number of times it has played and the percentage of total plays of all played content.

To view the play log summary:

1. Click **Play logs** in the Player Properties dialog.
2. In the **Play Logs** tab, select the View Range for which you would like to retrieve play logs or manually enter a From and To date ("To edit the properties of a player:").
3. Click **Retrieve Logs** .

Viewing Detailed Play Logs for a Player

In certain situations, you may want to retrieve the detailed logs for each player to review the exact time and reason that each piece of content played. If the content is enabled to log data slots, you can even view the state of any dynamic data fields at each time the content played.

For more information on enabling content to log dynamic data, see "**Enabling Data Slot Logging**".

To view the detailed play logs:

1. Select the View Range for which you want to retrieve detailed play logs or manually enter a From and To date ("To edit the properties of a player:").
2. Check the **Show Detailed Logs** checkbox.

Exporting Logs

Once you have retrieved play logs for a player, you can export the logs to a file.

To export play logs:

- Right-click on any column header and choose **EXPORT DATA....**

> ✅ **Tip**
>
> For more information on working with grids, see "**Working with Items in the Data Grid**".

Overriding Channels

Overriding a channel is an advanced feature that provides added flexibility when scheduling content to play back on a player. Normally, tuning multiple players to the same channel will result in each player playing back the channel as it was programmed in the Channel Properties dialog. However, in some cases, you may want to make a small change to a channel on a specific player without creating an entirely new channel. For this situation, you can override certain properties of the scheduled items in a channel and apply them to a single player only.

> **ⓘ Note**
>
> Overridden items are indicated in blue italic type in the channel grid.

> **⚠ Warning**
>
> Channel overriding should be used sparingly, as it can cause confusion in troubleshooting player issues and unexpected results when editing a channel that has been overridden in one or more players. In most cases, you should be able to achieve your scheduling goals using other mechanisms available like playlists or enabling expressions.

To override the properties of a scheduled item:

1. On the **Channel** tab, do one of the following:
   - Right-click on the scheduled item and choose **OVERRIDE ITEM**.
   - Double-click on the scheduled item.
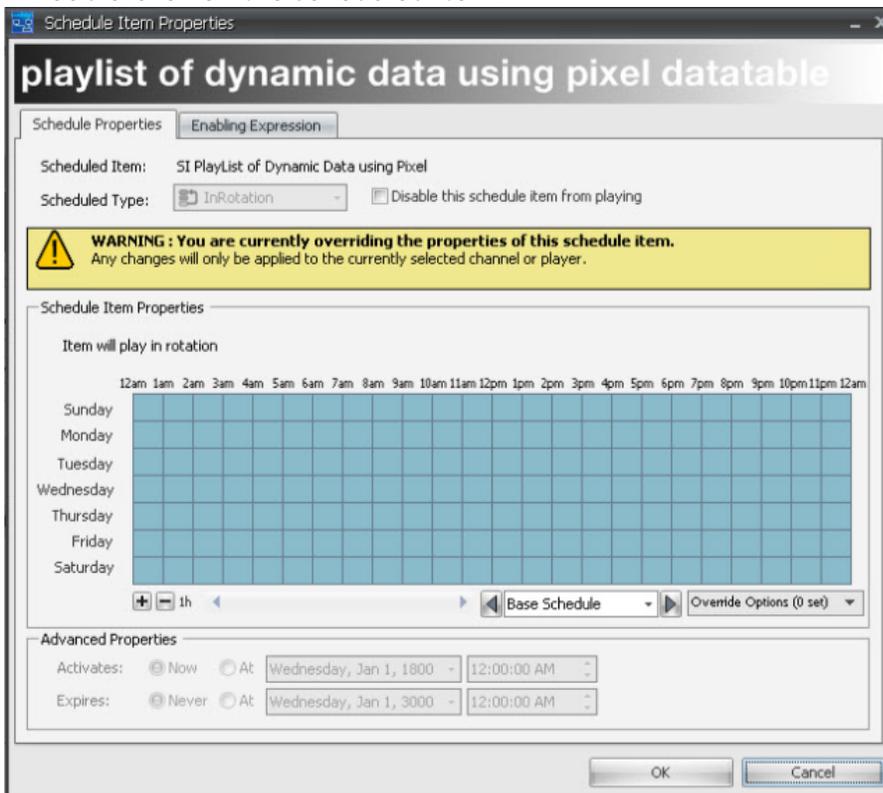
2. On the Override Schedule Item Properties dialog, override any changes to the base schedule item. You can override the following:
   - The daypart schedule for the item.
   - The enabling expression for the item.
   - Disable the item from playing.

You cannot change the base scheduled type of an item or change the activation or expiration dates.

3. Click **OK**.

To clear an override:

- Right-click the overridden item and choose **CLEAR OVERRIDE** .

Controlling Player Volume

You can use the Sound Control tab of the Player Properties dialog to directly set or schedule the overall volume of a player. The player volume settings are applied globally to all content that plays. If you want to adjust an individual content item's volume relative to other content being played, see "**Using the Content Properties Dialog**" .

> **⚠ Warning**
>
> You can only control the volume of SWF files that are version 8 or older. With SWF version 9 files, it is not possible to control the player volume.

To directly set the volume of a player:

1. Click the **Set Volume** radio button.
2.
> **ℹ Note**
>
> Setting the volume on a player volume is equivalent to setting the Master Volume in the Windows Mixer. The Wave Volume in the Windows Mixer will always be set to the maximum.

To schedule volume on a player:

1. Click the Set Volume according to Schedule radio button.
2. Do one of the following:
    - Click or drag a range of cells to toggle the volume on and off for the selected time.
    - Right-click on a cell or range of cells to set a specific volume level for the selected time.
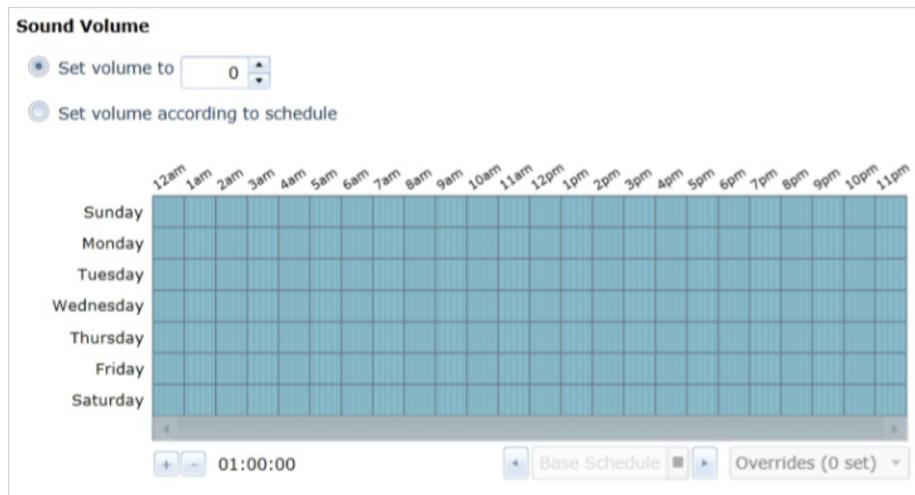
For more information on using schedule grids, see "Using Schedule Grids".

Overriding Dynamic Data Settings

Normally, when you schedule dynamic content into a channel, the content will play back using whatever data table bindings set during import of the content or from the Content Properties dialog. If you want to change which dynamic data table a content item uses for a specific player or channel without needing to duplicate the entire content item, you can override the bindings from the Scheduled Item Properties dialog.

To override data bindings at schedule time:

1. Do one of the following:
   • Right-click on the scheduled item and choose **OVERRIDE ITEM**.
   • Double-click on the scheduled item.
2. From the Scheduled Item Properties dialog, click to display the Dynamic Data tab.
3. If you want to override a binding, select a new DataTable to use for this scheduled item only.
4. The Dynamic Data tab allows you to edit the data in a DataTable directly from the dialog. You can add or delete rows and edit data as needed.

> **ℹ Note**
>
> Edits to a data table are applied globally to the data table everywhere that it is used. You cannot override the values in a data table for a scheduled item — you can only override which data table is used. For more information on localizing data, see "Localizing Data".

5. If you want to override the master expression prescript, click Edit Prescript Expression.
6. Click **OK**.

For more information on dynamic data and content binding, see "About Dynamic Data".

Playing Content On-Demand (Play Content Now)

You can direct the CNM to play content on demand, even if that would require interrupting content that is currently playing. You can also direct the CNM to play from a playlist on demand.

To play content on demand:

1. In the Players page, select the player/region where you want to run the content.
2. Right-click **PLAY CONTENT NOW** .
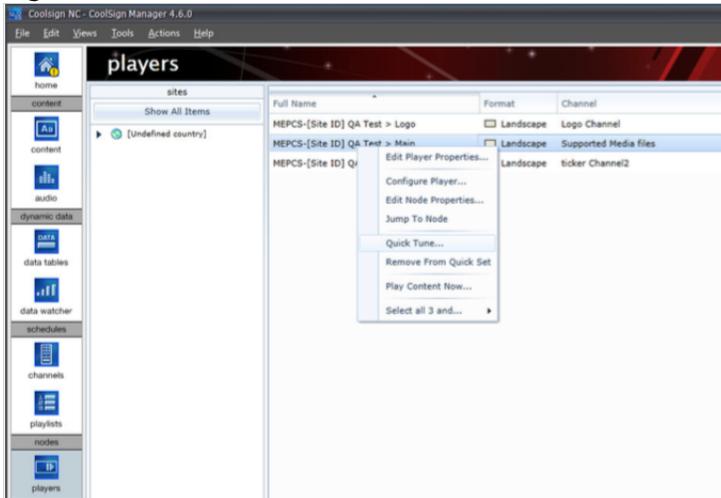
3. In the Content dialog, select the content that you want to play immediately.

    • If content is listed in black, it is available to play immediately.

    • If content is listed in red, it is not currently available on the Player node, and begins playing after the content has been transferred to the Player.

    Clicking **Play Next** or **Play Now** causes the selected content to be transferred to the Player node.
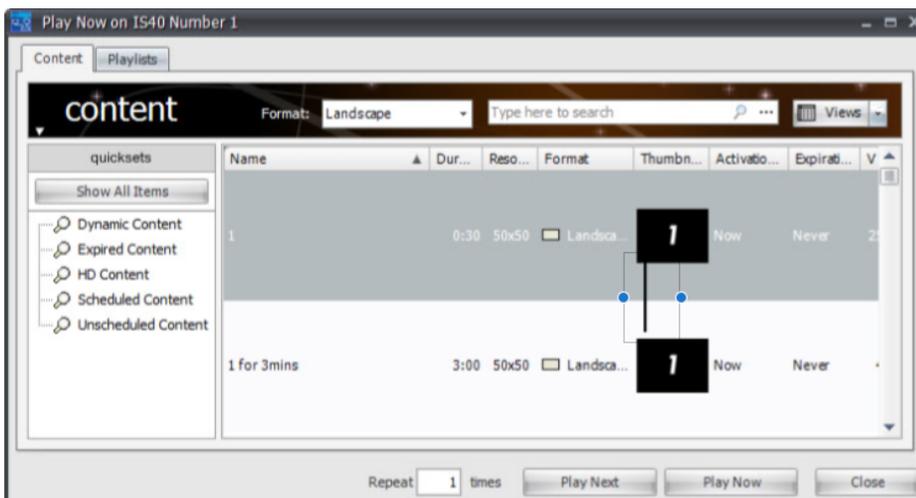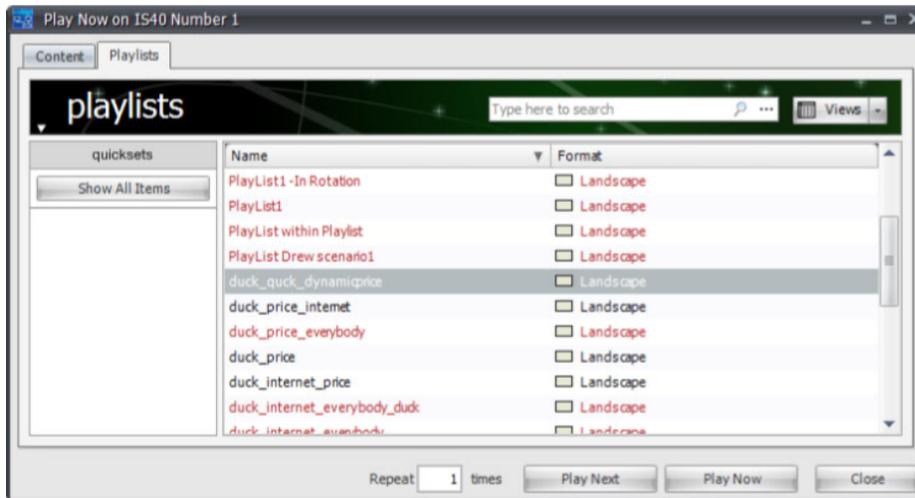
4. Click **Play Now**.

The new content begins to play immediately in the selected player/region.

Configuring Players and Devices

Topics Discussed

CNM provides tools to allow you to remotely configure many settings on your players and control devices so that you don't need to physically access them once they are deployed. You can use these configuration features to:

- Manage the displays that are serial-controlled by the player.
- Set or schedule the display input for controlled displays.
- Change the video card settings including resolution, refresh rate and bit depth.
- Configure multiple regions for a player including layout and other properties.

About the Configure Player Dialog

You can access the Configure Player dialog from either the Players page or the Network page. When selecting multiple players, only the Device Settings tab is available. The Player Setup tab's features are disabled for multi-selected players.

To configure a player, do one of the following:

- Right-click the player and choose **Configure Player**.
- Choose **Actions** > **Configure Player**.

About Multi-Region Players

CoolSign enables you to define multiple independent regions for a player. However, it is recommended that no more than eight independent regions for a player be used. Each player region can be tuned to its own channel and play back its content loop independently of any other regions. Player regions can be positioned anywhere within the video output for a player and can even overlap.

You can use the CoolSign multi-region features to create headline news style content layouts, overlay bugs or tickers on other channels, or other special layout effects. Each region is effectively a full-fledged CoolSign player; there are no restrictions (other than PC performance) that limit what type of content you can play in a region. Regions fully support dynamic content, live video, progressive meters, and all other available content functionality.

Configuring Multi-Region Players

You can configure video card settings and define multiple region players from the Player Setup tab of the Configure Players dialog.
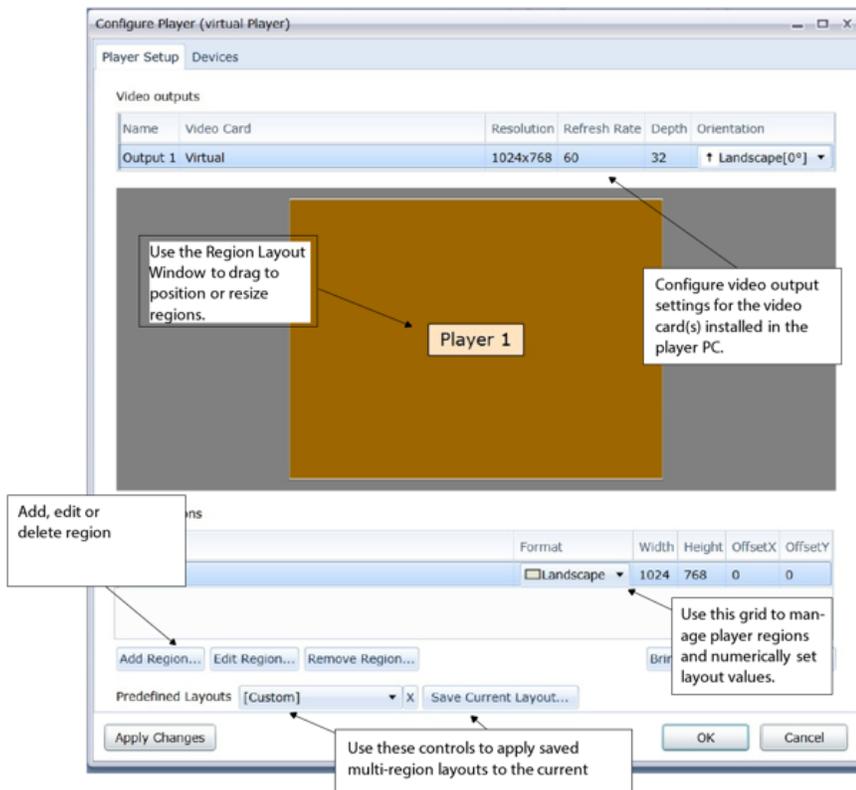
Configuring Video Outputs

Each CoolSign display engine contains one or more video cards. If you want to remotely reconfigure a video card to a different resolution, refresh rate, bit depth or orientation, you can do this from the Player Setup tab of the Configure Player dialog.

To configure the video output of a device:

1. In the Player Setup tab, select the video output in the Video outputs grid.
2. Change one or more video output properties. You can change the following properties:
   • **Name**—Changes the name of the video output.
   • **Resolution**—The resolution that the video card uses. The Resolution editor displays a list of commonly used resolutions, or you can type in a new resolution by using the format WidthxHeight (i.e., 1200x300 or 830x30).
   • **Refresh Rate**—The refresh rate. Select from a list of commonly used refresh rates or type in a new rate.
   • **Depth**—The bit depth of the video card: 32 or 16.

> **ⓘ Note**
>
> The Configure Player dialog does not currently check to ensure that you enter or select properties valid for the video card. Setting the resolution, refresh rate, or depth to values not supported by the video card will result in a player error and prevent content playback.

- **Orientation**—The orientation of any displays connected to this video output. Set the orientation so that content is positioned correctly.

3. Click **OK** or **Apply Changes**.

Managing Player Regions

> **⚠ Warning**
>
> Multi-region playback performance is highly dependent on the resolution and type of content in each channel as well as CPU processor speed, RAM, and video card. If your desired multi-region layout is resulting in playback hitching, you may need to upgrade the PC components or lower the content performance requirements.

To add a new region:

- Click **Add Region**.

To edit an existing region:

1. Select the region in the Player Regions grid.
2. Do one of the following:
   - Directly edit the Format, Width, Height, OffsetX, and OffsetY properties in the grid.
   - Click **Edit Region** to display the Region Properties dialog to edit all properties included advanced properties.

3. Click **OK** or **Apply Changes**.

You can edit any of the following Player Region properties:

- **Format**—The type of channels and content that can be scheduled on the player. For more information on format and orientation, see "**Understanding Orientation and Format**".
- **Width and Height**—The size in pixels of the player region as it will appear on the screen.
- **OffsetX and OffsetY**—The position of the player region relative to the upper-left hand corner of the screen.

You additionally can edit any of the following advanced properties from the Region Properties dialog:

- **Layer**—The z-order layer of the region. You can also manage the ordering of regions with the **Bring to Front** and **Send to Back** buttons.
- **Transition Color**—The color used by any content transitions during playback. This color can be overridden by setting the transition color directly on the content via the Content Properties dialog.
- **Gap Time**—The number of milliseconds that the player will wait between each content.

  > **ⓘ Note**
  >
  > Setting the Gap Time to 0 will cause the player to attempt to play content back-to-back but there still may be a flash of black.

- **Script Setup Time**—The amount of time, in milliseconds, to give the media player to get the next ad ready.

Working with Regions

You can use the Configure Player dialog to position, size, and layer the regions on a player. You can either directly input numeric values for the position and size of a region or you can directly drag on the region in the Region Layout window. You can also right-click on a region to perform additional actions on the region.

To resize a region in the Region Layout window:

- Click and drag on the edge of the region you want to resize. By default, edges will snap to the edges of other regions. To turn off edge snapping, hold down the CTRL key while dragging.

To reposition a region:

- Click and drag on the center of the region you want to reposition. You cannot reposition a region so that any part of it is outside the screen area.

To maximize the size of a region:

- Right-click on the region and choose **MAXIMIZE WIDTH** or **MAXIMIZE HEIGHT**. The region will be resized to fit the appropriate dimension of the player.

To split a single region into two regions:

- Right-click on the region and choose **SPLIT HORIZONTALLY** or **SPLIT VERTICALLY**. The region will be split into two equally sized regions.

Layering Regions

Regions are allowed to overlap with each other. You can use overlapping regions when you want one region to play on top of another region. Any visible background area in your content will be transparent for overlapping regions. You can set the order in which regions are layered.

To change the layer order of a region, do one of the following:

- Select the region and click **BRING TO FRONT** or **SEND TO BACK**.
- Right-click the region and choose **MOVE TO FRONT** or **MOVE TO BACK**.
- Select the region and click **EDIT REGION** to directly edit the region's Layer property.

Saving Layouts

Once you have laid out the regions for a player, you can save that layout so that you can easily apply it to other players.

To save the current layout:

1. Click **Save Current Layout**.
2. Enter a name for the saved layout.

To apply a saved layout to the current player:

- > **ℹ Note**
  >
  > Layouts are saved with exact positioning and sizes for each region. Applying a region created for a player with a different video resolution can result in regions being positioned off-screen. You may want to label each saved layout with the resolution it was created for (in other words, MyLayout 1024x768, for example.).

To delete a saved layout:

1. Select the saved layout from the Predefined Layouts combobox.
2. Click the ✕ button to delete the layout.

Understanding Orientation and Format

The difference between a video output orientation and a player format can be confusing because both use values named Landscape and Portrait. This section summarizes the differences between these properties.

Orientation

Orientation is the setting on a video output that indicates the physical orientation of the display devices connected to a player. The values can be:

- **Landscape (0°)**—The display is in its normal TV orientation where the top of the screen is the top.
- **Portrait (-90°)**—The display is rotated 90 degrees to the left so that the right-side of the screen is now the top.
- **PortraitCW (+90°)**—The display is rotated 90 degrees to the right so that the rightside of the screen is now the bottom.
- **UpsideDown (180°)**—The display is rotated upside down.

Orientation is used by the CoolSign software to correctly position your content on the screen. You should always set the orientation to match the physical orientation of the display device.

Format

The format of a player indicates which channels are permitted to be scheduled on that player. You can only tune players to channels of the same format which can, in turn, only include content of the same format. In a default CoolSign network, the available formats can be:

- **Landscape**—Indicates standard 4:3 or 16:9 content (although can be used to refer to any content which is wider than tall).
- **Portrait**—Usually indicates 9:16 content (although can be used to refer to any content which is taller than wide).
- **Audio**—Indicates MP3 audio-only content which is managed from the Audio page.

Format is an arbitrary tag assigned to content that makes it easy to manage a combination of Landscape, Portrait, and Audio players without worrying about scheduling the wrong content for the physical orientation of the display.

For most cases, set the format of your player to match the orientation of the display (i.e., Landscape/ UpsideDown *orientation* and Landscape *format* or Portrait/PortraitCW with Portrait format). For special display needs, you can, however, use different combinations. For example, you can use the region sizing and positioning settings to position a Portrait format player so it correctly displays on a Landscape-oriented video output.

Configuring Display Control Devices

> **Note**
>
> The Custom Display Control Editor can be used to configure any display capable of being controlled via an RS-232 port. As of CoolSign 5.1, this includes monitors that support hexadecimal commands. See Chapter "Using the Custom Display Control Editor".

In the Configure Player dialog, the top half of the **Devices** tab includes a list of all devices that this player recognizes. For example:
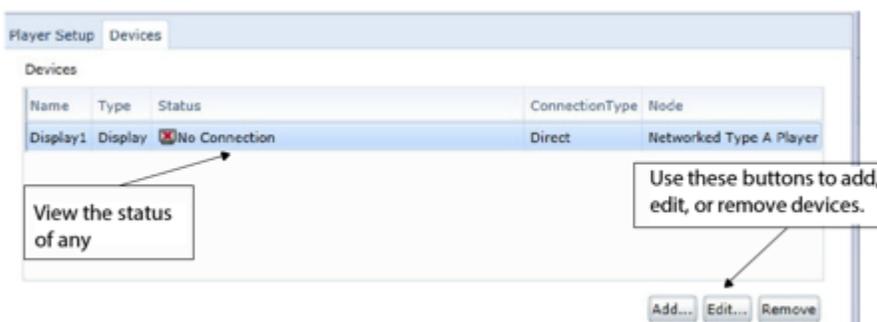
By default, this device list includes the following columns: name, type, status, connection type, and node.

> **ⓘ Note**
>
> For details on how to display additional columns in the device list, see "Changing which Columns are Visible".

When you select a display in the device list, the lower half of the tab includes a display control:
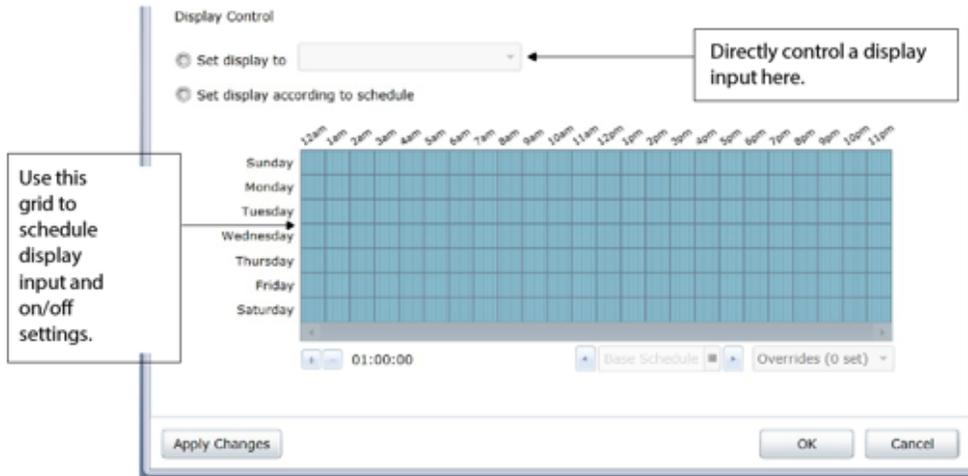
- For details on manually setting the display control, see "Setting Display Control".
- For details on using the schedule grid, see "Setting Display Control".
- You can simultaneously select two or more displays in the device list. For details, see "To configure multiple displays:".

You can configure control of the display on the **Devices** tab of the Configure Player dialog.
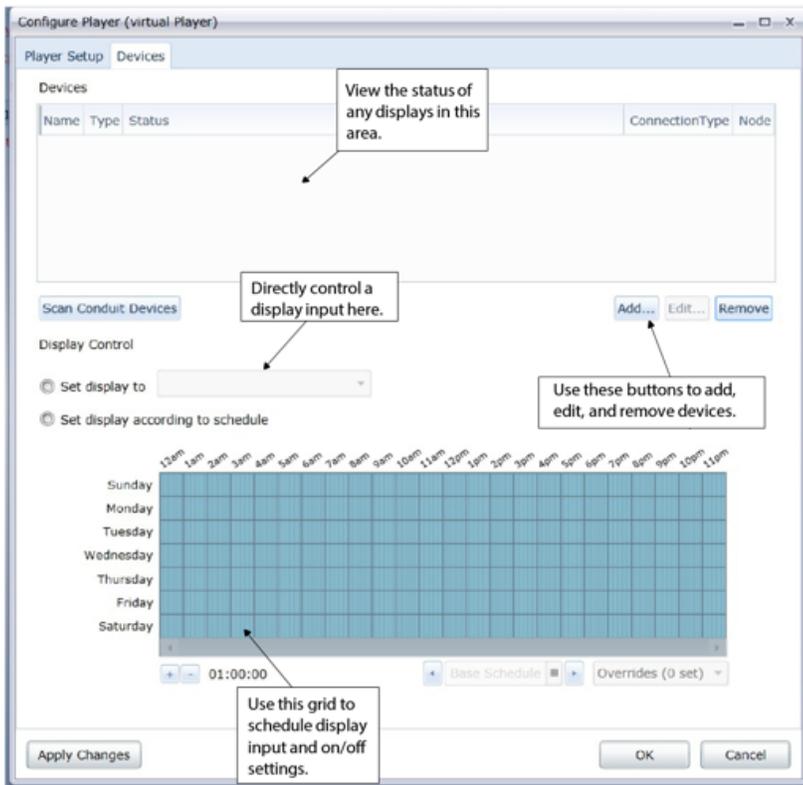
> **ⓘ Note**
>
> You should only add a display (using the Configure Player dialog) *after* you have physically connected the display to the player PC with a serial cable. Adding a display before physically connecting will raise a display status error until the display is actually connected.

1. Click the **Add** button.
2. Select **DIRECT DISPLAY** from the pop-up.

3. In the Display Properties dialog, enter a name for the new display.
4.
> ⚠️ **Warning**
>
> The brand and model must exactly match the display connected to the player. Otherwise, the display control will most likely not work and report an error status.

5. Set the COM port the player PC will use to communicate with the display.
6. Set the DisplayID if your display device supports daisy-chaining multiple devices.
7. Enter a name for any available inputs that you intend to use. You must keep one input labeled as CoolSign.

Inputs	Name
RGB	CoolSign
Component	tv
S-Video	dvd
Video	

8. If the display supports disabling the control buttons, you can check **Disable panel** checkbox.

☐ Disable panel buttons

Calibration properties

☐ Auto calibrate every [1 ⬍] hours   [Calibrate now]

9. If the display supports auto-calibration, you can set the auto-calibration properties.
10. Add any comments that might be of benefit to your administration of the device and your network.
11. Click **OK** to close the Devices dialog.
12. Click **OK** or **Apply Changes** to add the new display.

To edit a display:

1. Select the display in the Devices grid of the **Devices** tab.
2. Click the **Edit** button.
3. In the Display Properties dialog, change any properties of the display.
4. Click **OK** to close the Display Properties dialog.
5. Click either the **OK** or **Apply Changes** button to effect your display changes.

To remove a display:

1. Select the display in the Devices grid.
2. Click the **Remove** button.
3. Click either the **OK** or **Apply Changes** button to remove the display.

About the CoolSign Null Display

> ℹ️ **Note**
>
> The CoolSign Null display does not raise any status conditions or provide any feedback to determine if the actual display is working or not.

To add a CoolSign null display:

1. On the **Devices** tab of the Configure Player dialog, click the **Add** button.
2. Click the **Direct Display** radio button.
3. Select "CoolSign" from the Brand combo box.
4. Select "NULL" from the Model combo box.
5. Click **OK**.

Setting Display Control

By default, each display added to a player is set to use the input labeled as CoolSign on its Display Properties dialog. If you want to directly control a device, you can manually set the display to use any of the inputs labeled on the Display Properties dialog or you can turn off the display.

To manually set display control:

1. Click the "**Set Display to**" radio button.
2. In the Display Control combo box, select an input or **Off**.
3. Click **OK** or **Apply Changes**.

Scheduling Display Control

If you want a display to turn on and off on a schedule or switch to a different input, you can schedule the display control using the Display Control schedule grid.
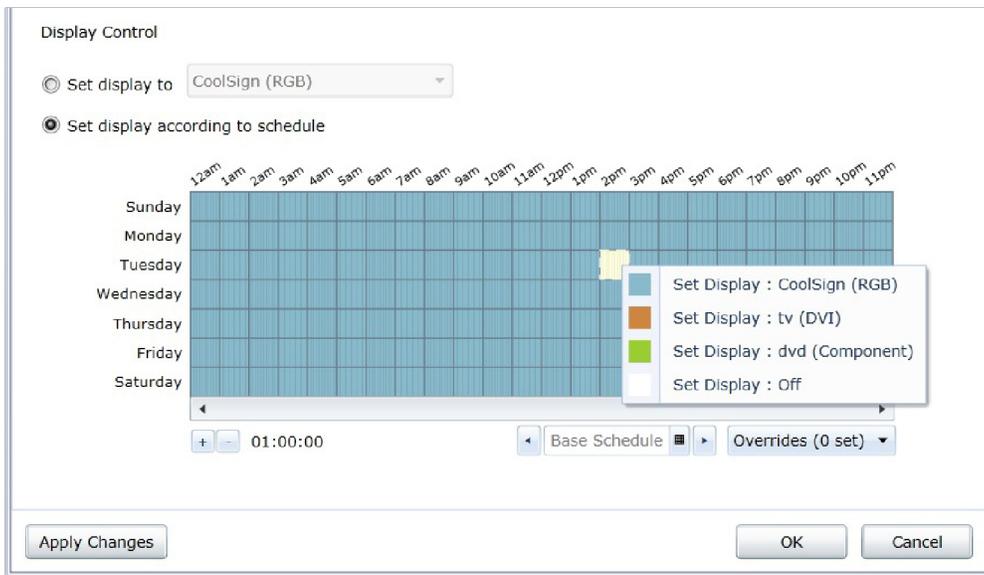
To schedule display control:

1. Click the "**Set display according to schedule**" radio button.
2. Set a schedule using the Display Control schedule grid. Click or drag a range of cells to toggle the display from OFF to CoolSign during that time, or right-click on a cell or selection of cells to select an input for the display at that time. For more information on using schedule grids, see "Using Schedule Grids".
3. Click **OK** or **Apply Changes**.

Adding Multiple Displays

CoolSign supports controlling multiple displays serially. If your display devices support daisy-chaining multiple devices on a single serial port, you can set the appropriate Display ID property for each display from the Display Properties dialog.

If your display devices do not support daisy-chaining, you must connect each display to its own serial COM port and set the appropriate COM port in each Display Properties dialog. You can only connect a single device to each COM port and will be warned if you attempt to configure a display on a COM port that is already assigned to another display.

> ✅ **Tip**
>
> You can use a third-party serial port extender to add additional serial COM ports to a Windows PC.

By default, when you configure multiple displays on a player, they will all use the same display control settings as defined in the Display Control settings box.

To configure multiple displays:

When you select multiple displays in the list at the top of the Devices tab ("To add a new display device:"), you can view and set the values for all displays simultaneously. The following conditions apply:

- If you are controlling the displays manually (see "Setting Display Control"), the Display Control combo-box is empty if the selected displays are configured with different inputs. If all selected displays do not have the same model, the display control choices are limited to "CoolSign" and "Off".
- If you are using the schedule grid for display control (see "Scheduling Display Control"), the grid displays "Mixed Schedule" if all selected displays do not have the same schedule.
- When you click **Apply Changes** or **OK**, any values that are in Mixed mode are unchanged; that is, the value for each individual display is preserved.

Managing Sites

Topics Discussed

- **About Sites**
- **Working with Players and Sites**
  - **Viewing all the Players within a Site**
  - **Changing the Sites Panel View**
  - **Creating a New Site**
  - **Assigning a Player to a Site**
- **Editing Site Properties**
- **Setting the Hours for a Site**
- **Add Attributes to a Site**
- **Deleting a Site**

CoolSign is designed to support a large network of players located around the world. When you begin to deploy players to multiple locations, it becomes useful to start thinking in terms of the sites where your players are installed—especially when each site may have multiple players and possibly a transfer node.

To help you organize the way you view your players and nodes, CNM lets you define virtual sites that represent the physical locations where your players are deployed.
Using CNM, you can easily create new sites, assign metadata to a site, and organize your players and nodes into sites that are viewable in a geographic tree hierarchy or flat view.
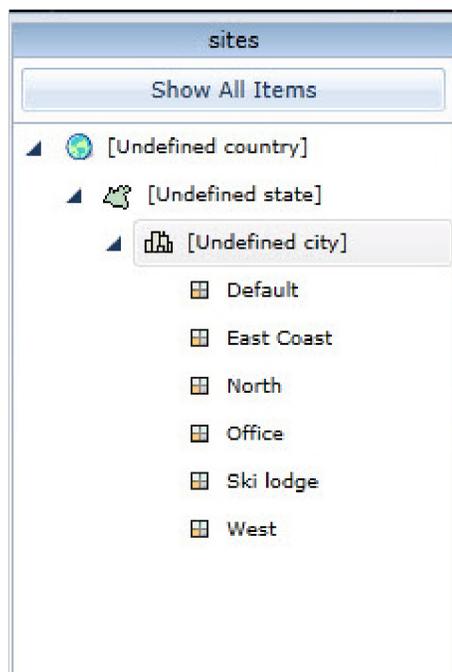
About Sites

Sites are a tool to help you represent the geographic organization of the players in your network. A site does not represent an actual CoolSign player or transfer node but, rather, the location where one or more nodes are deployed. While it may be tempting to think of a transfer node as an equivalent to a site since, in most common network topologies, a single transfer node is located at each site, this is not always the case. For example, if your site only has a single player deployed at a site, it wouldn't be necessary to also have a transfer node, but you would still want to represent the site for that player. Furthermore, transfer nodes are often used to improve scalability in the NOC or regional locations and, therefore, don't always represent a physical site.

Sites are actually very similar to QuickSets with the following differences:

- Sites are only available for players and network nodes.
- Each node in a network can only belong to a single site.
- You can assign metadata to a site so that you can track business-related information.
- Sites can be viewed in a special geographic tree view.

Working with Players and Sites

Sites are available to help you organize how you view the players in your CoolSign network. You can organize your players into different sites and then use the site's quickbar to quickly view all the players within a site or geographic region.

To view the sites quickbar for players:

1. Open the Players page by clicking the **Players** icon in the navigation bar.
2. By default, the sites quickbar should be visible at the left of the players grid.

If the quickbar is not visible, choose **VIEWS** > **QUICKBAR** to make it visible. If the sites panel is not visible, click the sites button in the quickbar.
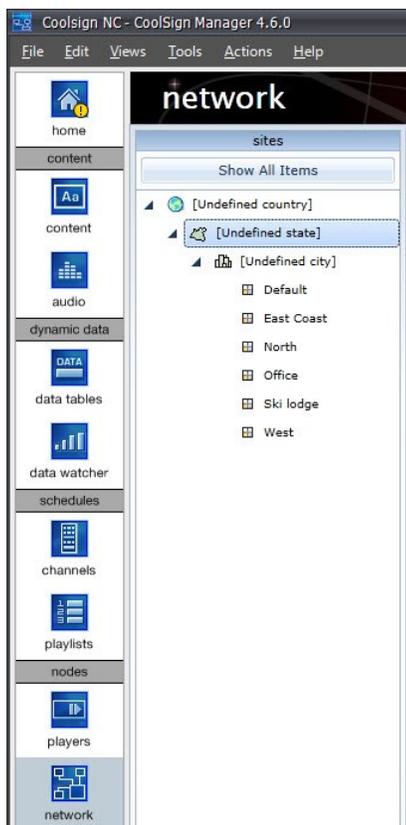
Viewing all the Players within a Site

When you click on a site node in the sites panel, the data grid displays only the players located in that site or geographic location. Clicking on a city, state, or country node shows you all of the players in all of the sites located underneath that node. This makes it easy to quickly filter your view of players from anywhere within a site — up to all the players in a specific city, state, or country.

Clicking a site node in the sites panel also displays a site info panel above the data grid, with specific information about any Attributes you have defined.
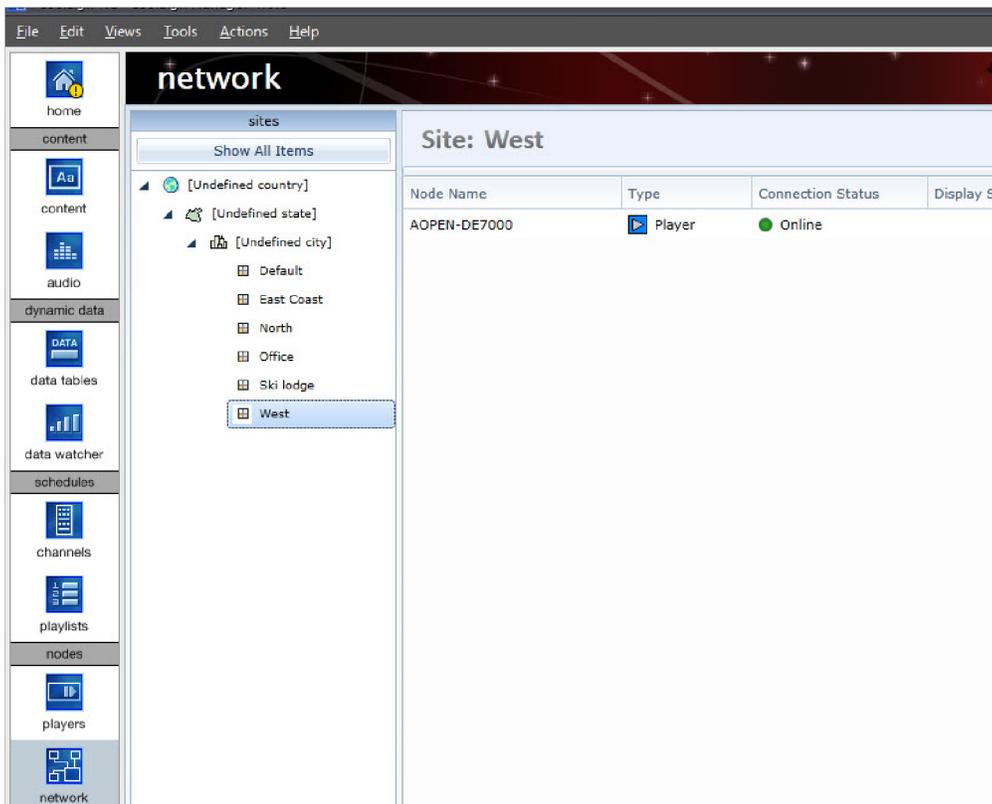
Changing the Sites Panel View

By default, the sites panel shows a geographic tree view of your sites with levels for the country, state, and city. You can also choose to view your sites in a flat view without the geographic hierarchy.

To change the sites panel view:

1. Click the **Options** button at the bottom of the sites panel.
2. Select **Geo View** for the default geographic tree view or **Flat View** to display just the site nodes.

Creating a New Site

> ℹ️ **Note**
>
> You can edit the properties of the player-created site to add geographic information (such as longitude and latitude that is required for Vistar content) or other metadata. See "**Editing Site Properties**".

You can create new sites as needed to reorganize your players.

To create a new site:

1. Right-click anywhere in the site panel to display the sites popup menu.
2. Choose **CREATE SITE**. A new Site Properties dialog appears. If you right-clicked on a country, state, or city node in the sites panel, the new site is automatically set to that geographic region.
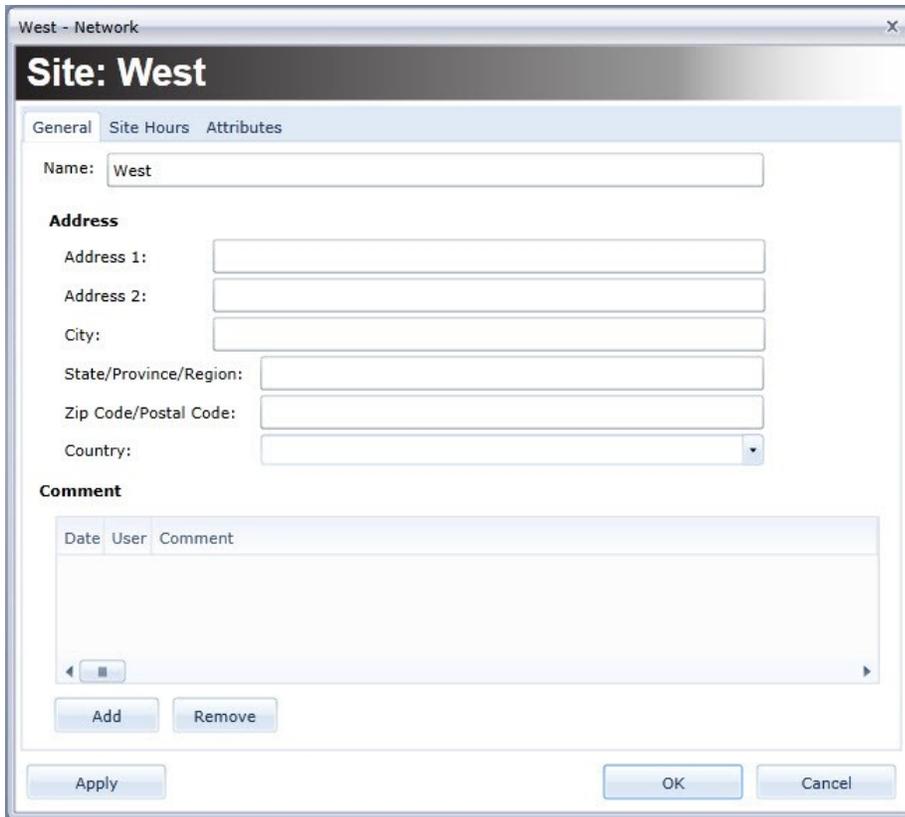
3. Enter a site name.
4. Enter the address information for the site into the fields provided.
5. Click **OK**. A new empty site will be created in the site tree list.

Assigning a Player to a Site

> ⚠️ **Warning**
>
> Reassigning a player's site does not change the physical topology of your network. You cannot point a player to a different transfer node just by changing its site. Sites are virtual organizations only.

To reassign a player to a different site:

- > ℹ️ **Note**
  >
  > You can only drop a player onto a site icon. You can't drag onto the country, state, or city nodes in the site tree.

You can also reassign a player's site from the Node Properties dialog on the Network page. For more information, see "Editing Node Properties".

Editing Site Properties

> **ⓘ Note**
>
> Some content requires that additional information is defined for a site. For example, Vistar requires that longitude and latitude are defined for a site.

You can edit the site to set geographic information, define the hours that the site is open, and add any attributes you desire.

To edit a site's properties:

- Right-click on the site's node in the site tree list and choose EDIT SITE.

Setting the Hours for a Site

> **ⓘ Note**
>
> Players within a site will continue to play their schedules even if a site is scheduled to be closed at a certain time. If you want to schedule a player to start and stop playing at specific times, you can use the player's display control schedule.

For more information on retrieving play logs, see "Retrieving Play History for Content".

To set the open hours for a site:

1. From the Site Properties dialog, click the **Site Hours** tab.
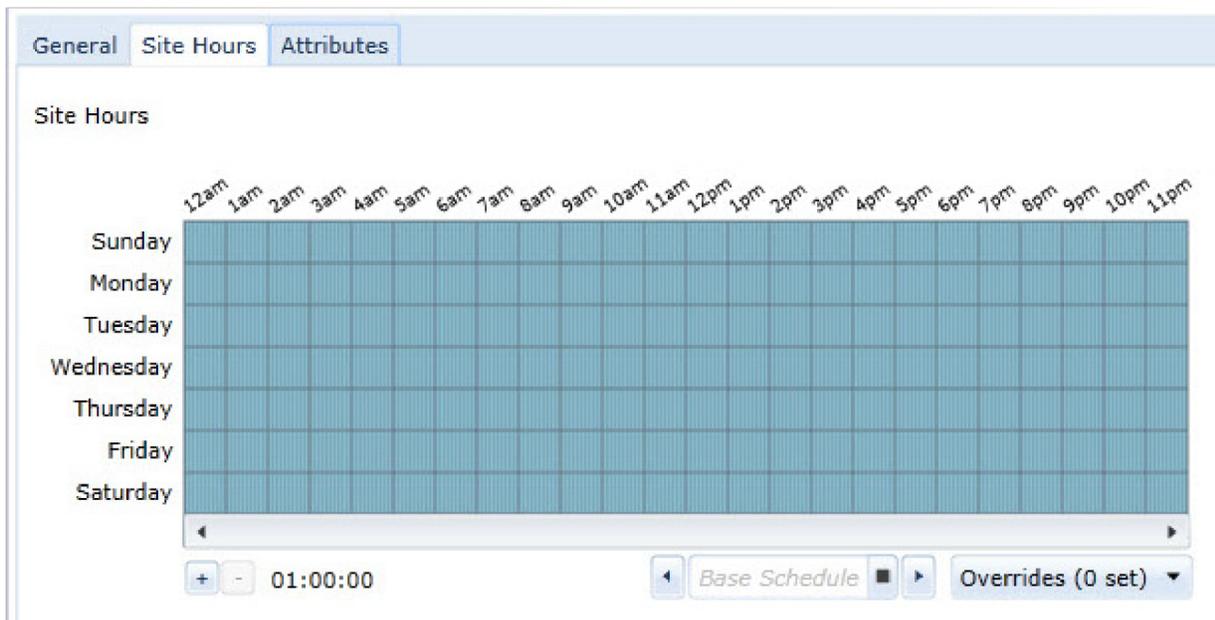
2. Using the site hours scheduling grid, set the schedule for which the site is open.

For more information on using scheduling grids, see "Using Schedule Grids".

Add Attributes to a Site

With the **Attributes** tab, you can add your own custom Attribute to a site if you'd like to track additional data about each site that is relevant to your business.

To add an Attribute to a site:

1. From the Site Properties dialog, click the **Attributes** tab.
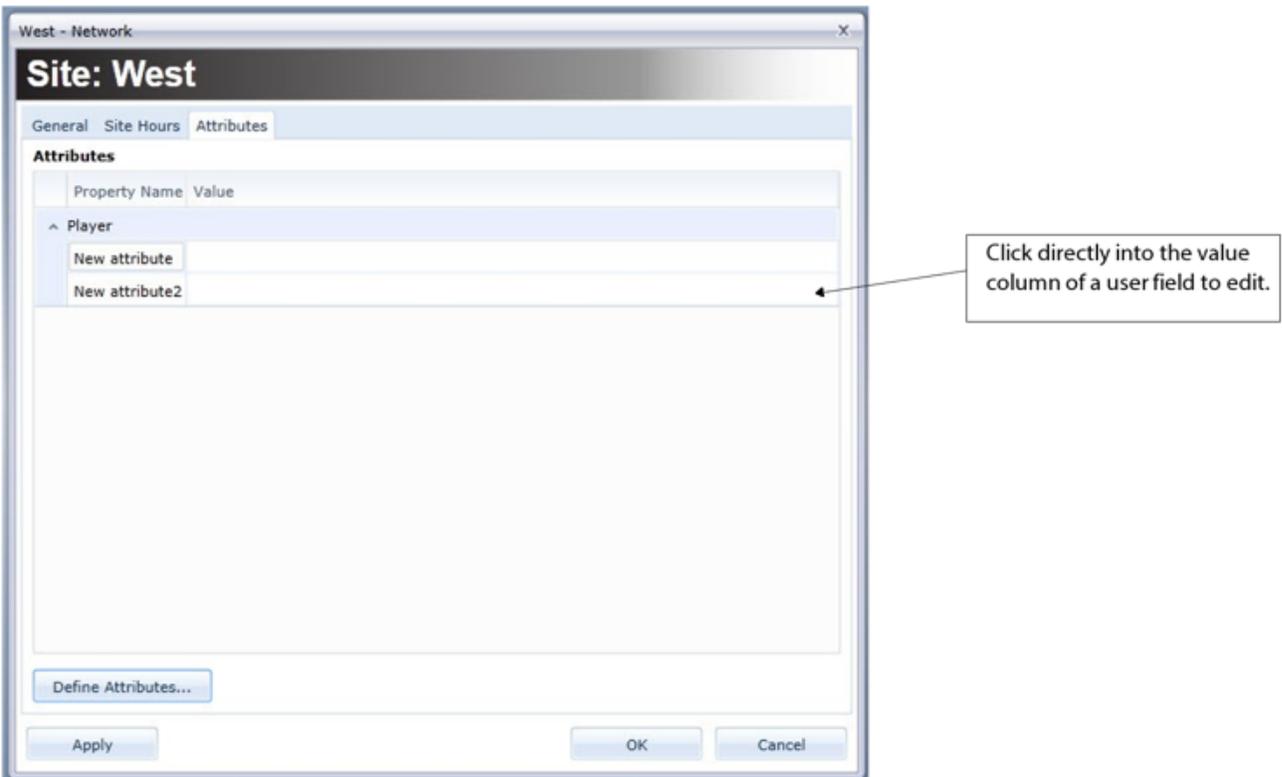
2. Click **Define Attributes** to open the Site Attributes dialog.
3. Click **Add** to open a new Attribute Properties dialog.
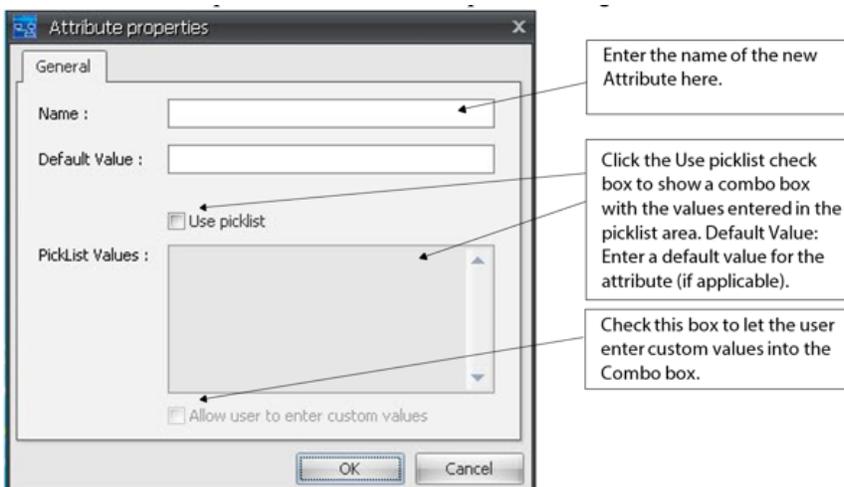
4. Enter a name for the site Attribute and add the appropriate values for the fields.
5. Click **OK**.

Deleting a Site

> **ⓘ Note**
>
> If transfer nodes or the network controller are assigned to the site you are trying to delete, you must use the Networks page to reassign those nodes to another site first.

To delete a site:

- Right-click on the site node in the site tree list and choose DELETE SITE.

About Dynamic Data

Topics Discussed

One of the most powerful features of CoolSign is its ability to use external data to control and update content and/or schedules.

You can use CoolSign's dynamic data features to:

- Dynamically update text displayed in your content.
- Dynamically update images or movies played back within your content.
- Dynamically show or hide assets within your content based on logic that references the values of your data.
- Display multiple rows of data in a tabular layout.
- Create flexible tickers and scrolling lists of your data.
- Dynamically enable or disable active items in a schedule, using Enabling Expressions.
- Pass dynamic payloads to triggered content.

About DataTables

All dynamic data in CoolSign is stored in objects called DataTables. DataTables are mini databases. The DataTable structure is flexible to allow you store anything from a single piece of information to hundreds of records with dozens of fields. A DataTable can be visualized as a table where each row represents a record and each column represents a field in that record. Each field in a DataTable can store text, dates,

numbers, yes/no (Boolean values), or media files (such as images, flash, and video).
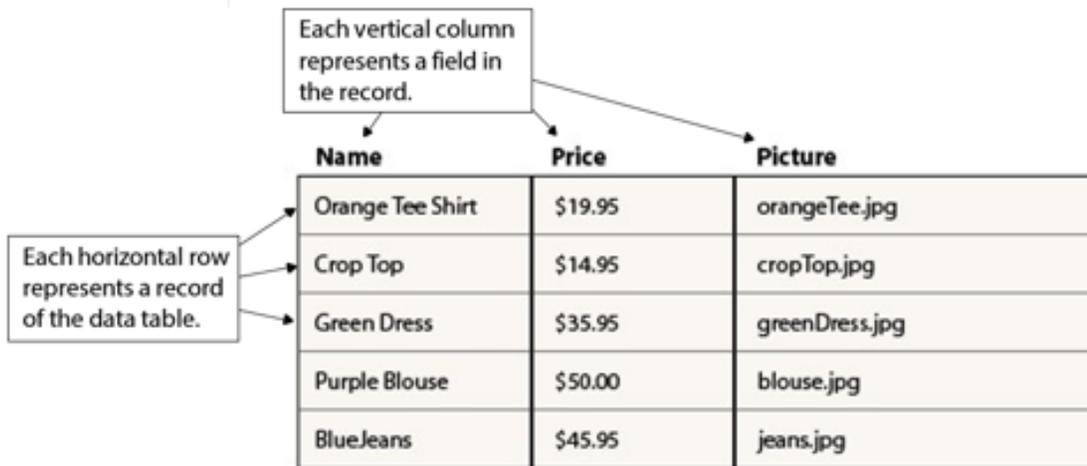
You can think of a DataTable as a container for your data. Whether you enter data manually via the DataTables page of the CNM or import it through the CoolSign Data Watcher, that data is stored in a DataTable.

You can manage the DataTables in your CoolSign network from the **DataTables** tab of CNM. From the **DataTables** tab you can manually edit the data or create, duplicate, and delete DataTables.

For more information on managing data tables, see "Managing DataTables."

Auto-Created DataTables

While you can manually create new data tables with the **DataTables** tab of CNM, most of the time your data tables will be automatically created for you.

The following actions can automatically create data tables:

- Importing dynamic content generated using the CoolSign Content Creator.
- Adding a new data watcher configuration to the CoolSign Data Watcher.

Auto-created DataTables appear on the **DataTables** tab and can be managed the same as manually created DataTables.

> ⓘ **Note**
>
> Modifying the structure or deleting an auto-created DataTable can cause content that uses that DataTable to stop playing and raise a content error.

Using DataTables in your Content

You can create dynamic content that will display the data stored in a DataTable when the content is played back. Any time the data in the table is modified (either manually or via an external tool like the Data Watcher), the content is automatically updated to reflect the new data.

You can create dynamic content with the CoolSign Content Creator, which is available as a separate product. For detailed information on authoring dynamic content, refer to the CoolSign Content Creator User's Guide.

Binding Dynamic Content to a DataTable

Content that references the data in a DataTable is said to be "bound" to the DataTable. Binding content to a DataTable lets CoolSign know that the DataTable is required wherever that content is scheduled.

When you import content created using CoolSign Content Creator, an empty DataTable for the content will be created, if it doesn't already exist, and the content will be automatically bound to the DataTable.

In CNM, you can use the Content Properties dialog to bind the content to a different DataTable.

To bind dynamic content to a DataTable:

1. From the Content page, open the Content Properties dialog by right-clicking the desired item or clicking **ACTIONS** > **EDIT CONTENT PROPERTIES**, or simply double-click the item's name in the list.
2. From the Content Properties dialog for your content, select the **Dynamic Data** tab.
3. Choose the DataTable you wish to bind your content to from the WATCH DATABASE pull-down menu.

> ℹ️ **Note**
>
> The pull-down menu only lists DataTables that match the field structure defined within the content. If you want to bind the content to a DataTable that doesn't appear in the list, click the **Show All DataTables** checkbox to list all the DataTable in your network.

> ⚠️ **Warning**
>
> Binding content to a DataTable that doesn't contain fields required by the content usually results in a content error when trying to play back the content.

www.haivision.com

4. Click **OK** or **Apply Changes**.

> ℹ️ **Note**
>
> You can override DataTable bindings when you schedule so that the same piece of content can be bound to different DataTables depending on where it is scheduled. For more information on overriding DataTable bindings at schedule time, see "**Overriding Dynamic Data Settings**".

Getting Data into DataTables

Ultimately, DataTables are only useful if they contain data. You can get data into your DataTables in any of the following ways:

- Manually input data using the **DataTables** tab of CNM.
- Use the CoolSign Data Watcher to read data from an external data source and automatically import it into a CoolSign DataTable.

Manually Inputting Data

You can use the DataTables tab of CNM to edit the data within your DataTables.
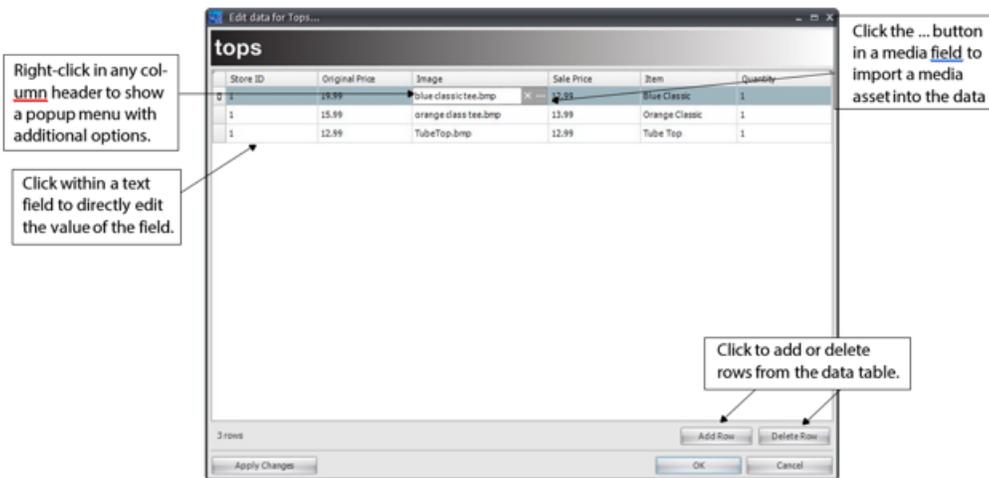
While manually editing data you can:

- Add and remove rows of data.
- Input text, numbers, and dates into fields.
- Import images and movies into media fields.
- Set the activation and expiration date for each individual row.
- Import or export the data to a comma-delimited file.
- Print the data.

For more information on how to edit data in a DataTables, see "**Editing Data in a DataTable**".

Localizing Data

In many cases, you will want to use different data depending on the player's physical location or some other property of the player. For example, if you are showing content that dynamically displays the current weather, you would obviously want to show only the weather for the city in which the player is located. CoolSign provides tools to help you *localize* your data so you can control which dynamic data appears on which player in your network.

It might seem like you could implement *data localizing* by creating a unique DataTable for each locale that requires a unique row or rows of data, and then scheduling content bound to that DataTable for each player. However, this would quickly become difficult to manage for a large number of sites and players. CoolSign can use a combination of data row filtering and node attributes to define an expression that does localizing all from a single DataTable.

How does localizing work?

> **ℹ Note**
>
> You can localize enabling expressions using the same methods. For more information on enabling expressions, see "**Using Enabling Expressions**". For more information on defining and setting attributes, see "**About Node Attributes**".

About CoolSign Data Watcher

The CoolSign Data Watcher is designed to act as a bridge between some external data source and your CoolSign network. You can configure instances of the Data Watcher to read data from one or more data sources, parse that data into records and fields, and then insert it into a DataTable on your network. The data source can be a structured text file (comma-delimited file, etc.) or an XML document, and can be located on any local or network hard drive, ftp site, or http address. The Data Watcher can also be used to execute custom scripts that gather data from data sources with programmatic interfaces such as SQL databases or web services.

For detailed information on using and configuring the Data Watcher, see "**Using the Data Watcher Manager**."

Using the Data Watcher Manager

Topics Discussed

The CoolSign Data Watcher allows you to bring dynamic data from external data sources into your CoolSign network.

As described in "About Dynamic Data." CoolSign can use dynamic data in a number of different ways. The most common way is to display the data within a piece of content. For example, you might create a piece of content that displays the current temperature, the name and price of a product, or a news headline. With dynamic content, when the underlying data changes, the content is automatically updated to display the new values. Displaying dynamic data is not limited to text information and can also include embedded bitmaps, videos, or Flash assets.

What does the Data Watcher do?

The Data Watcher acts as a bridge between a data source and a CoolSign network. The Data Watcher can read data from various types of data sources (for example, a file on your hard drive or a website), parse that data using a configurable data parser, and then import it into a CoolSign data table. The Data Watcher continues to run and automatically update its CoolSign data tables whenever there is a change to the original data source, to referenced assets, or to the Data Watcher configuration.

The Data Watcher Manager

As with other CNM pages, the Data Watcher Manager has two panels: a nodes panel and a grid view.

The *nodes panel* shows all of the nodes on which an instance of the Data Watcher service is running and indicates each node's overall status.
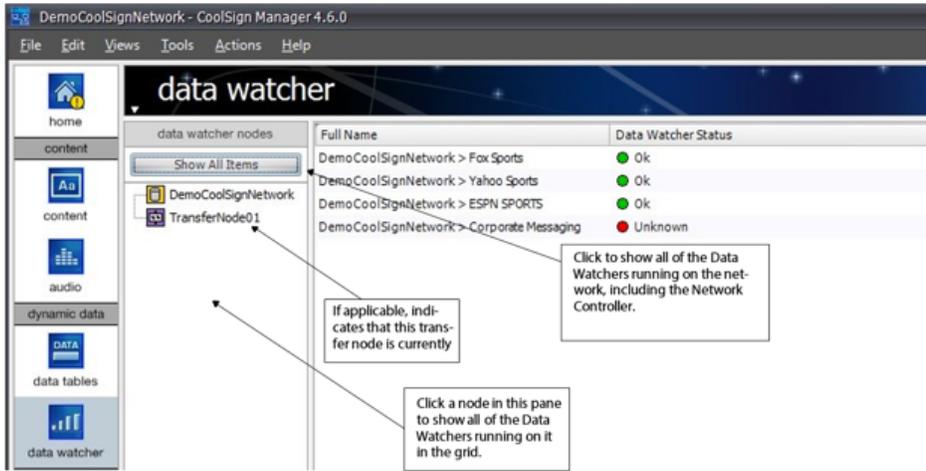
The *grid view* displays each Data Watcher's full name (including the name of the node) and status.
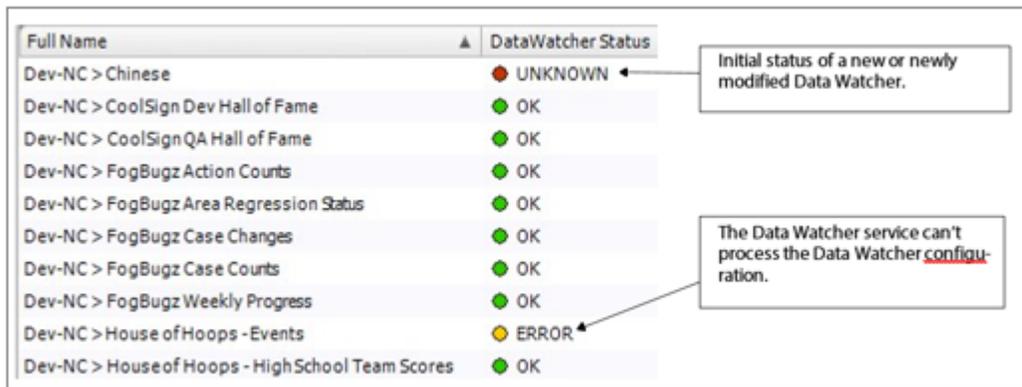
To open the Data Watcher Editor dialog:

1. Select the Data Watcher in the data grid, then do one of the following:
   - Right-click and choose **EDIT DATA WATCHER PROPERTIES**.
   - Choose **ACTIONS** > **EDIT DATA WATCHER PROPERTIES**.
   - Double-click on the Data Watcher in the data grid.

Configuring a Data Watcher

> **Note**
>
> Do not confuse this process with the Data Watcher *service* configuration (see " **Step 6: Test the Data Watcher configuration**"). A DWC file defines the configuration for an individual Data Watcher; the Data Watcher service configuration contains settings for the Data Watcher service itself.

To configure a Data Watcher:

1. In the Data Watcher nodes panel, select a Data Watcher node.
2. Right-click and choose **CREATE NEW DATA WATCHER**.
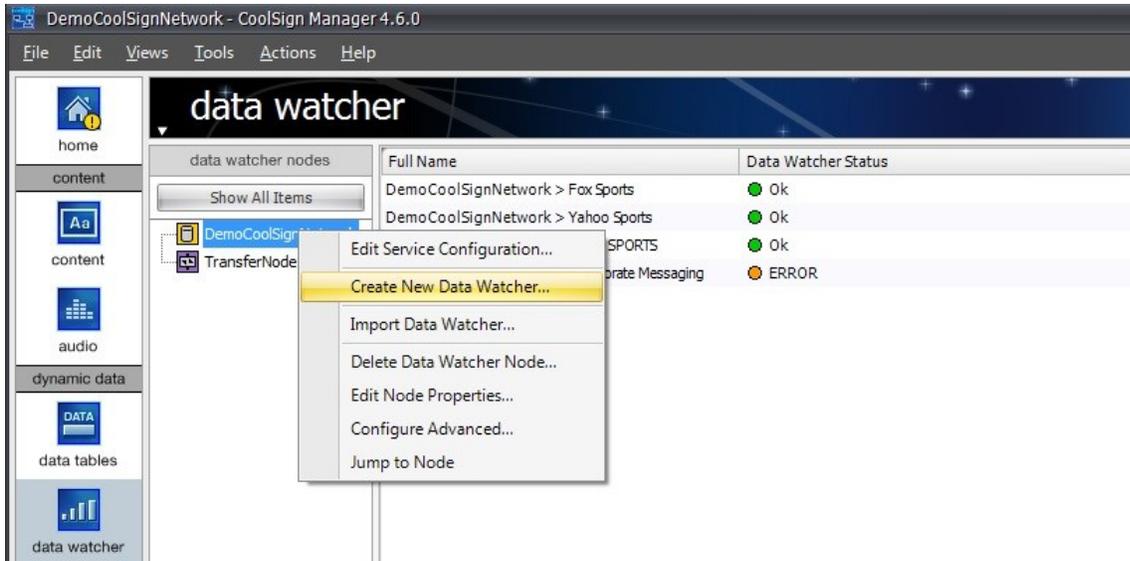
3. In the Data Watcher Editor's **Scope** tab (see Step 1: Define the Scope), specify whether the data should be available to the entire network or restricted to the node on which the Data Watcher is running (and all of that node's children).
4. In the Data Watcher Editor's **Data Source** tab (see Step 2: Set up the data source), select and configure the source from which your Data Watcher will read data.
5. In the **Data Parser** tab (see Step 3: Set Up the Data Parser), choose the data parser that will be used to parse the data into fields that will be imported into a CoolSign data table.
6. In the **Field Mapping** tab (see Step 4: Map data source fields to CoolSign data tables), define how the selected data parser should parse each field from the data source and map it into the field of a CoolSign data table.
7. In the **Data Table** tab (see .Step 5_ Set data table properties v5.1), specify the frequency and method with which the Data Watcher will update the CoolSign data table.
8. When you've finished configuring properties, click **Test Configuration** (see Step 6: Test the Data Watcher Configuration) to verify your settings.

> ℹ️ **Note**
>
> There are special considerations that apply when editing configurations locally with the standalone version of the Data Watcher Editor. For details, see "To remove an existing Data Watcher configuration…"

Importing and Exporting Configurations

You can import or export Data Watcher configurations to move them to and from other Data Watchers.

To export a Data Watcher configuration:

1. Choose the Data Watcher you want to export.
2. Choose **CONFIGURATIONS** > **EXPORT DATA WATCHER**.

3. Enter a name for the saved Data Watcher configuration.

To import a Data Watcher configuration:

> ⓘ **Note**
>
> The following must be performed from the Network Controller or Transfer Node.

1. Choose **CONFIGURATIONS** > **IMPORT DATA WATCHER**.
2. Using the file browser, select the Data Watcher Configuration (DWC file) that you want to import.

Step 1: Define the Scope

In the Data Watcher Editor, you determine the scope of this Data Watcher.
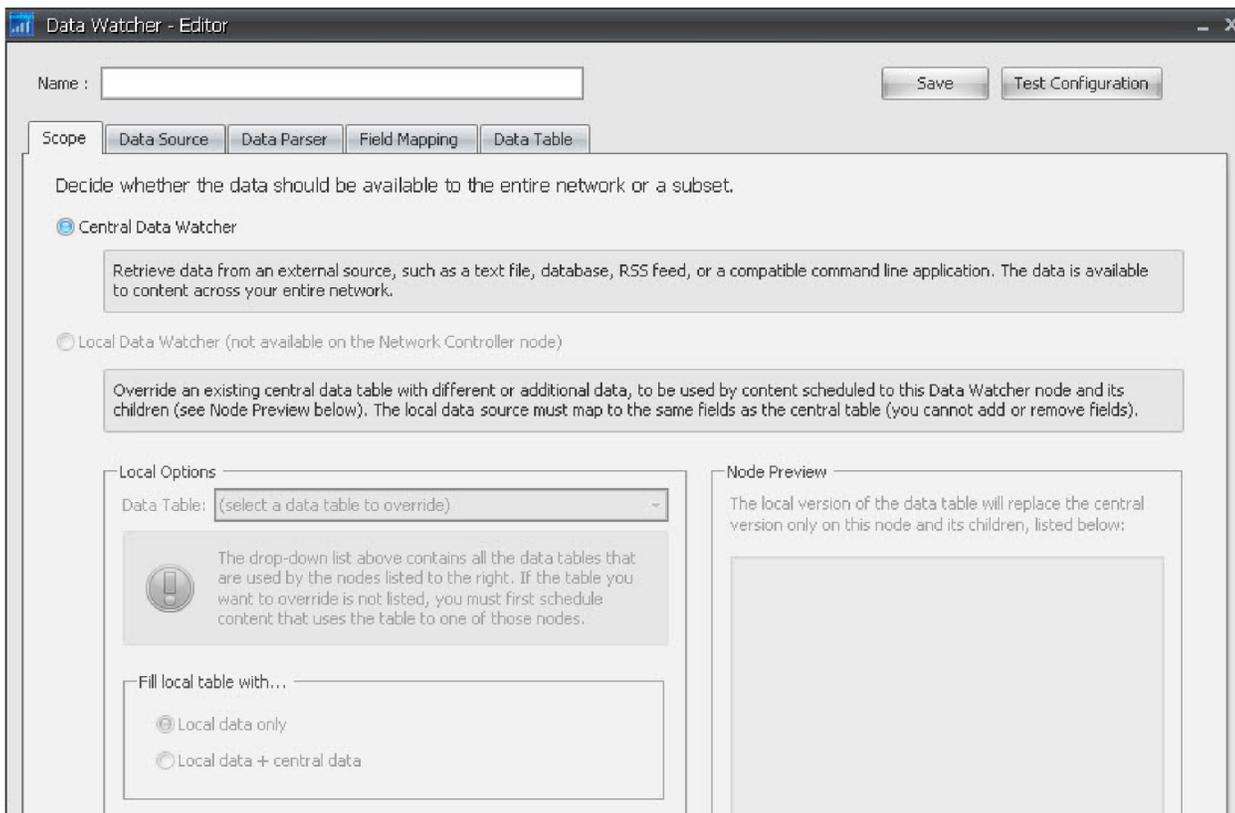
- **Central Data Watcher**—Data obtained by this Data Watcher is stored on the Network Controller, and is available on all nodes throughout the network.
- **Local Data Watcher**—Data obtained by this Data Watcher is available only on the node where the Data Watcher is running, and on all of its children (as shown in the Node Preview area). In the Local Options area, select the data table that you want to override. Indicate whether you want to replace all central data with local data, or merge local data with the existing data:
  - **Local Data Only**—Replace all central data with local data.
  - **Local Data + Central Data**—Merge local data with central data. If the same key is associated with different values in the central and local data, the local value will be used in the local version of the data table.

Step 2: Set up the data source

In the Data Watcher Editor, you use the **TYPE** pull-down menu to select the data source type for your configuration:

- **File**—Select this source when reading your data from a file located somewhere on your local hard drive or shared network drive. For details, see "Configuring a File Data Source".
- **URL**—Select this source when reading data from a website or other http addressable location. For details, see "Configuring a URL Data Source".
- **FTP**—The dynamic data is located on an FTP site. For details, see "Configuring an FTP Data Source".
- **External Command**—Use this data source when the Data Watcher doesn't support the type of data source you want to parse and you can write an external script or program to gather that data. For details, see "Configuring an External Command Data Source".
- **Database – SQL Server**—Use this data source when reading from a SQL Server database. For details, see "Configuring an SQL Server Data Source".
- **Database – ODBC**—Use this data source when connecting to an ODBC-supported database. For details, see "Configuring an ODBC Data Source".

Configuring a File Data Source
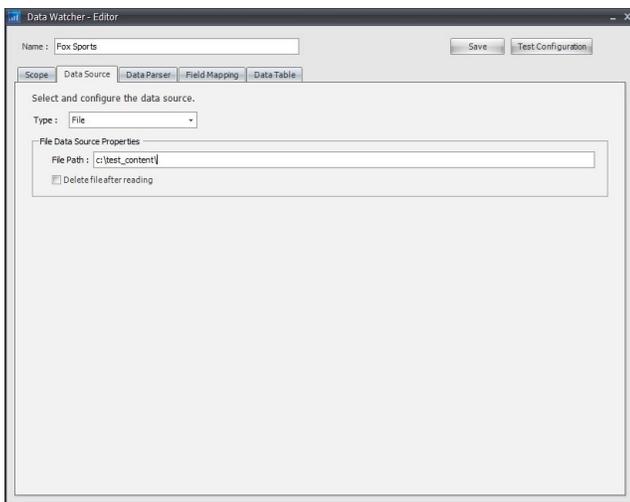
You can define the following properties for a File data source:

- **FilePath**—Enter a full path to a local or networked file. To select a file using a standard file browser dialog, click the ellipses button on the right side of the textbox. Note that this option only applies to the stand-alone version.

  > ℹ **Note**
  >
  > The Data Watcher is a service, you cannot use mapped drives to specify the file path.

- **Delete file after reading**—Check this box if you want the Data Watcher to delete the file after each time it is read and parsed.

Configuring a URL Data Source

You can define the following properties for a URL data source:

- **URL**—Enter the full http URL to the file that should be read by the Data Watcher.
- **Allow Caching**—When this box is unchecked, a no-cache HTTP header is attached to all requests.
- **HTTP Authentication**—You can specify a user name and password for HTTP authentication, so that the Data Watcher can automatically log you in and obtain data from the specified site.

> **ⓘ Note**
>
> If you want to use a domain account, you must preface your user name with a domain name – for example, Domain_name\user_name.

- **Proxy Server Properties** — If your network requires a proxy to access the URL, you can enter it here. Supply a user name and password, if required by the proxy server.

Configuring an FTP Data Source

You can define the following properties for an FTP data source:

- **FTP Server**—The name of the FTP site to which the Data Watcher will connect.
- **User name**—A valid user name that can be used to log in to the FTP site.
- **Password**—The password for the user account.
- **File Path**—The relative path to the file to be read from the default login directory of the FTP site.
- **Proxy Server Properties**—If you are using a proxy server to cache FTP requests, you may also need to supply login credentials.

> ℹ️ **Note**
>
> If the proxy server is configured to cache FTP requests, the Data Watcher may receive expired data. Unlike HTTP, there is no known method for disabling FTP caching of Data Watcher requests without changing the configuration of the proxy server.

> ℹ️ **Note**
>
> The Media List parser is not supported for FTP data sources if you are also using a proxy server.

Configuring an SQL Server Data Source

You can define the following properties for an SQL Server data source:

- **Server Name**—The network address of the server to connect to.
- **User Name**—A valid user name that can be used to log in to the SQL Server.
- **Password**—The password for the user account.
- **Database**—The name of the database to use.
- **Query**—The SQL query. Only select those fields that will be used for parsing. Disallowed fields (such as binary or text) can cause errors, even if they are not used in the DataTable.

Configuring an ODBC Data Source

You can define the following properties for an ODBC data source:

- **DSN**—The name of the ODBC data source to connect to. This name is set up in Windows via the ODBC Data Source Administrator.

- **User Name**—(May not be required for all databases) A valid user name that can be used to log in to the ODBC database.
- **Password**—(May not be required for all databases) The password for the user account.
- **Query**—The SQL query. Only select those fields that will be used for parsing. Disallowed fields (such as binary or text) can cause errors, even if they are not used in the DataTable.

Configuring an External Command Data Source

The External Command data source is used whenever you want to execute an external script or program to gather the data that should be parsed. This might include connecting to a SQL database, scraping a website, or interfacing with a custom data source. The executed script must write out a file that can be read back in and parsed by the Data Watcher using one of the supported Data Parser types (see "**Step 3: Set Up the Data Parser**").

You can define the following properties for an External Command data source:

- **Command Path**—The full path to the executable that should be used to generate your data.
- **Arguments**—Any arguments that should be provided to the executable.
- **Output Path**—The full path where the executable writes its data. This file is read and parsed by the Data Watcher when the command has finished.
- **Timeout**—How long the Data Watcher should wait for the command to execute. If the command takes longer than the timeout, the Data Watcher logs an error.
- **Delete output file after reading**—Check this box if you want the output file to be deleted each time the Data Watcher reads and parses it. This ensures that the data source is not stale if the external command fails to execute.

Step 3: Set Up the Data Parser

> **ⓘ Note**
>
> Parser options vary depending on the selected Data Source.

Use the Parser pull-down menu to select one of the following data parsers:

- XML (see "**Configuring an XML Data Parser**").
- Delimited Field (see "**Configuring a Delimited Field Data Parser**").
- Fixed-Length Field (see "**Configuring a Fixed-Length Field Data Parser**").
- Media List (see "**Configuring a Media List Data Parser**").
- Database (see "**Configuring a Database Data Parser**").
- Regular Expression (see "**Configuring a Regular Expression Data Parser**").

Configuring the Data Parser: General Properties
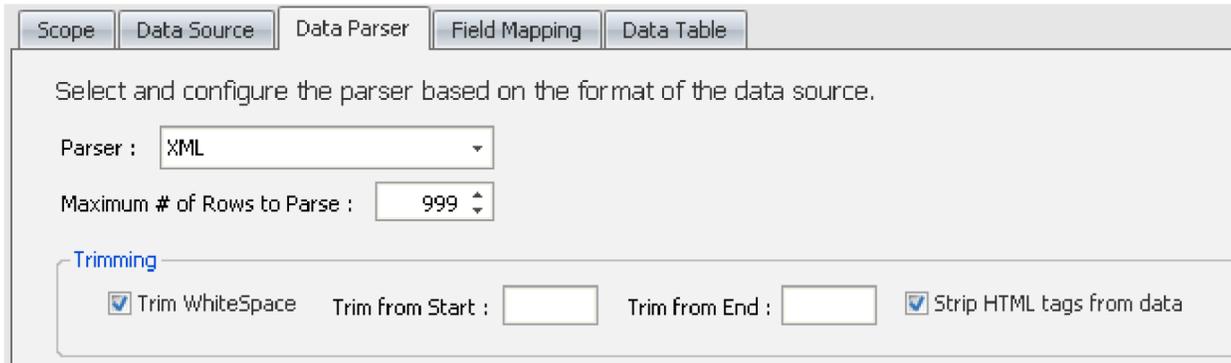
In addition to specific properties for each type of data parser, the following settings apply to all data parsers.

- **Maximum # of Rows to Parse**—You can limit how many rows (such as records) of data are parsed from the data source. Any rows beyond this maximum are discarded.
- **Trim WhiteSpace**—Check this box to trim any leading or trailing white space from a parsed field.
- **Trim from start/Trim from end**—Enter any string that should be trimmed from the start and end of each parsed field. For example, if you want to trim quotes from fields, you would enter a quote character in both the **Trim from start** text box and the **Trim from end** text box.
- **Strip HTML tags from data**—CoolSign does not support formatting dynamic text with HTML tags (such as <b> and <i>). If these tags are present in your data source, they will appear in your dynamic text as well. Checking this box strips the HTML tags from any imported data.

Configuring an XML Data Parser

If your data source is an XML file, you can use the XML data parser to parse it.
This is an example of what the contents of a XML file might look like:

```
<DataCall-DLM-Data-Micro> <born-on-this-date>
<headline>English statesman and writer Thomas More in 1478</headline>
</born-on-this-date> <born-on-this-date>
<headline>Farm equipment manufacturer John Deere in 1804</headline>
</born-on-this-date> <born-on-this-date>
<headline>English novelist Charles Dickens in 1812</headline>
</born-on-this-date>
</DataCall-DLM-Data-Micro>
```
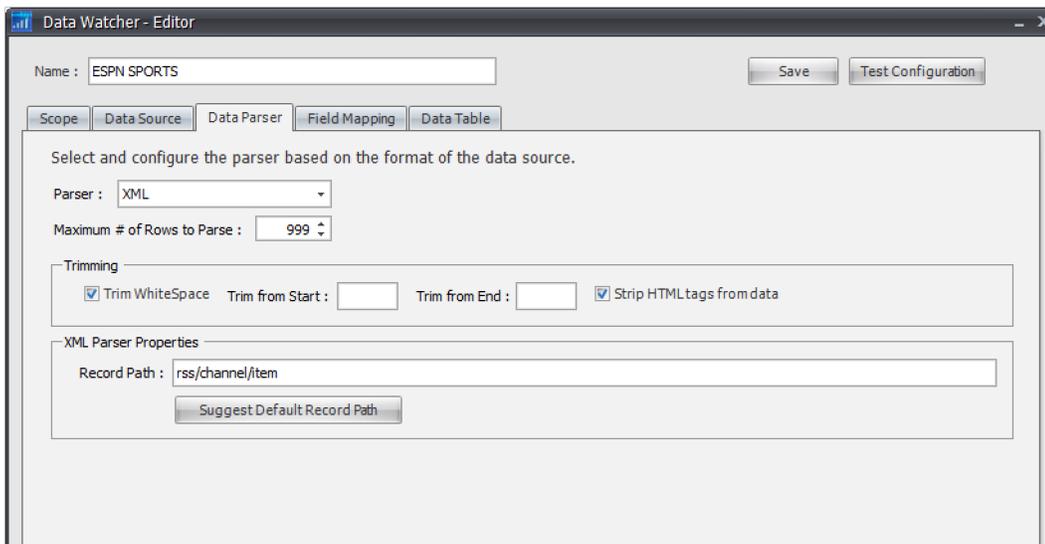
In addition to the properties that apply to all parser types (see ".**Configuring the Data Parser_ General Properties v5.1**"), you can define the following properties for an XML data parser:

Record Path—Enter the xml path to the node in your xml that should be treated as a record. For example, if you were parsing an XML file that contained the following:

```
<IRXML>
<StockQuotes>
<Stock Name="MSFT">
<Price>32.50</Price>
</Stock>
<Stock Name="AAPL">
<Price>45</Price> </Stock>
.
.
.
</StockQuotes>
<IRXML>
```

the record path would be " `IRXML/StockQuotes/Stock` ." This would create one record in your data table for each <Stock> node in the XML.

> ℹ️ **Note**
>
> This is an XPath to the main record path. Namespaces are currently combined, and should not be used in specifying the XML path. For more information, refer to the **X** Path specification (**http:// www.w3.org/TR/xpath**).

> ✅ **Tip**
>
> If you don't know the record path, you can click **Suggest Default Record Path** to analyze your XML file and suggest a possible record path. For RSS and Atom data feeds, the suggested path is appropriate for the feed type.

Configuring a Delimited Field Data Parser

If your data source contains data that is in a delimited field format, you can use the Delimited Field data parser to parse it. A delimited field data source is one that contains a specific character or set of characters that delimit each field within a record of data, and a different character or string that delimits each record of data. Most commonly, commas or tabs are used as field delimiters and returns are used as record delimiters.

This is an example of what the contents of a delimited field file might look like:

```
"John Doe","Vice President","johndoe@anywhere.com","37"
"Mary Smith","Vice President","marysmith@anywhere.com","42"
"Peter Jones","Manager","peterjones@anywhere.com","42"
```

> **ℹ Note**
>
> If the fields in your data source are quoted, you can use the **Trim from start** and **Trim from end** properties to trim the quotes from the parsed fields.

In addition to the properties that apply to all parser types (see "Configuring the Data Parser: General Properties"), you can define the following properties for a Delimited Field data parser:

- **Skip # of Lines at Start**—Enter the number of lines you want to skip at the start of the parsing. This is useful if there is header information in the file (for example, the names of the fields) that you don't want to parse.
- **Row Delimiter**—Select the predefined delimiter character or string that should be used to delimit each record in the data source. You can also type in a custom delimiter string.

> **ℹ Note**
>
> You can use the RETURN delimiter for the Carriage Return/Line Feed combination and the LINE FEED delimiter for just Line Feed delimiters.

- **Field Delimiter**—Select the predefined delimiter that separates the fields in your data source. If the correct field delimiter is not available, you can type in your own character or string of characters.

Configuring a Fixed-Length Field Data Parser

If your data source contains data that is in a fixed-length field format, you can use the FixedLength Field data parser to parse it. A fixed-length field data source is one where each field in a record is a predefined fixed number of characters. If the contents of the field are shorter than the defined length, the field is padded with spaces.

This is an example of what the contents of a fixed-length field file might look like:

```
John Doe      Vice Presiden  johndoe@anywhere.com 37

 Mary Smith Vice President marysmith@anywhere.com 42
Peter Jones Manager peterjones@anywhere.com 42
```


In addition to the properties that apply to all parser types (see "Configuring the Data Parser: General Properties"), you can define the following properties for a FixedLength Field data parser:

- **Skip # of Lines at Start**—Enter the number of lines you want to skip at the start of the parsing. This is useful if there is header information in the file (for example, the names of the fields) that you don't want to parse.
- **Row Delimiter**—Select the predefined delimiter character or string that should be used to delimit each record in the data source. You can also type in a custom delimiter string.

> ℹ️ **Note**
>
> You can use the RETURN delimiter for the Carriage Return/Line Feed combination and the LINE FEED delimiter for just Line Feed delimiters.

Configuring a Media List Data Parser

> ℹ️ **Note**
>
> The Media List parser is not supported for FTP data sources if you are also using a proxy server.

> ℹ️ **Note**
>
> You must still define an appropriate field in the Data Watcher's field mappings to contain the imported media. The Media List data parser only works correctly when all of the media in a location is of the same type. You cannot mix file types (that is, pictures, videos, or flash).

Configuring a Database Data Parser

The Database data parser is a special parser that you use to parse content from an SQL Server or ODBC-supported database. The Database parser is only available with the SQL Server and ODBC data sources.

Configuring a Regular Expression Data Parser

The Regular Expression data parser allows you to extract data from many non-standard data formats, for which other data parsers do not apply. A regular expression is a string that determines how to extract text from a larger body of text.

In addition to the properties that apply to all parser types (see "Configuring a Media List Data Parser"), you can define the following properties for a Regular Expression data parser:

- **Row Expression—**Enter the expression that is to be parsed. Each group in the expression automatically becomes a separate Data Watcher field—for example, a text field that contains names and phone numbers, with each person on a separate line.

After using the data parser, you can subsequently use field mapping (see "Configuring Field Mappings") to perform pattern matching within the text of each group. This can be useful when extracting data from an HTML file, or when reading from a custom external system (not CSV or tab-delimited) in which there are control characters that you need to ignore.

Step 4: Map data source fields to CoolSign data tables

In the **Field Mapping** tab, you define how the selected data parser should parse each field from the data source and map it into the field of a CoolSign DataTable. You should add a field mapping for every field you expect to ultimately see in your CoolSign DataTable.

> ℹ️ **Note**
>
> When the Data Watcher connects to your CoolSign network, it automatically creates a DataTable matching the structure defined in the **Field Mapping** tab.

> ℹ️ **Note**
>
> On a local Data Watcher (see " **Step 1: Define the scope**"), you can only edit existing fields. You cannot add or remove data source fields on a local Data Watcher.
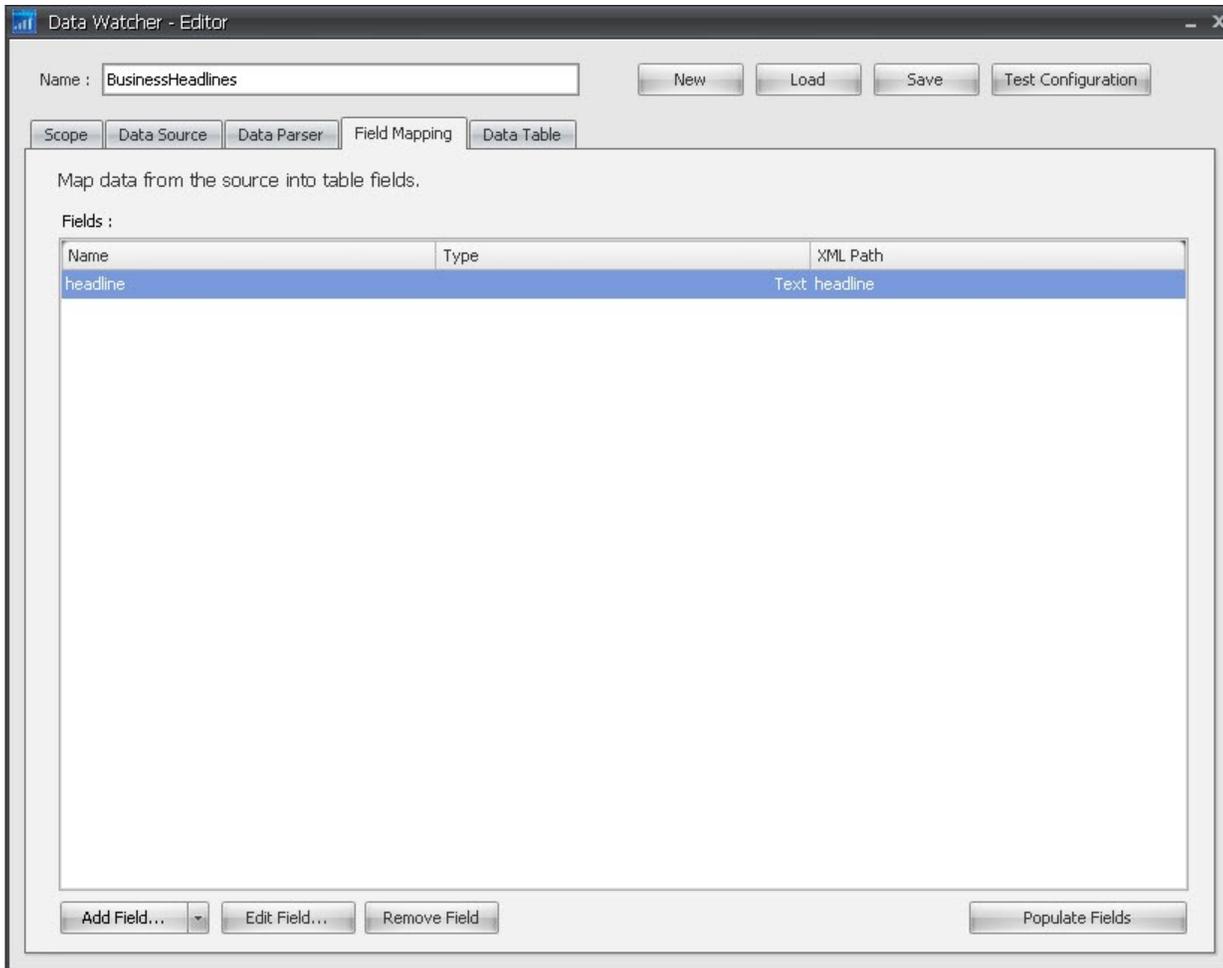
To add a field mapping:

1. Click **Add Field**.
2. In the Configure Field Mapping dialog (see "**Configuring Field Mappings**"), enter a name for the field, select the type of data stored in the field, and configure any other available properties for the field mapping depending on the type of data parser selected.
3. Click **OK**.

To edit an existing field mapping:

1. Select the field in the grid.
2. Click **Edit Field**.

To delete an existing field mapping:

1. Select the field you want to delete.
2. Click **Remove Field**.

Auto-Populating Field Mappings

> ℹ️ **Note**
>
> This feature is only available with the standalone version of the Data Watcher Editor, and only when you are using the XML or Database data parser.

> ℹ️ **Note**
>
> This feature is only available on a central Data Watcher (see "**Step 1: Define the scope**"), not on local Data Watchers.

To automatically populate field mappings:

- In the **Field Mapping** tab, click **Populate Fields** (see "**Step 4: Map data source fields to CoolSign data tables**").

Configuring Field Mappings
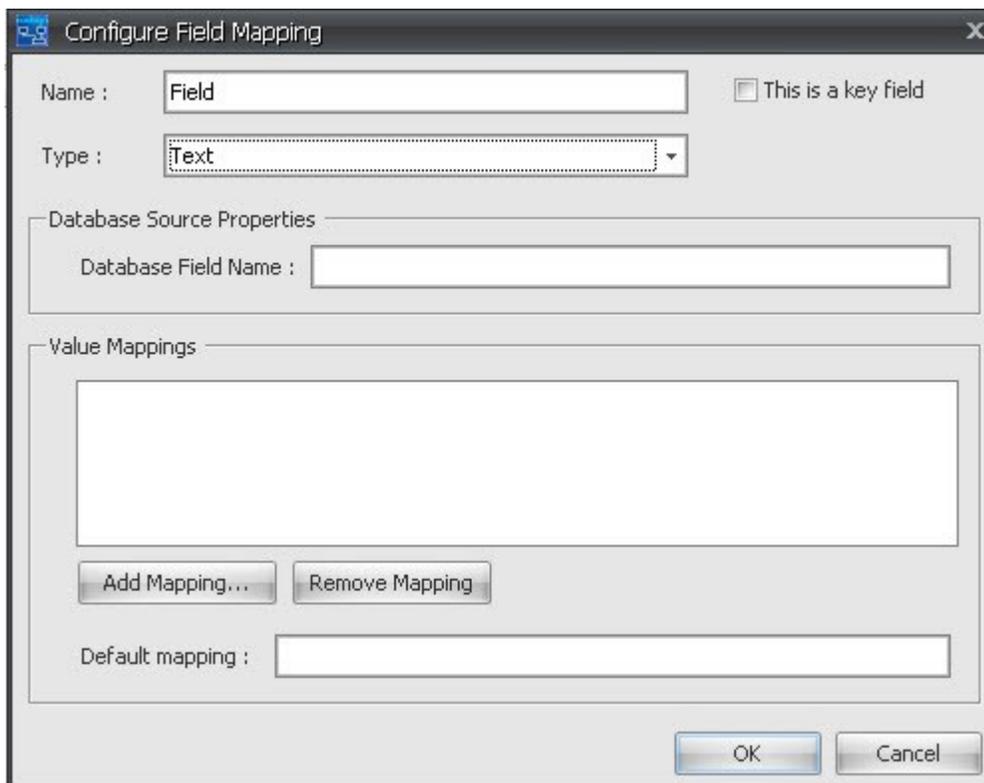
In the Configure Field Mapping dialog, you can configure the following properties for each field mapping:

- **Name—**The name of the field as it will appear in your CoolSign DataTable.

- **Type—**The type of data that will be stored in the CoolSign DataTable. For more information on the available field data types, see "Adding Fields to a DataTable".
- **This is a key field**—Key fields are used to synchronize imported records with existing data already present in a DataTable. If you intend to use the **Synchronize with existing rows** method for updating your DataTable, you must select at least one field as a key field in your field mappings. This field should contain data that is unique to a specific record in your data source so that the record can be matched with an existing record.

> ℹ **Note**
>
> You can mark multiple fields as key fields. In this case, the synchronize update attempts to match existing records based on the logical ANDing of all key fields.

Depending on which data parser you have selected, you can set the following field mapping properties:

- **XML data parser—**You must define the XML Path for each field. You can use the name of an XML node or the @ sign to indicate an XML attribute. The path should be relative to the record path defined in the data parser (see "Configuring an XML Data Parser").

> ℹ **Note**
>
> This is an XPath to the main record path. Namespaces are currently combined, and should not be used in specifying the XML path. For more information, refer to the X Path specification (http://www.w3.org/TR/xpath).

When dealing with an XML file that uses attributes to store data, you need to use the @ sign so that the Data Watcher can retrieve that data.

- **Delimited Field data parser—**You must set the index of the source field in the data source that should be used for the mapping.
- **Fixed-Length Field data parser—**You must set the start character index of the field as well as the fixed length of the field used for the mapping.
- **Database data parser—**You must enter the Database Field Names, which refer to specific field names returned by the data source's SQL statement.
- **Regular Expression data parser—**You can specify a new regular expression on the row text to extract the data for this field. Alternatively, to break the row into named or numbered groups, choose Select group from row regex.

Setting Value Mappings

You can use value mappings to map the data in a data source to new values. For example, if your data source contains abbreviations for states in a state field, you can use value mapping to map each state abbreviation to its full name.

To add a value mapping:

1. In the Configure Field Mapping dialog, click **Add Mapping**. The Set Value Mapping dialog appears.
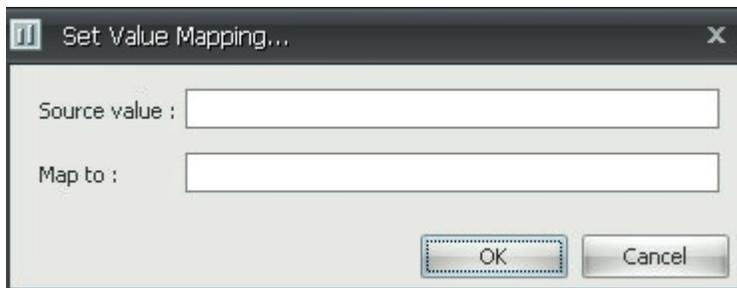
2. Enter the value you want to map from into the **Source value** field.
3. Enter the value you want to map to into the **Map to** field.
4. Click **OK**.

To set a default mapping:

- In the Default mapping field, enter the default mapping. The Data Watcher uses this default mapping whenever a value doesn't match one of your predefined value mappings.

Step 5: Set DataTable properties

In the **Data Table** tab, you can define the frequency and method with which the Data Watcher will update the CoolSign data table.

Setting the Update Frequency

By default, the Data Watcher updates its CoolSign data table every 10 minutes. You can change this interval to anything you want. Additionally, with the File data source, you can trigger an update whenever the data source file changes instead of on a set interval.
To set the update frequency to a set interval:

1. Choose the **Every X minutes** radio button.
2. Set the number of minutes and seconds between each data table update.

To set the update to occur only when the data source file has been modified:

- Choose the **Whenever data source changes** radio button.

> **ℹ Note**
>
> To ensure that the file is not still being modified, the Data Watcher waits 500 milliseconds before reading the file after detecting that it has been modified. You can change this delay if necessary.

Setting the Update Method

You can select the method by which the Data Watcher replaces data that is already present in a CoolSign DataTable when new data becomes available in your data source.

The following options are available:

- **Replace all rows**—Each time the Data Watcher updates, it deletes all existing rows in the CoolSign data table and imports all newly parsed rows.
- **Synchronize with existing rows**—The Data Watcher uses any field mappings defined as key fields to synchronize the new data with the existing data. The following logic is applied to each row of data being imported:
  - If a row of data in the CoolSign DataTable has matching key fields, that row is updated to match the imported data.
  - If there are no rows in the CoolSign DataTable with matching key fields, a new row is created in the data table with the imported data.
  - Any old rows in the existing DataTable that were not updated or added are deleted.
- **Append rows**—This method is similar to the Synchronize method, except that old data is not deleted from the CoolSign data table. All imported data is either used to update existing rows or added to the DataTable—no rows are ever deleted from the DataTable. If you want to allow duplicate appended rows of data instead of synchronizing, you can check **Allow duplicate rows**.

> **ℹ Note**
>
> We strongly recommend that you set the row expiration time when using the Append rows method. Without row expiration, a DataTable can easily grow indefinitely because old data is never deleted.

Setting Row Expiration

You can choose to have imported rows expire after a set amount of time. This is useful to ensure that data doesn't get stale in your DataTable. For example, if you are importing weather data and you expect that data to be valid for about 30 minutes, you can set the row expiration to 30 minutes. If, for some reason, you experience network problems or your data source becomes unavailable, the weather data will expire after 30 minutes instead of continually displaying outdated information.

To set row expiration:

1. Check the **Expire new data** box.

2. Enter the number of minutes, hours, or days after which the data should expire.

Firing Triggers Automatically

You can set up the Data Watcher to fire triggers automatically, based on updates to the CoolSign DataTable. For example, you might use the Data Watcher to watch for an XML file from an alert system, or an RSS feed from a central service that issues amber alerts.

After you have enabled the trigger, the Data Watcher fires the trigger when your data sources change (and the file is not empty). Note that with a local Data Watcher, triggers are only fired locally. For a discussion of how to define and set up triggers, see "Managing Triggers".

To set up triggers to fire automatically:

1. Check the box **Fire a trigger if the table is not empty**.

2. Click the link (here, **TRIGGERED EVENTS 2**), then select the trigger that you want to fire.
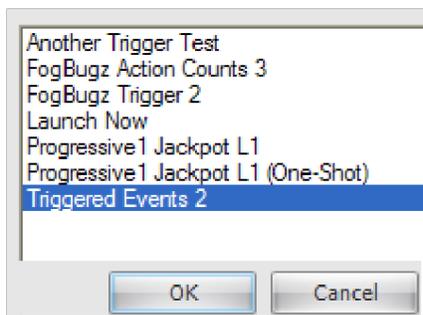
3. You can optionally designate an expiration time for the trigger.

Step 6: Test the Data Watcher Configuration

As a final step, you'll verify the settings that you've configured for the new Data Watcher.

1. In the Data Watcher Editor, click **Test Configuration**.
2. When the Configuration Tester window appears, verify that all fields are present and that data appears to be parsed correctly.
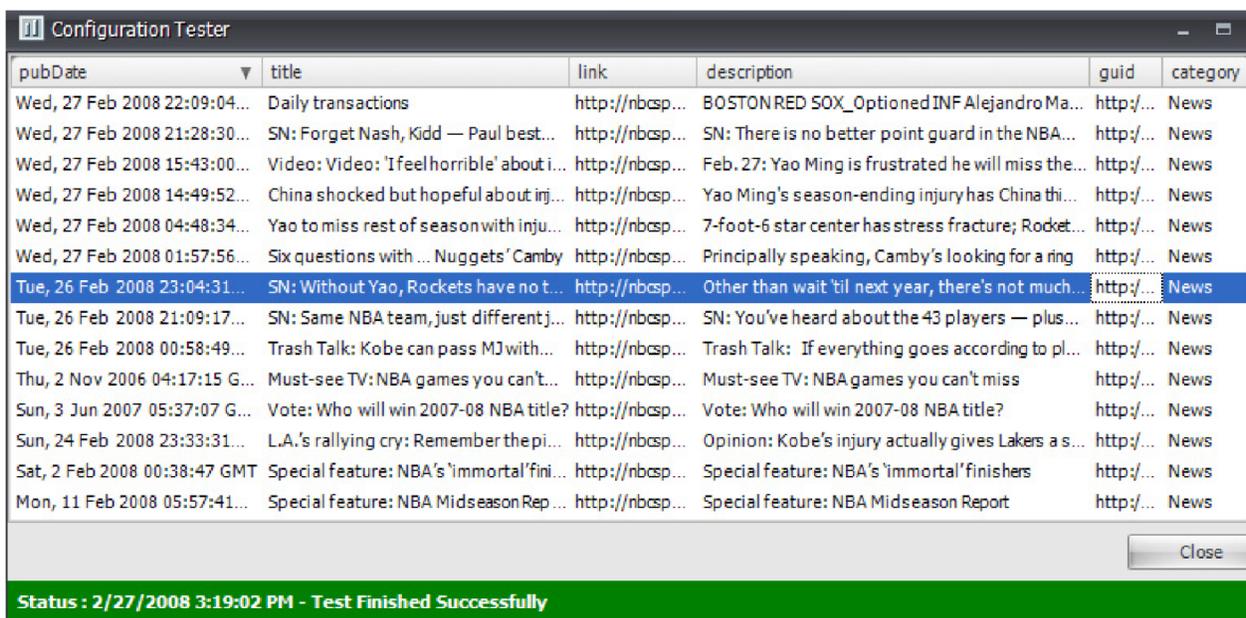
3. Click **Save** to save the configuration.

> ✔ **Tip**
>
> You can use the Data Watcher service configuration to determine which folder is currently being watched.

Managing Data Watcher Configurations

This section tells how to edit, delete, export, and import Data Watcher configuration (DWC) files.

To reconfigure a Data Watcher:

1. In the Data Watcher nodes panel, right-click on the node where the configuration is located.
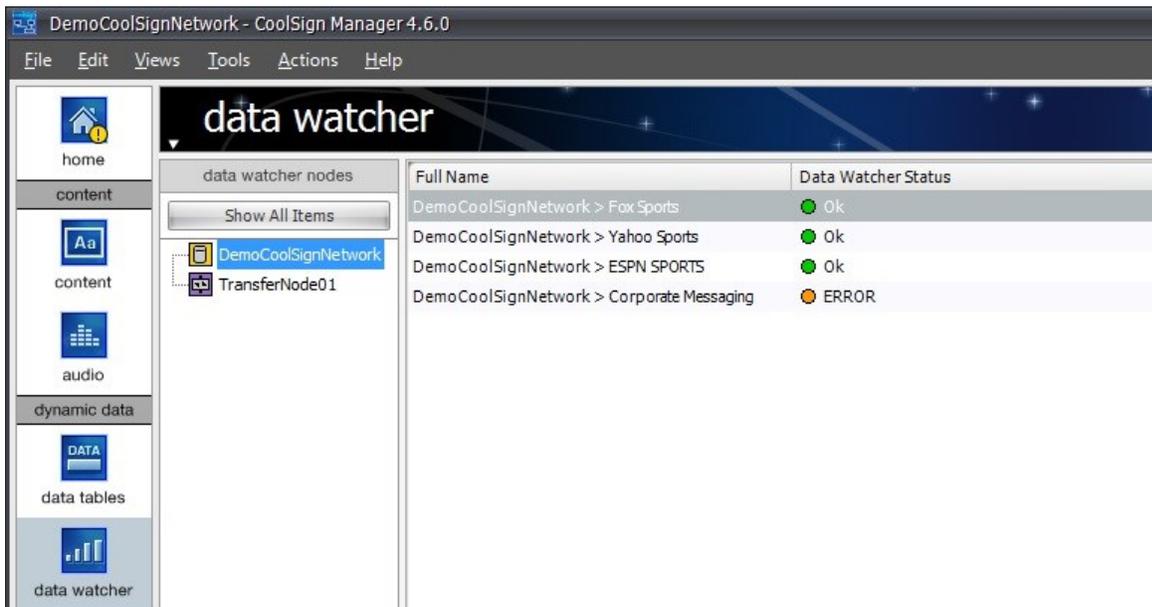
2. In the data grid, double-click to select the Data Watcher.
3. Edit the configuration as needed. For details, see the following sections:
   - Data Source (see "**Step 2:** Set up the data source").
   - Data Parser (see "**Step 3:** Set up the data parser").
   - Field Mapping (see "**Step 4:** Map data source fields to CoolSign data tables").
   - Data Table (see "**Step 5:** Set data table properties").
4. When you're done, click **Test Configuration** to verify your settings (see "**Step 6:** Test the Data Watcher configuration").
5. Click **Save** to save the Data Watcher configuration file.
   - To overwrite the previous configuration, save the new configuration to the same location.
   - If you need to retain the previous configuration file, you can either rename the file or save it to a new location.

To remove an existing Data Watcher configuration:

1. In the Data Watcher nodes panel, do one of the following:
   - Click **Show All Items**.
   - Click on the node where the configuration is located.
2. In the data grid, select the Data Watcher.
3. Right-click and choose DELETE.

> ✅ **Tip**
>
> To temporarily remove a configuration, you can move the DWC file to a subfolder. Subfolders are not watched.

To import a Data Watcher configuration:
You can perform these steps to add a configuration from a DWC file that was created with a standalone Data Watcher Editor.

1. In the Data Watcher nodes panel, select the node where you want to add the configuration.
2. Right-click and choose IMPORT DATA WATCHER.
3. Select the configuration file that you want to import.

To export a Data Watcher configuration:
These steps allow you to back up a Data Watcher configuration, move it to another node, or load it via the standalone Data Watcher Editor.

1. In the Data Watcher nodes panel, do one of the following:
   - Click **Show All Items**.
   - Click on the node where the configuration is located.
2. In the data grid, select the Data Watcher.
3. Right-click and choose **EXPORT DATA WATCHER**.
4. Select the location in which you want to save the configuration.

To delete a Data Watcher node:

- Select the node in the Data Watcher nodes panel, then right-click and choose **Delete Data Watcher Node**.

This action deletes the selected node and all Data Watchers on it from the Data Watcher Manager. The node is still accessible in the network manager as a normal transfer node.

Editing the Data Watcher Service Configuration

When you installed the Data Watcher service (*"Installing the Data Watcher Service"* in the *CoolSign Network Manager Installation Manual*), a configuration file was created with default settings. This section tells how to edit these configuration settings.

> ℹ️ **Note**
>
> Do not confuse these settings with Data Watcher configuration (DWC) files (see "To open the Data Watcher Editor dialog:"). These settings affect the Data Watcher *service*; the DWC files contain settings for individual Data Watchers.

To edit the Data Watcher service configuration:

1. Select the node in the Data Watcher nodes panel, then right-click and choose **EDIT SERVICE CONFIGURATION**. The Configure Advanced dialog appears, with the **Software Configuration** tab selected.

> ⬥ **Warning**
>
> The Configure Advanced dialog provides direct access to a number of properties and commands that can cause a node to lose connectivity or otherwise stop working. Do not attempt to use this dialog unless you are very familiar with the CoolSign software and your network infrastructure. Incorrect settings can result in loss of network connectivity or software failures that require physical access to the PC to repair.

> ℹ **Note**
>
> To change any of the Data Watcher configuration settings, you MUST also update the `DateModified` field.
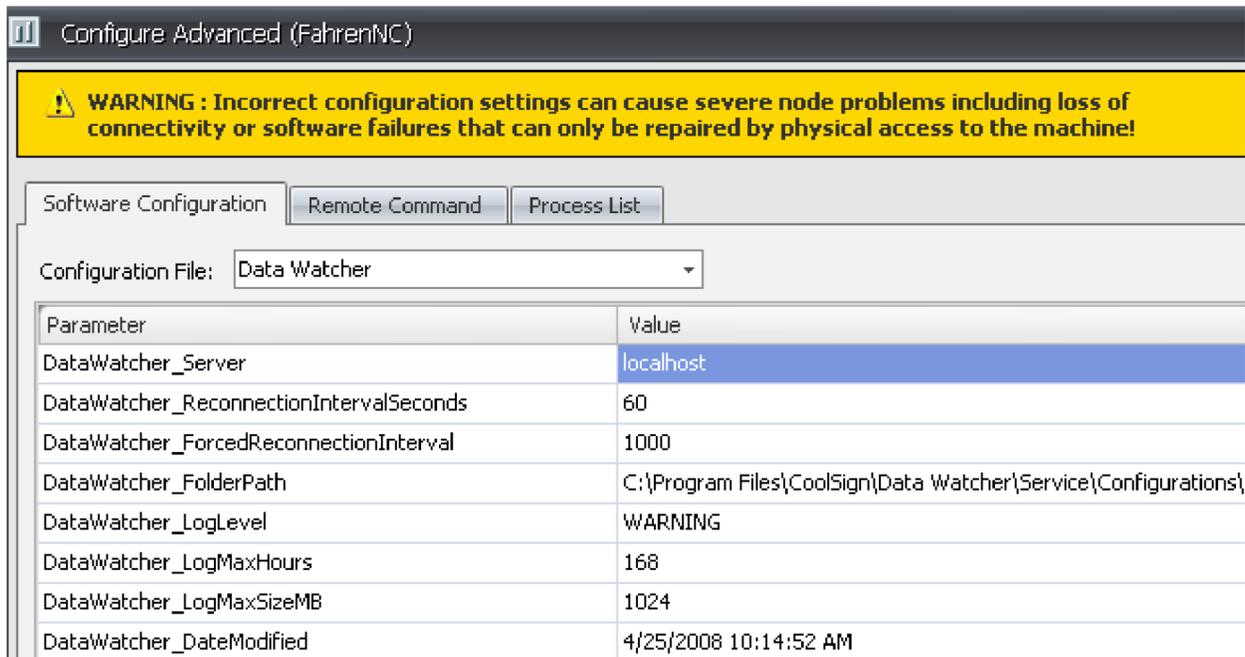
2. Edit the parameter values as needed.
3. When you're done, click **OK**.

Importing Media Assets into Data Tables

This section describes additional considerations that apply when using the Data Watcher to import media assets (pictures, videos, and Flash content) into a data table. The most significant difference is that media files are imported indirectly: instead of directly handing the asset to the Data Watcher, you provide the asset's location—for example,

```
C:\Pictures\Sunset.jpg
```

.

1. Set up the data source (see "**Step 2: Set up the data source**").

   Although any type of data source may contain the path to an asset, the actual asset file itself must be located on a file source, URL source, or FTP source. (A database source may contain a path to an asset, but the actual asset may not be located in the database).

The data source does not have to be located on the same source type as the asset. For example, you can define an FTP source, which is an XML file with the following contents:

```xml
<?xml version="1.0" encoding="utf-8" ?>
<images>
<source>ftp://username:password@ftp.CoolSign.com/myFolder/Hous ePicture.jpg</source>
<source>http://www.google.com/intl/en_ALL/images/logo.gif</source
>
<source>C:\MyPictures\Sunset.jpg</source>
</images>
```

If you don't provide the full path, the Data Watcher uses a path relative to the main data source. For example, if your source file was located on the site **ftp://ftp.coolsign.com/** with a path of `myFolder/xmlFile.xml` , then a row with only the file name `HousePicture.jpg` would be resolved to **ftp://ftp.coolsign.com/myFolder/HousePicture.jpg**.

2. Set up the data parser (see "**Step 3: Set Up the Data Parser**").

   All parser types are supported for importing media assets. For example, you can obtain a file name from an xml file, a delimited list, a fixed length field parser, a media list, or a database.

3. Set up the field mappings (see "**Step 4: Map data source fields to CoolSign data tables**").

   In this xml example, if you map a field to the `<source>` tag, your data table will contain three rows (assuming that the data table update method is set to replace or synchronize). If the field type is set to text, only the path will be set in the data table. In order to import the actual asset, you must select the appropriate field type: "**Picture Media**", "**Video Media**", or "**Flash Media**."

> ℹ️ **Note**
>
> If you click Test Configuration (see "**Step 6: Test the Data Watcher configuration**") when using media assets, the Data Watcher attempts to obtain the assets, but only the paths to the assets will be displayed upon a successful test.

Using Multiple Data Points in an Enabling Expression

In the Network Manager, you can evaluate multiple data points using the Enabling Expressions of the Advanced Properties section.

For instance:

- Only play this content if: The current-temperature value is below a value of 32 and the player location attribute is 'lobby'.
- Only play this content if: The current-temperature value is below a value of 32 and the wind-direction has a value of North

This is possible by using the advanced editor feature of the Enabling Expression dialog.

☐

For example, to only play the schedule item if the TempF field of a data table is less than 32 and the player has a City attribute with value "PDX" use an expression similar to:

```
=GetValue();
function GetValue()
{ var myTable = $3A1F043C39054445A49037D8AA967349; myTable.Filter = 'TempF < 32'; return myTable.Size > 0
&& GetAttribute("City") == "PDX" }
```

To only play the schedule item if the TempF field is less than 32 and the Wind field has a value of North, use an expression similar to:

```
=GetValue();
function GetValue()
{ var myTable = $3A1F043C39054445A49037D8AA967349; myTable.Filter = 'TempF < 32 AND Wind = "North"';
return myTable.Size > 0; }
```

CoolSign International Character Support

This section describes how to use international characters inside of a CoolSign solution. There are two ways to display international characters:

- **Displaying International Characters from an External Feed**
- **Displaying International Characters using the Content Creator**

Displaying International Characters from an External Feed

CoolSign allows you to use an external data feed containing international characters to run a data table inside of a player. You can, as in the following example, take an RSS feed coming from an international language channel and display it inside of a CoolSign Ad Player.

1. Start by launching the CoolSign Network Manager, then click **DATA WATCHER** in the sidebar.
2. Right-click on the root node of your network, and choose **CREATE NEW DATA WATCHER**.
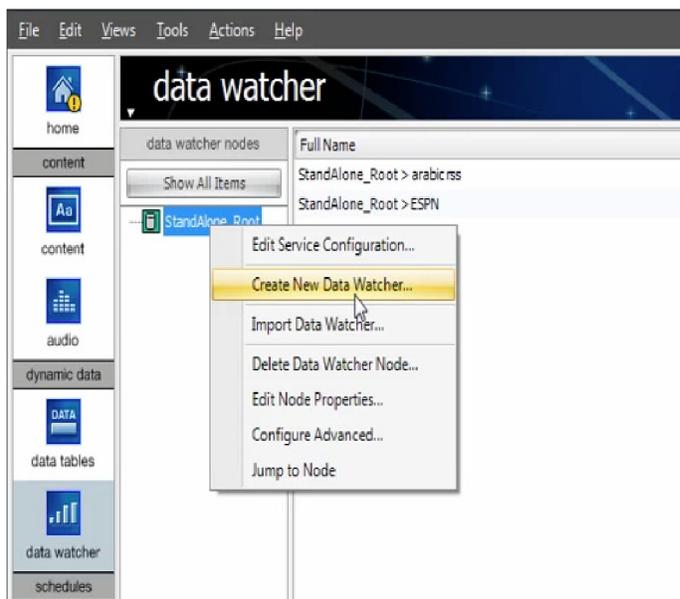
3. In the Data Watcher Editor window that opens, enter a descriptive name.
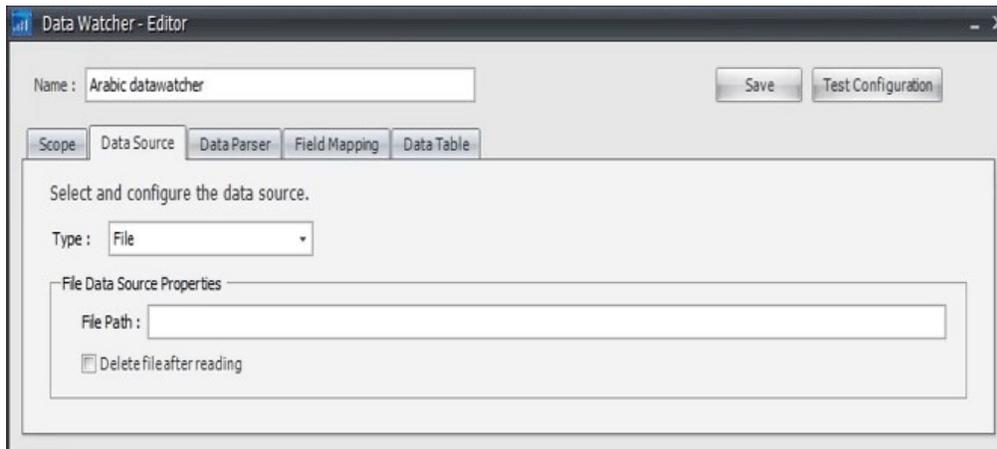
4. Choose an appropriate value from the Type menu (in this example, we are choosing "URL" for an Internet-based RSS feed). Under File Data Source Properties, enter the URL of your RSS feed into the URL field (in this example, we are using a feed coming from CNN with Arabic content). If you have username and password information, or proxy details, enter them as well.
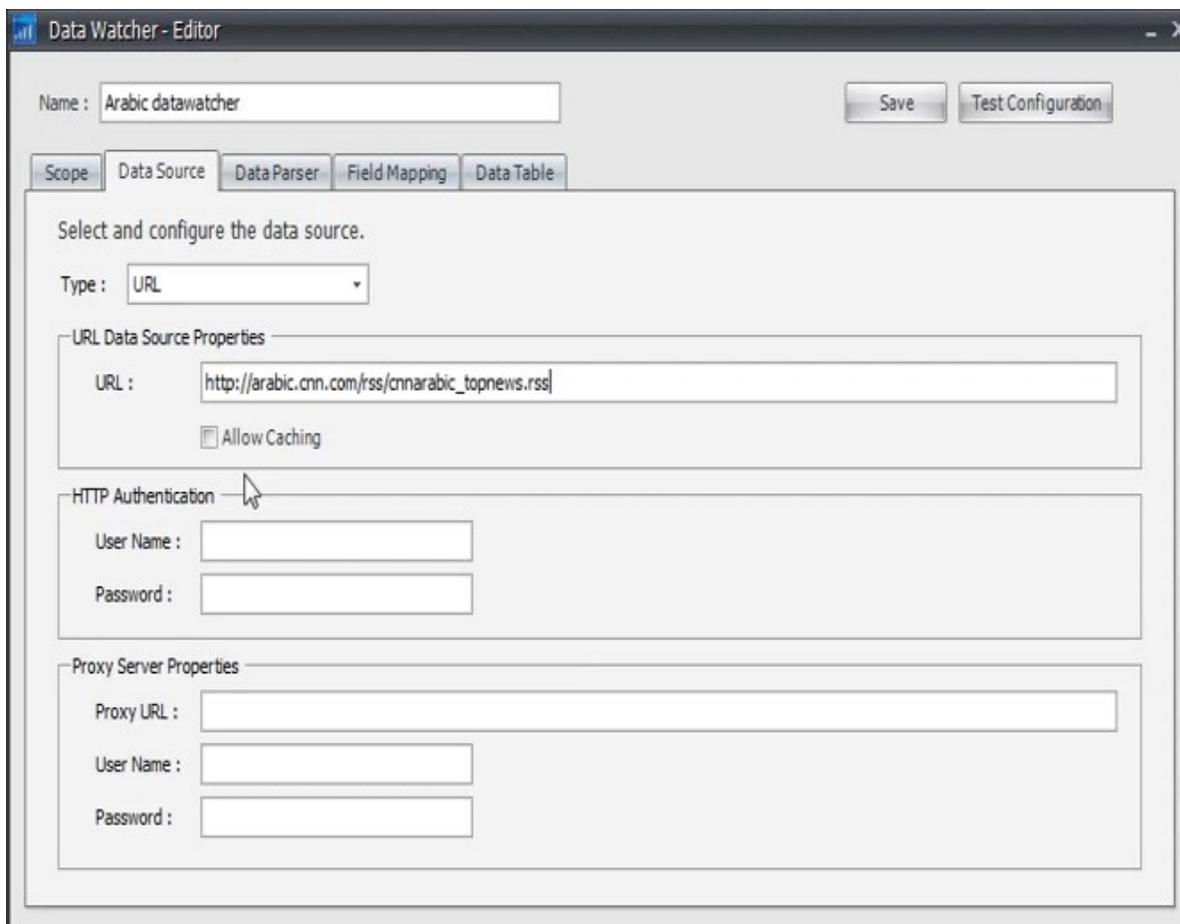
RSS feeds are based on XML. The example below shows XML source coming out of the RSS feed used in our example, with certain elements identified. These are used to further configure the data

watcher: the feed is a `<channel>`, and a component of the channel is an `<item>`, which has a `<title>` and `<description>`.

```
<rss xmlns:atom="http://www.w3.org/2005/Atom" version="2.0">
<channel>
<title>CNNArabic.com - Top News</title>
<link>
http://arabic.cnn.com/rss/</link>
<description>CNNArabic.com delivers up-to-the-minute news and information on the latest top
stories, entertainment, politics and more.</description>
<language>ar-sa</language>
<copyright>Â© 2009 Cable News Network LP, LLLP.</copyright> <ttl>10</ttl>
<image>
<title>CNNArabic.com - Top News</title>
<link>
http://arabic.cnn.com/rss/</link>
<url>
http://arabic.cnn.com/images/cnnarabic.com.logo.rss.gif</url>
<width>144</width>
<height>46</height>
<description>CNNArabic.com delivers up-to-the-minute news and information on the latest top
stories, entertainment, politics and more.</description>
</image>
<atom10:link xmlns:atom10="http://www.w3.org/2005/Atom" type="application/rss+xml" href="http://
arabic.cnn.com/rss/cnnarabic_topnews.rss" rel="self"/> <item>
<title>Ù?ØµØ±: Ø§Ø"ªÙ?اÙ? اÙ§Ù?اØ¥Ø®Ù?اÙ? Ø¨Ø"ªØ¯¯Ø¨Ù?ا± "Ù?ا¤Ø§Ù?Ø±ة" Ø¶Ø¯ اÙ?ا£Ø²²Ù?ا±</title>
<guid>
http://arabic.cnn.com/2012/middle_east/7/2/morsi.alazhar/index.html</guid>
<link>
http://arabic.cnn.com/2012/middle_east/7/2/morsi.alazhar/index.html</link>
```

5. Click on the **Data Parser** tab. Choose **XML** in the Parser menu.

6. In the Record Path field under XML Parser Properties, enter `rss/channel/item` (these are the logical segments of the RSS feed).
7. Under the **Field Mapping** tab you need to create fields for the various components of an RSS `<item>`, such as `<title>` and `<description>`. Click **Add Field** to display the Configure Field Mapping window.

8. To create a field for <title>, enter "title" in the **Name** field. From the TYPE menu, choose INTERNATIONAL TEXT. Enter "title" in the **XML Path** field. Click **OK**.

9. Add another field for the <description> component, and complete as in the previous step (**Name** = " `description` "; **Type** = "INTERNATIONAL TEXT"; **XML Path** = " `description` ").

10. Click **OK**. At this point, you have created a data table with two fields: "title" and "description".
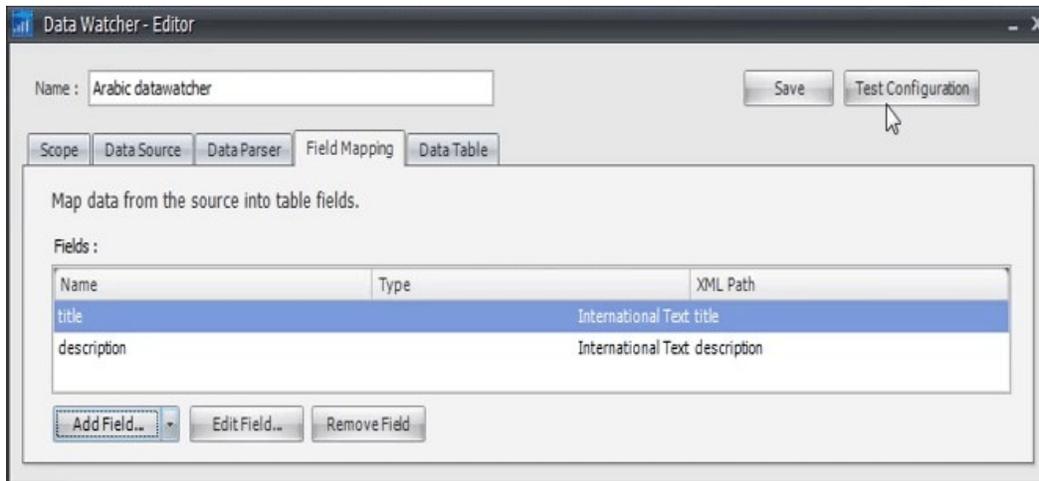
11. To validate the new data table, click **Test Configuration**. The system will test the new data watcher and validate that it can connect to the RSS feed. A new Configuration Tester window appears, with the message "Test Finished Successfully", and containing a table of values for "title" and "description".

12. Click **Save** in the Data Watcher - Editor window, then close it.

13. In the main Data Watcher window, you now have a new data watcher (in the example below, it is called " `STANDALONE_ROOT>ARABIC DATAWATCHER` ").

14. Click on "Data Tables" manager under "Dynamic Data" in the sidebar. In the data tables window that appears, the new data watcher is listed. Double-click the new data watcher. In the "Edit data" window that appears, you'll see that it has imported the international text.

15. Click **Cancel** to close the window.
16. You can now assign this data to an existing piece of content that contains dynamic data fields. Click **Content** in the sidebar. Double click on the existing content you wish to modify based on the new data watcher. A window appears displaying the Content settings.
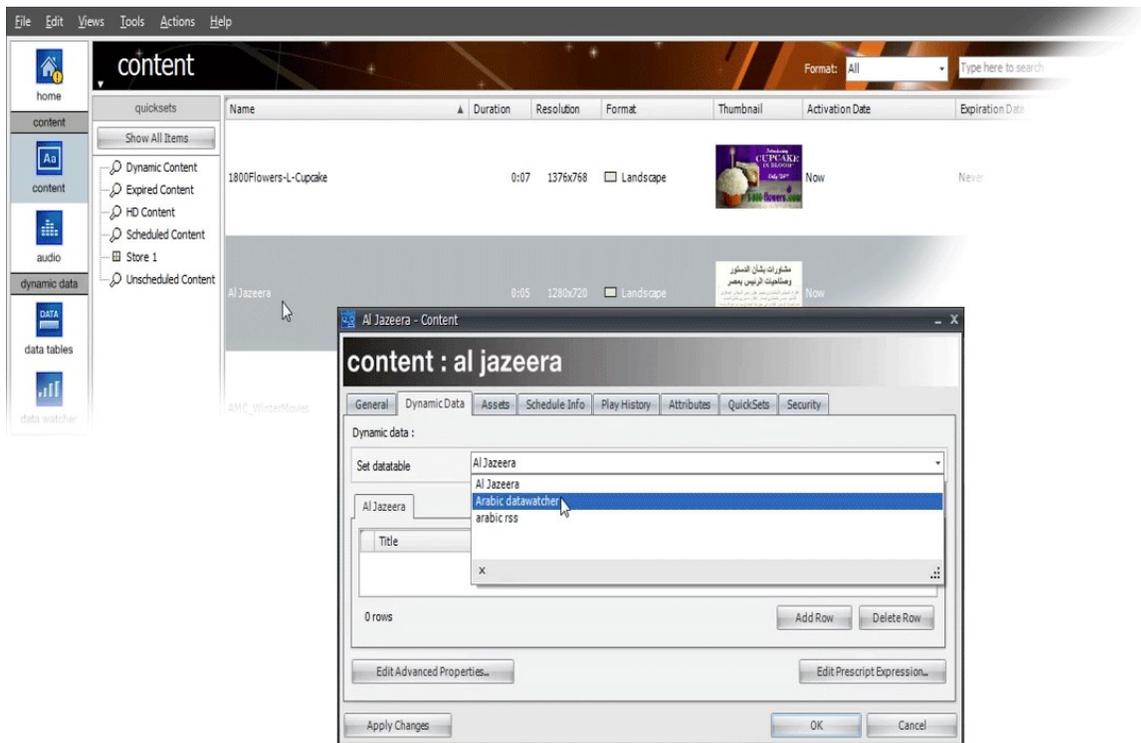
17. Under the **Dynamic Data** tab, choose the new data watcher (Arabic data watcher, in this example) from the SET DATA TABLE menu. Data from the selected Data Watcher should appear in the field below.

18. Click **OK** to save the new setting. If you now launch the corresponding CoolSign Media Player, you will see it play dynamically updated international language content.

Displaying International Characters using the Content Creator

You can also display international characters in an Ad Player by using the Content Creator tool (CCT) to create text elements from a data table or data watcher.
The Content Creator is available separately. Check with your sales person for more information.

> ℹ **Note**
>
> Your PC must be set to use the English language. To verify this, open up the Fonts control panel, and click "Text Services and Input Language". Verify that the Default input language is English. If you choose any language other than English, the CCT will not launch.

1. Launch the Content Creator.
2. Start a new project. Enter a **Name**, along with values for **Duration**, **Display type**, **Orientation**, **Resolution** as needed.
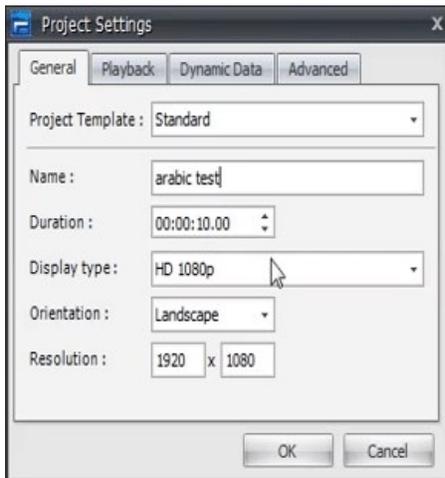
3. Click **OK**.
4. In the new Content window, create a canvas.
5. In the Data Tables panel, click **Import**.

6. In the CoolSign Login window that appears, enter your login credentials and specify a Network, then click **Login**.
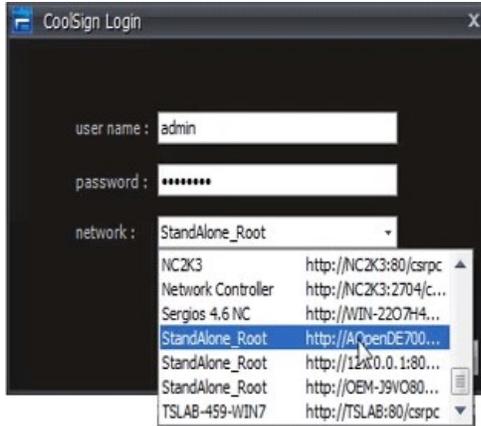
7. In the "Select data table" dialog, choose the data watcher you created, then click **OK**.
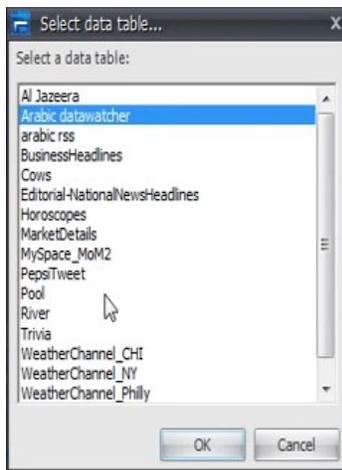
8. In the Data Tables panel, you will see the title and description data from the new data watcher. Create a field by clicking on the field tool and dragging on the canvas.
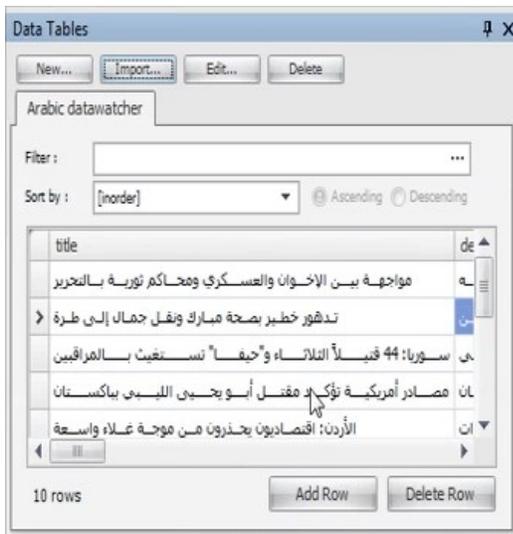
9. In the New Data Field window that appears, choose a data table field (for example, `title`) from the FIELD menu, then click **OK**. Add additional fields as needed. Make sure the font is set to appear in an appropriate color for the current background.
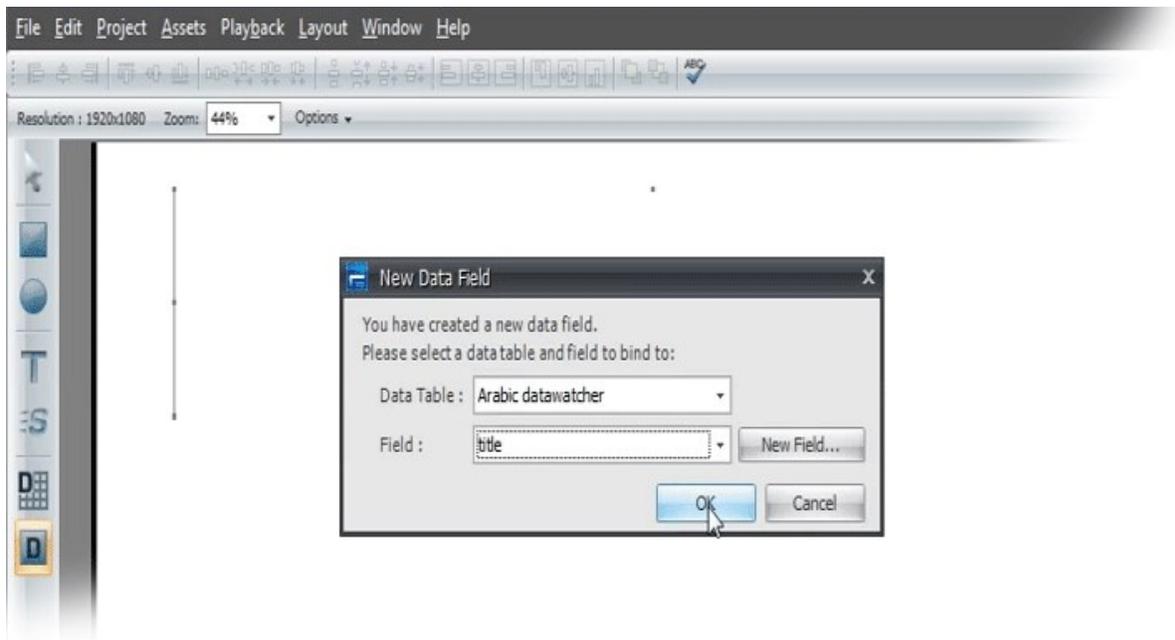
The international language content from the data watcher appears on the canvas.
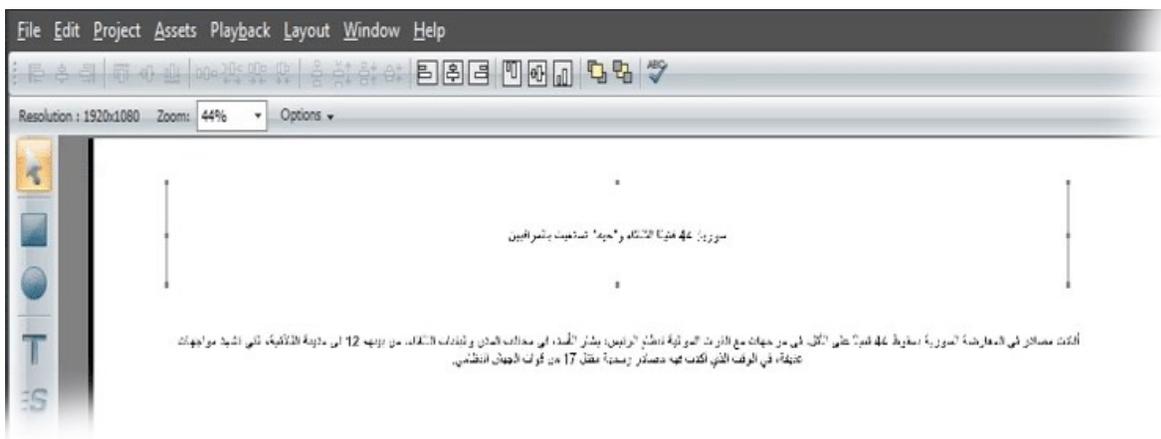
Creating Static Text Elements

In some cases, you may want to input international language text onto a page without using a data watcher. Starting from a blank canvas (with no associated data table), normally you would use the Text Box tool to create a new text box, and then just input your international language text. Unfortunately the text box feature does not support UTF-8 characters. The way to get around this is to insert a data table on the fly.

1. Click the Data Table tool and drag on the canvas to create a new data table object. Click **New data table**, and then enter a name, then click **OK**.
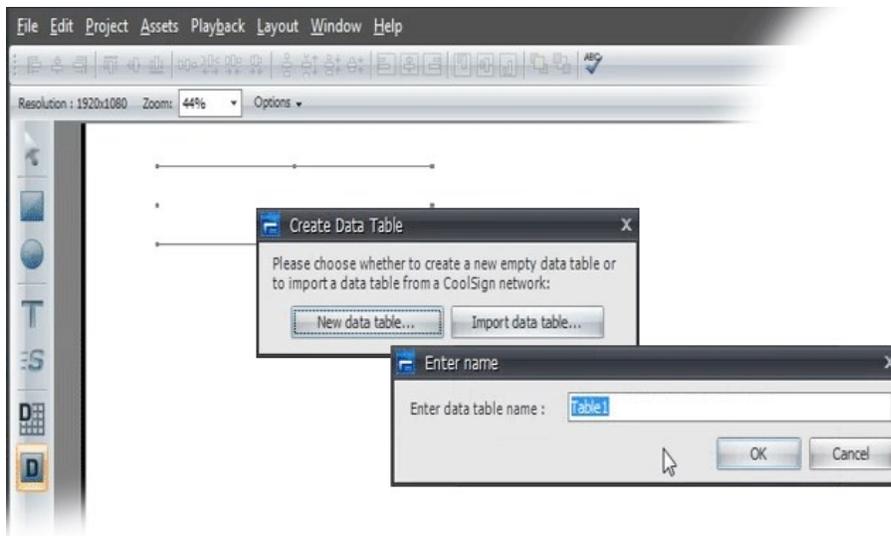
2. In the settings window that appears, choose INTERNATIONAL TEXT from the Field Type menu, then click **OK**.
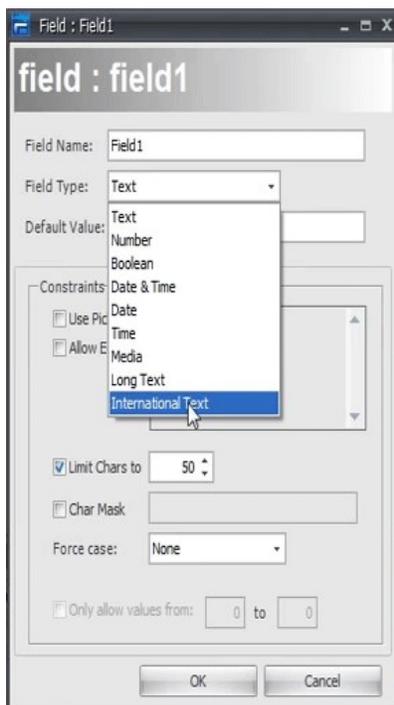
3. The names of the new data table and field appear in the New Data Field window. Click **OK**.
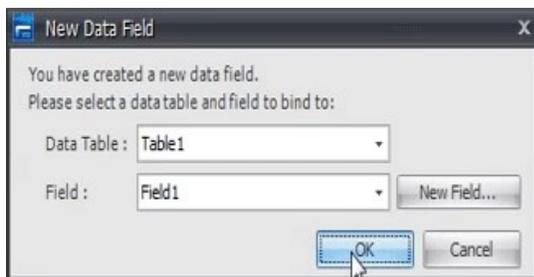
4. Right click in the new field area, and choose **EDIT TEXT**.
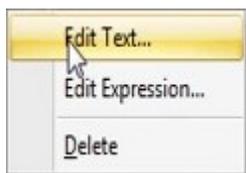
5. Delete the existing value, then type (or paste) your international text, and click **OK**.

6. Alternatively, you can add a row in the Data Tables panel and input the international language text there.
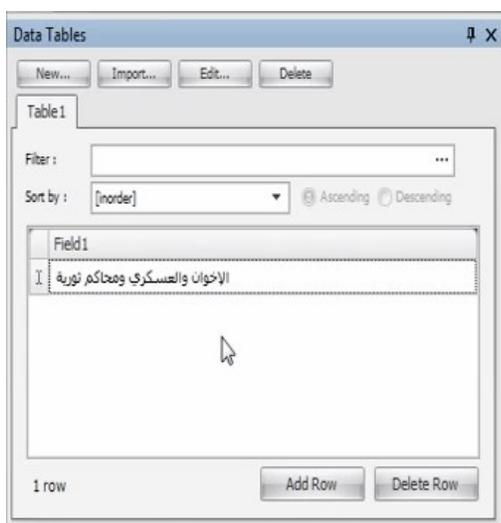
You should now see your international language text in the data table element on the canvas.

Managing DataTables

Topics Discussed

You can use CNM to create new data tables, edit or delete existing data tables, and to edit, import, export and print the data within the DataTables in your CoolSign network.

Working with DataTables

You can use CNM to create a new empty DataTable and define the fields and structure of that DataTable. However, in most cases, you will never need to manually create a data table; most DataTables are automatically created for you during content import or by the CoolSign Data Watcher.

Content that is designed using the CoolSign Content Creator automatically creates a new empty DataTable when the content is imported. Once imported, you can manually add, edit, or remove data from the DataTable.
If you are using the CoolSign Data Watcher to import data from an external data source, a DataTable will be created automatically when the Data Watcher is configured.

> ℹ **Note**
>
> You cannot edit the data in a Data Watcher-created DataTable unless you are logged into the system with administrator capabilities.

To create a new empty data table:

1. From the DataTables page, do one of the following:
   - Choose **ACTIONS** > **NEW DATATABLE**.
   - Right-click in the grid and choose **NEW DATATABLE**.

2. In the **General** tab, enter a name for your new data table.
3. Add one or more fields to the data table. See "Adding Fields to a DataTable".
4. Set and make use of any desired Security features in the **Security** tab.
   - **Object ID**—An auto-generated Object ID fills the field. It may not be changed.
   - **Audit History**—Click to review past activity within this function.
   - **Permissions**—Two default classes exist by default—admin User and Everyone Group. Permissions for Owner, Read and Write rights are automatically check-marked as granted to admin. Only Read and Write are set as granted to Everyone since there can be only one Owner. Denying Permissions is simply a matter of clicking the check box to clear the mark.

      *Additional users can be established and eliminated with the **Add** and **Remove** buttons.*

5. Use the **Apply Changes** button to apply interim changes—a handy feature if entering more than a couple of users or groups.
6. Click **OK** to save the changes and close.

Editing an Existing DataTable

You can edit an existing DataTable to add new fields or edit and delete existing fields.

To edit an existing DataTable:

1. Select the DataTable you wish to edit on the DataTables page.
2. Choose **ACTIONS** > **EDIT DATATABLE STRUCTURE**.
   Or
3. Right-click and select **EDIT DATATABLE STRUCTURE**.

Deleting an Existing DataTable

> **ℹ Note**
>
> You will be warned if you attempt to delete a DataTable to which content is bound. Deleting a DataTable with bound, scheduled content may cause playback errors that stop the content from playing.

> **⬥ Warning**
>
> Deleted DataTables cannot be recovered.

To delete an existing DataTable:

1. Select the data table you wish to delete on the DataTables page.
2. Choose **EDIT** > **DELETE**
   or
3. Right-click and select **DELETE**.

Defining a DataTable Structure

After you create a new DataTable, you can define its field structure.

- **Adding Fields to a DataTable**
- **Editing Fields in a DataTable**
- **Changing the Ordering of Fields**
- **Deleting Fields from a DataTable**

Adding Fields to a DataTable

Every DataTable must contain at least one field definition.

To add a new field to a DataTable:

1. Click the **Add** button to open a new Field Properties dialog.
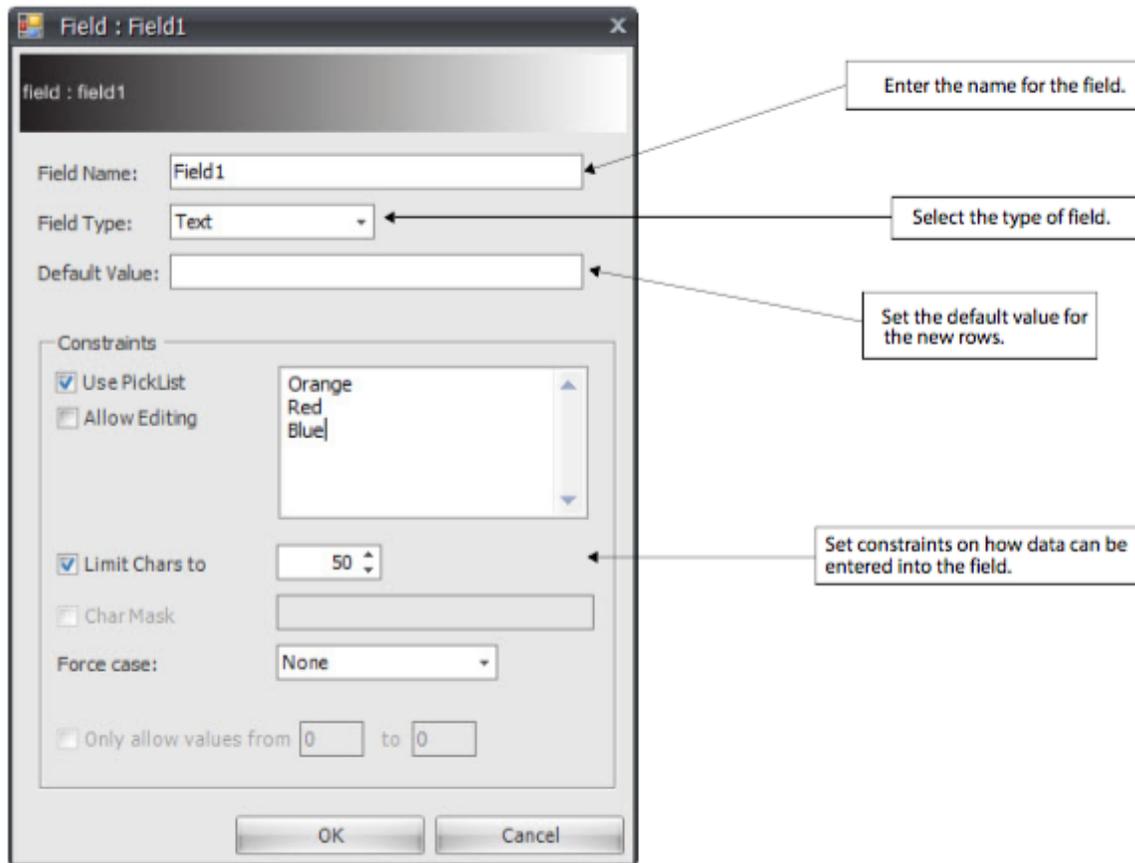
2. Enter the name of the new field in the **Field Name** text box.
3. In the **Field Type** combobox, select the type to restrict entry to the field. You can choose one of the following field types:

   Text—Allows any alphanumeric characters, including the letters A-Z (upper and lower case) and number 0-9. Used for basic or European text.
   Number—Allows numeric entry using a spin edit control.
   Boolean—Allows boolean entry of True/False.
   Date & Time—Allows both date and time entry.
   Date—Allows date entry using a date/time picker control.
   Time—Allows time entry using a time control.
   Media—Allows import of an image, movie, or flash media asset.
   Long Text—Allows memo-style text entry for long fields.
   International Text—Allows text that is not European.

4. In the **Default Value** text box, enter the default value to use when a new row is added to the data table.
5. Set any desired constraints on what can be entered into the data field:

   Use Picklist (Text only)—Displays the text field using a combobox where the user can select from a list of predefined values. You can enter one or more predefined values in the picklist text box (separated by carriage returns).
   Allow Editing (Text only)—Allows you to enter custom values in addition to the values available

from the picklist option.

Limit Chars (Text only)—Limits the maximum number of characters that can be typed into a text field.

Char Mask (Text only)—Restricts which characters can be entered into a text field. **Force Case (Text only)**—Forces the case of all characters to be upper or lower case.

Only allow values from (Number only)—Allows setting the minimum and maximum value of a number field.

Media Type (Media only)—Sets the type of media that can be imported into a media field.

Image Constraint (Media only)—When checked, importing images will display a special dialog that can be used to crop and scale the imported image to fit the defined resolution.

6. Click **OK**.

> ℹ️ **Note**
>
> The field type and constraints apply only when manually inputting data via the CNM. External tools, like the CoolSign Data Watcher, are not constrained by the settings defined in this dialog.

Editing Fields in a DataTable

You can edit any existing fields in your DataTable to change their name, constraints or other options.

> ℹ️ **Note**
>
> Modifying an existing field does not apply any new constraints to any previously input data for that field.

To edit a field in a DataTable:

1. *Select the field in the Fields grid of the DataTable Property dialog.*
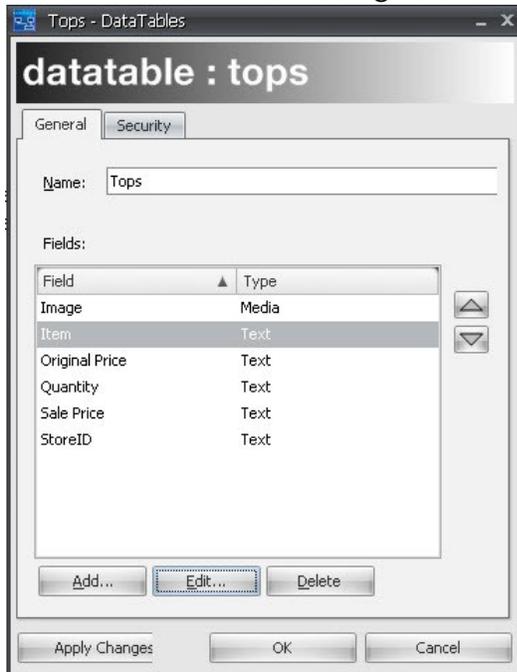
2. Click the **Edit** button to open the Field Property dialog for the selected field.
3. Change any properties as desired.
4. Click **OK**.

Changing the Ordering of Fields

When manually editing the data for a DataTable, the available fields are displayed in the order they are listed in the Fields grid of the DataTable Properties dialog. You can reorder the fields so that they are displayed in a different order.

To reorder fields:

1. Select the field you want to reorder in the Fields grid.
2. Click the Move Up or Move Down arrows to move the field up or down respectively in the list.
3. Click **OK**.

Deleting Fields from a DataTable

> **ℹ Note**
>
> When you delete a field, any existing data in that field is also deleted.

To delete a field from a DataTable:

1. Select the field in the Fields grid of the DataTable Property dialog.
2. Click the **Delete** button.

Editing Data in a DataTable

You can use CNM to manually edit data in your DataTables.

- **Using the Edit Data Dialog**

- [Setting the Order of Rows in the DataTable](#)
- [Setting the Activation_Expiration Date of Rows](#)

Using the Edit Data Dialog

You can edit the data in a CoolSign data table from any of the following dialogs:

- The Edit Data dialog from the Data Tables page.
- The **Dynamic Data** tab on the Content Properties dialog of dynamic content.
- The **Dynamic Data** tab on a Schedule Item Properties dialog when scheduling dynamic content.

> **ⓘ Note**
>
> Regardless of where you are editing the data, there is only a single instance of the data table and your changes will be reflected automatically wherever that data table is being used.

When editing data in any of the above dialogs, you are presented with an identical interface that allows you to add new rows, edit or delete existing rows, import media, and export your data to a text file.
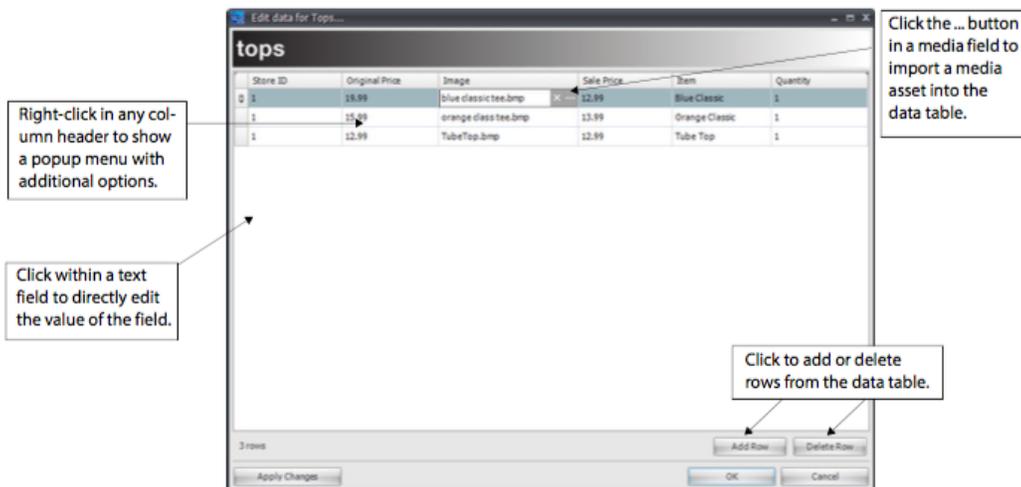
To add a new row to a data table:

- Click the **Add Row** button.

To delete a row from a data table:

1. Click anywhere in the row you want to delete.
2. Click the **Delete Row** button.

To edit data in a field:

1. Click on the field in the row you want to edit.

---

2. Enter or modify the data in the field. Any constraints defined in the field are enforced as you enter data.

To import media into a media field:

1. Click the field in the row where you want to import media.
2. Click the **… (ellipsis)** button in the field to display an open file dialog.

Image
blue classic tee.bmp   ✕ ⋯

3.
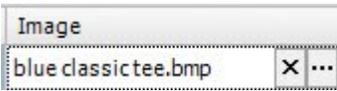
> ℹ **Note**
>
> Click **OK**. If you are importing an image and the field has been set to constrain the image size, a dialog will be displayed to allow you to resize the image to fit the constrained resolution.
>
> You can double-click on an image media field to open a preview window of the image. There is currently no mechanism to preview flash or movie media fields.
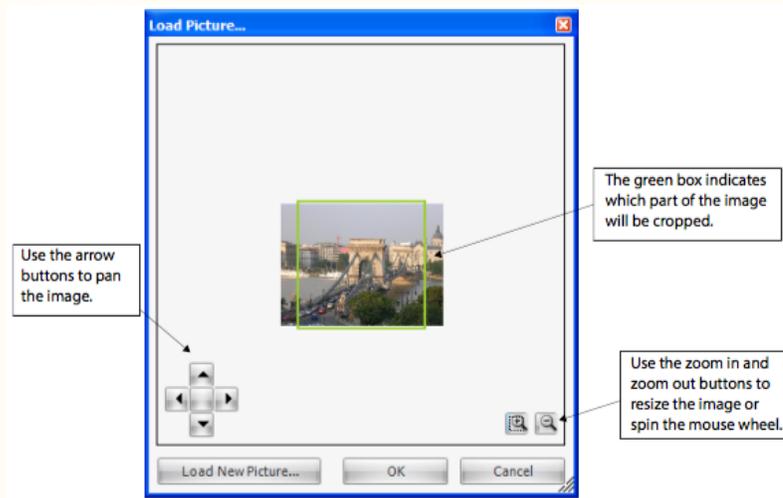
Setting the Order of Rows in the DataTable

You can sort the data by clicking on any field header, but the content defines the actual sort order in which rows are used. Content can be set to display rows in the order they exist in the DataTable. You can reorder rows in the DataTable if desired.

To change the order of the rows in a DataTable:

1. Right-click in any field column header to display the popup menu and choose SHOW ORDERING. A special field appears in the grid that displays the ordering index of each row.
2. Edit the value in each field to reorder the rows.

Setting the Activation_Expiration Date of Rows

> ℹ **Note**
>
> Rows that have expired will be deleted from the DataTable 24 hours after the expiration date to account for all timezones but will stop being used in content immediately.

To display the activation or expiration date of a row in a DataTable:

- Right-click in any field column header to display the popup menu and choose SHOW ACTIVATES/ EXPIRES.

Importing and Exporting Data

You can import and export data from a DataTable to a comma-delimited text (CSV) file. This is a convenient way to transfer a large complex DataTable to another CoolSign network, back up your DataTable, or copy the data into another DataTable.

Importing Data   Exporting Data

Importing Data

To import data from a file into a DataTable:

1. Right-click any column header to display the popup menu and choose IMPORT DATA.
2. Select the CSV file you want to import.
3. When prompted, choose whether you want to append the imported data or replace the existing data entirely with the new data.
4. If the DataTable has a media field, you can import the media files along with the CSV files. Ensure that the folder [*datatable_name*]MediaFiles (containing the associated media files) is in the same folder as the CSV file.

Importing Data   Exporting Data

Exporting Data

To export data from a DataTable to a file:

1. Right-click any column header to display the popup menu and choose **EXPORT DATA**.
2. Select the folder to which you are exporting data.
3. The export process does the following:
   - Creates a subfolder with the name of the DataTable (*datatable_name*) in the export folder.
   - Creates the file *datatable_name*/[*datatable_name*].csv in that subfolder.
   - If the DataTable contains media files, creates a new folder named *datatable_name*/ [*datatable_name*]MediaFiles in the same subfolder as the CSV file. All media files will be exported into this folder.

Printing Data

To print the data in a DataTable:

- *Right-click any column header to display the popup menu and choose **PRINT DATA**.*

Managing Nodes

Topics Discussed

A CoolSign network consists of any number of players transfer nodes all connecting through a combination of wide and local area networks to the CoolSign Network Controller. You can use the Network page of CNM to review your network's topology, check status on each of the nodes, review event logs, and configure various settings and properties.

About Nodes

There are three types of nodes in a CoolSign network that together form a network's topology:

Network Controller—The CoolSign Network Controller is the central server and database for the entire network. All other nodes connect to the Network Controller. There is one Network Controller

for a network.

🖼️ **Transfer nodes**—Transfer nodes act as data and connection aggregation points in your network. While transfer nodes are always optional, they can greatly decrease the amount of bandwidth required to transfer content to sites with multiple players and to transfer logs and status up from players. Transfer nodes connect directly to the Network Controller or to another transfer node.

▶️ **Players**—Players play back content on one or more connected display devices. Players connect either directly to the Network Controller or through one or more transfer nodes.

Using the Network Topology Panel

In addition to the standard QuickSet panel and Sites panel, the Network page also contains the Network Topology panel in its QuickBar. The Network Topology panel shows the hierarchical topology of your Network Controller in a collapsible tree list and indicates the overall status of a node and the nodes that connected to it.
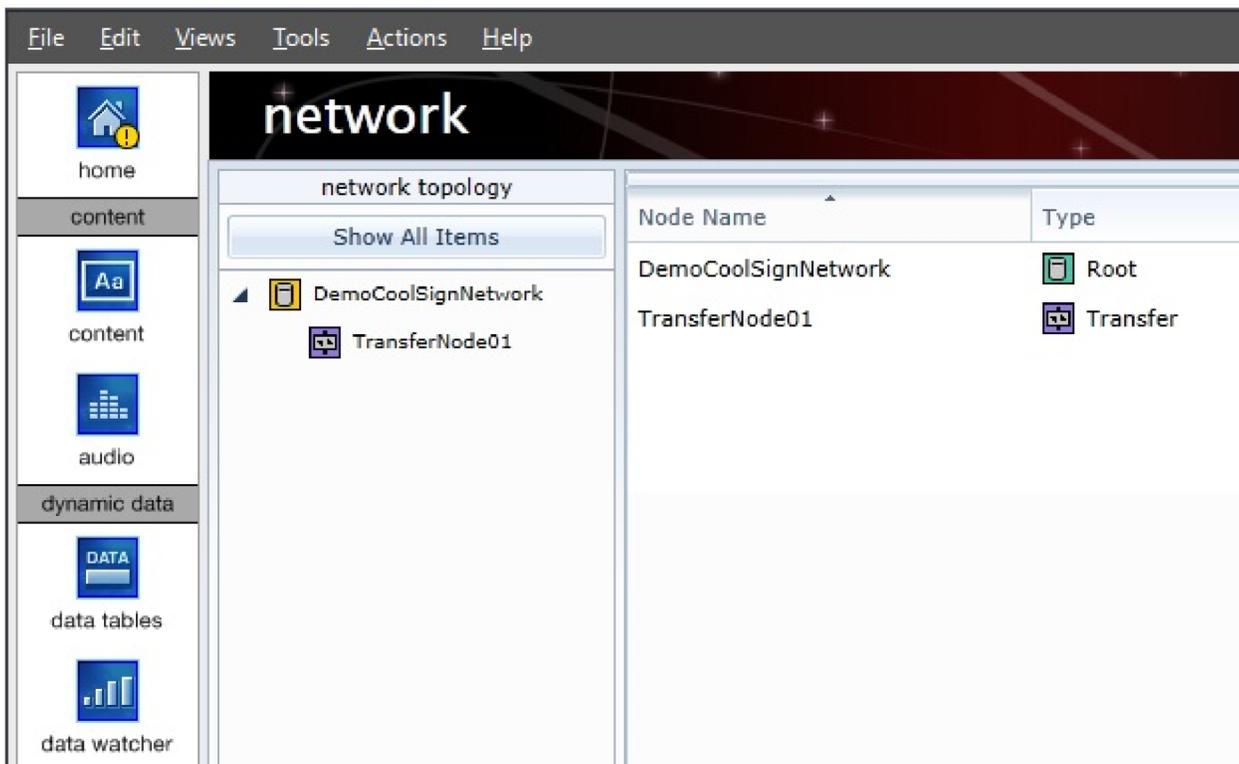
You can perform the following actions from the Network Topology panel:

- Click the Network Controller node or a transfer node to show only the nodes that connect directly to the clicked node.
- Right-click on a node to show a context-sensitive menu of actions you can perform on the node.

> ℹ️ **Note**
>
> The Network Topology panel represents the actual network connections of the nodes in your network. If you want to modify the topology, you must reconfigure the parent IP address of each node by running the Configurator on the actual node PC, or by changing the `PARENT_URL_PREFIX` of the Agent Settings from the node's Advanced Properties dialog. For more information, see "**Editing Agent Configuration Settings**".

Creating and Deleting Nodes

When a new player or transfer node connects to your network for the first time, the node automatically appears in the Network page. If the node is a player, a new player also appears in the Players Manager grid.

If you have configured a new node and it does not appear in the Network page, please refer to "Troubleshooting".

If you have physically removed a node from the network, the node will still be visible on the Network page with an offline status. You can delete a node from the system so it no longer appears. If you attempt to delete a node that is currently online, you will be warned before proceeding. Deleted online nodes will reconnect after a few moments and reappear on the Network page but you must retune any deleted Player nodes after they reconnect.

To delete a node:

1. Select the node in the data grid.
2. Choose **EDIT** > **DELETE**.

> ℹ️ **Note**
>
> You are not permitted to delete the Network Controller node.

Editing Node Properties

You can view and edit a number of important properties for each node in your network on the Node Properties dialog.

To open the Node Properties dialog:

Select the node in the data grid and do one of the following:

- Choose **ACTIONS** > **EDIT NODE PROPERTIES**.
- Right-click and choose **EDIT NODE PROPERTIES**.
- Double-click on the node in the data grid.

Viewing Transfers to a Node

The **Transfers** tab displays all of the content, software packages, and other items that are required for the node. If the item is still being transferred to the node, you can view the current progress of the transfer. A full green bar indicates that the item is completely transferred to the node.

Jump to Players

If you have multiple player nodes, you can use the Jump to Players feature to display a specific player node in the Player Manager. Once selected, this node appears in the Player Manager along with the filter that was created in the Quicksets dialog.

To filter on a specific player node:

1. From the Network Manager, highlight the desired player node and select **Jump to Players**.
2. From the Player Manager, configure the player node as desired.

Managing Software

CNM enables you to remotely install and upgrade CoolSign components and drivers from the **Software** tab of the Node Properties dialog. Haivision periodically releases new versions of CoolSign software components as CoolSign software packages. You can import CoolSign software packages and apply them to nodes to upgrade the software running on the node.

> ℹ️ **Note**
>
> Software packages are provided as a Windows folder that contains a `Package.xml` file and other files required for the update. Do not attempt to modify or move any of the files in the software package folder. Attempting to do so could cause severe errors when applying the package.
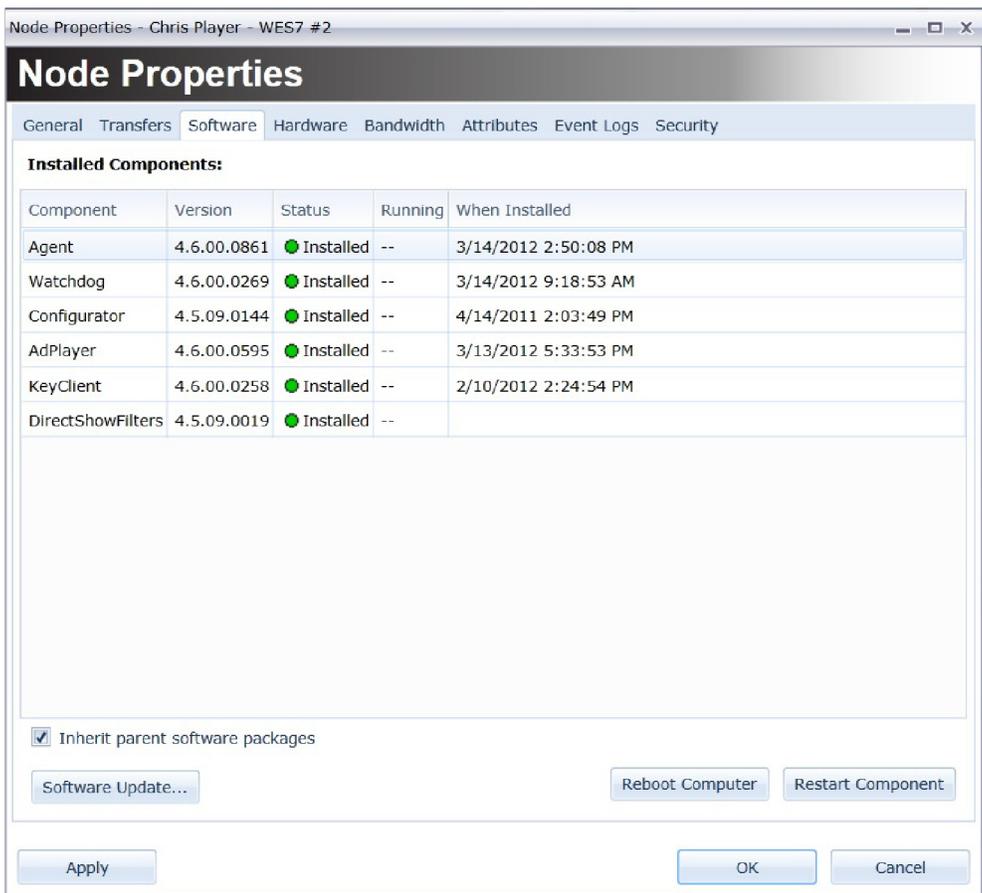
Viewing Installed Software Components

> ℹ️ **Note**
>
> Components that are installed directly onto a node via the CoolSign installer do not display running status until a software package containing that component has been imported into CNM and the package is applied to the node.

Importing Software Packages

Before you can apply a software package to a node, you must import the package updates into the network controller using the Network Manager. You can manage the available software packages on the Software Package Manager dialog.

To import a software package:

1. Do one of the following to display the Software Package Manager dialog:
   - From the **Software** tab of the Node Properties dialog, click **Software Update**.
   - Choose **TOOLS** > **SOFTWARE Packages**.
2. Click **Import Software Package**.
3. Use the Open Dialog to select the " `Package.xml` " file from the provided software package folder, then click **OK**. The new software package is imported into your network and made available to apply to a node.
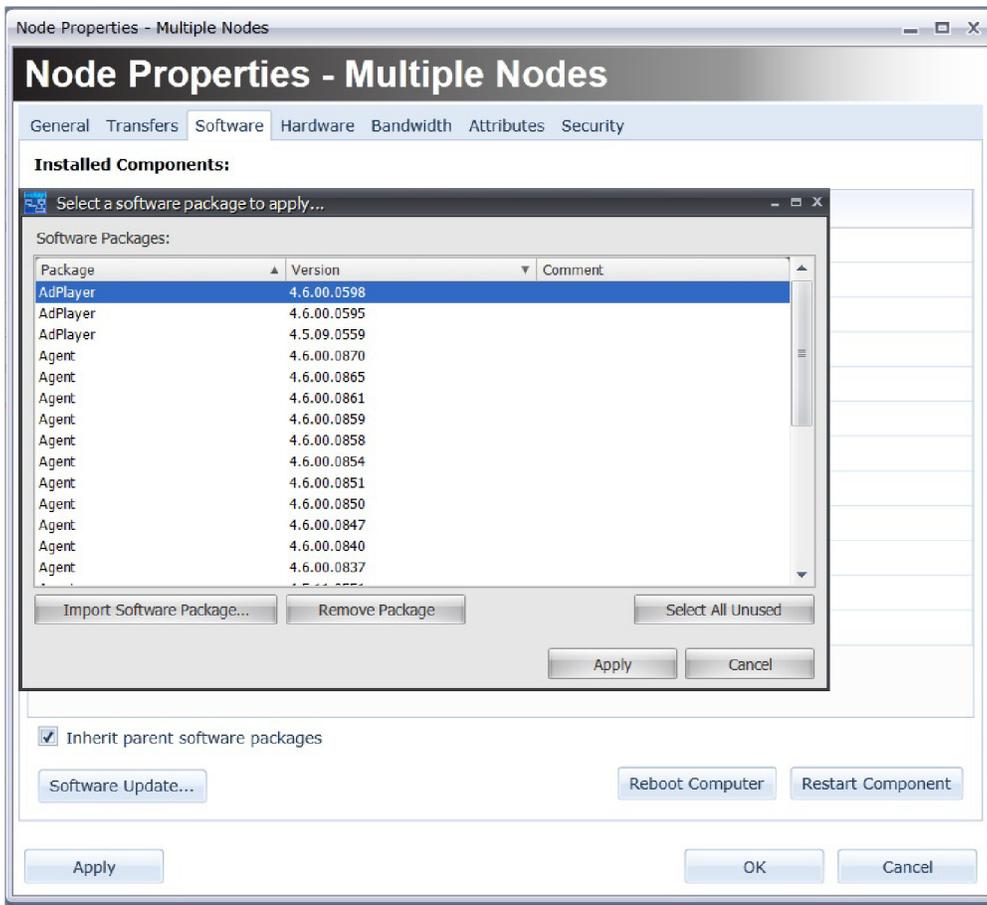
Deleting Software Packages

> **ⓘ Note**
>
> Deleting a software package does not uninstall that package from any nodes that it was applied to. There is no way to uninstall CoolSign software packages with CNM.

To delete unused software packages:

1. Select the software package from the Software Package Manager dialog or click **Select All Unused** to automatically select the unused packages.
2. Click **Remove Package**.

Applying a Software Package to a Node

In order to install a new component or upgrade an existing component on a node, you must apply the software package. You can apply software packages directly to a node or you can use software inheritance to let the packages automatically be applied from the parent of the node. When you apply a package to a node, CoolSign automatically transfers the necessary files across your network to the node. Once the entire package is available, the CoolSign Watchdog software running on the node shuts down the component being upgraded, installs the new component, and then restarts it automatically.

To apply a software package:

1. From the **Software** tab on the Network Properties dialog, click **Software Update**.
2. Select the package you want to apply.
3. Click **Apply**. While the package is transferring to the node, it shows a status of "Pending." Once the package is installed, the status should change to "Installed."

> ✅ **Tip**
>
> You can watch the transfer status of a software package from the **Transfers** tab of the Network Properties dialog.

> ℹ️ **Note**
>
> You can apply a software package to any node even though certain components (for example, the AdPlayer component). When you apply a Player-only software package to the Network Controller or a Transfer Node, its status is "Applied." This is useful when you enable software inheritance.

About Software Inheritance

You can use software inheritance to cause a node to automatically inherit all the software packages applied to its direct parent node. When you turn on Inherit Parent Software Packages for a node, any packages applied to the direct parent of that node are also applied to the node automatically. You might disable inheritance if you wanted to segment versions of the CoolSign software on your network because you want to test a new feature or bug fix before rolling out an upgrade to the entire network.

To toggle software inheritance for a node:

- From the **Software** tab on the Network Properties dialog, check or uncheck **Inherit parent software packages** as appropriate.

Restarting Software Components

Although the CoolSign software is self-maintaining and will automatically restart if unexpected issues occur, there may be situations when you want to remotely restart a software component manually.

About Node Attributes

To restart a software component from the Software tab:

1. From the **Software** tab on the Network Properties dialog, select the software in the Installed Components grid.
2. Click **Restart Component**.

> ℹ️ **Note**
>
> You can only restart components for which a software package has been applied to the node. You can't remotely restart components that are installed directly onto a node.

To restart the AdPlayer or Agent from the Network page:

1. Select one or more nodes in the Network page's data grid.
2. Choose **ACTIONS** > **RESTART AGENT** or **ACTIONS** > **RESTART ADPLAYER**.

Rebooting a CoolSign Node

When you install CoolSign software, you can configure a daily, weekly, or monthly interval on which each node's PC should be automatically rebooted. While the CoolSign software does not require frequent reboots, it's a common best practice to occasionally reboot the Windows operating system. For more information on configuring the automatic reboot, refer to the Installing CoolSign documentation.

You can use CNM to remotely force a node to reboot if you are troubleshooting an issue that you feel requires a reboot to fix. Rebooted nodes go offline during the reboot process and should come back online after a few minutes.

To reboot a node from the Software tab:

- From the **Software** tab, click **Reboot Computer**.

To reboot a node from the Network page:

- Select the node and choose **ACTIONS** > **REBOOT COMPUTER**.

> ℹ️ **Note**
>
> Rebooting the Network Controller node disconnects CNM. You can reconnect after the Network Controller has restarted. This might take a few minutes.

About Node Attributes

Attributes are a way to tag unique information about the nodes in your network. You can define an attribute and then set the value of the attribute for each node. For example, if you define an attribute called ZipCode, you can then enter and track the zip code for each player. When you define an attribute, every player on your network is assigned the attribute, using whatever default attribute value you set.

Node attributes can be defined and set on the Attributes tab of the Network Properties dialog.

Defining Attributes

Before you can set an attribute value for a node, you must define the new attribute and default value. When you define an attribute, it is automatically set with the default value for every node connected to your network.

To define an attribute:

1. From the **Attributes** tab on the Node Properties dialog, click **Define attributes** to open the Define Attributes dialog.
2. Click **Add** to open a new Attribute Properties dialog.
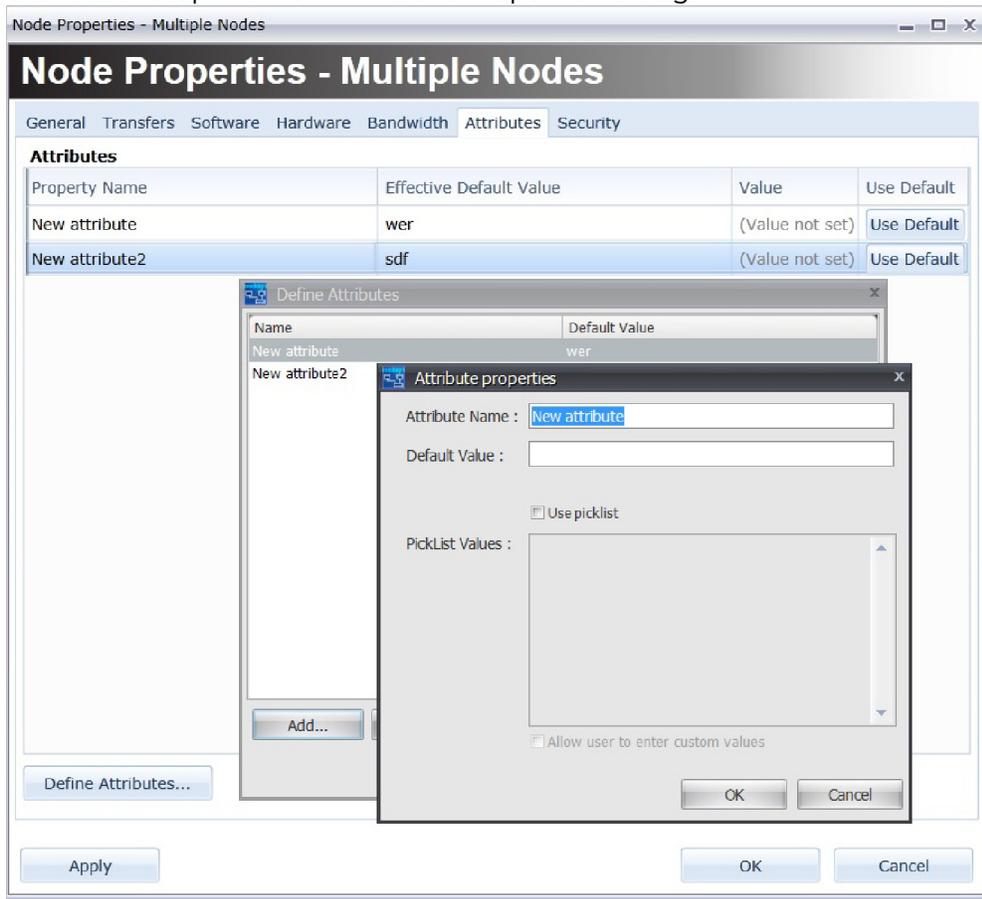
3. Enter the attribute name.
4. Enter a default value for the attribute.

About Bandwidth

1. If you want to allow users to select from a list of values when setting the attribute, check the **Use Picklist box** and enter the list of values into the PickList Values field.
2. If you want to let users set a value for the attribute that is not in the picklist, check **Allow user to enter custom values**.
3. Click **OK**.

Setting Attribute Values

Once an attribute is defined, you can set the attribute value for each of the players connected to your network. The current attribute values for a player are visible on the Attributes grid on the **Attributes** tab of the Node Properties dialog.

To set an attribute value:

1. Click in the Value column for the attribute you want to set.
2. Enter the value or choose the value from the picklist if available.
3. Click **OK** or **Apply Changes**.

Using Attributes for Dynamic Data Localizing

You can use attributes to localize data tables when displaying dynamic content or using enabling expression in your content. For more information on using attributes to localize dynamic data, see "**Localizing Data**".

About Bandwidth

You can use the **Bandwidth** tab of the Network Properties dialog to set bandwidth limiting and other network-related properties.

To set bandwidth limiting and other network-related properties:

1. From the Node Properties dialog, click **Bandwidth** to open the Bandwidth dialog.
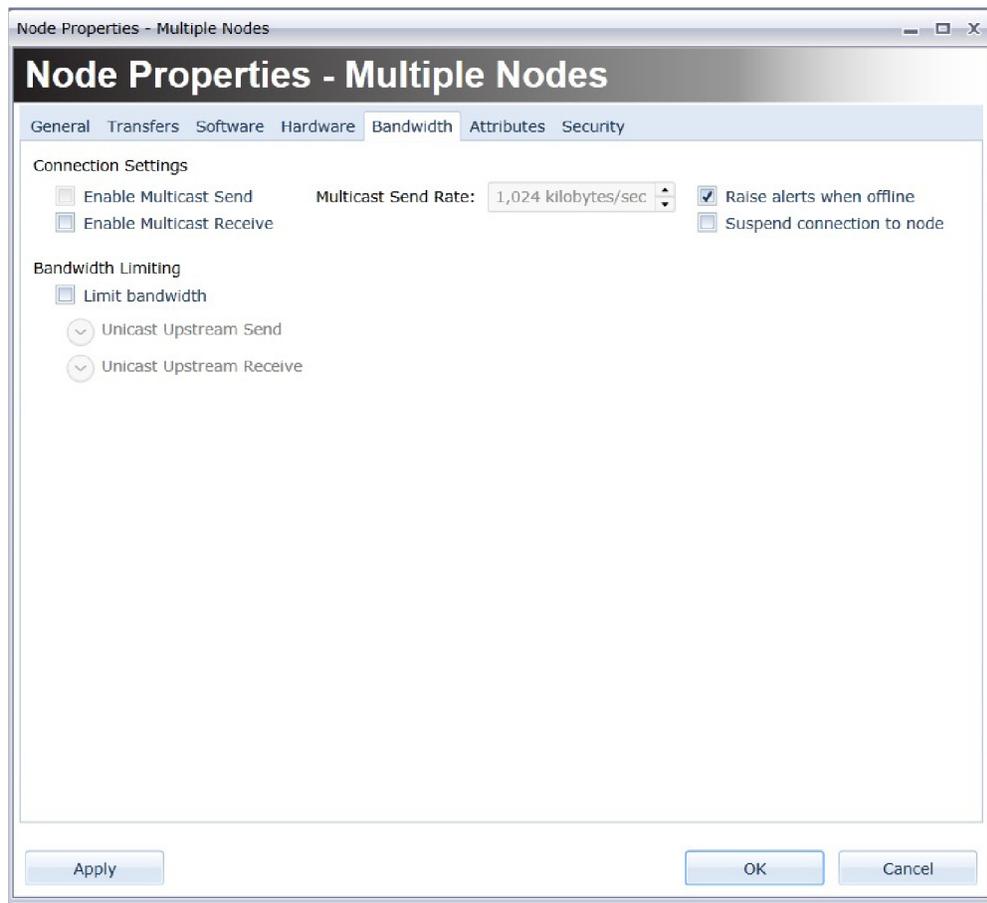
2. From this dialog you can:
    -   Enable multicast send/receive functions — set both send and receive from the network controller to a transfer node; set the node to receive from the network controller and transfer node.
    -   Raise alerts when offline — if selected an alert appears on the Home Manager when offline.
    -   Suspend connection to node — enables you to suspend traffic to/from the node other than to turn it back on.
    -   Limit bandwidth via unicast upstream send/receive functions — enables you to adjust the bandwidth of data transfer through the network (both unicast or multicast).
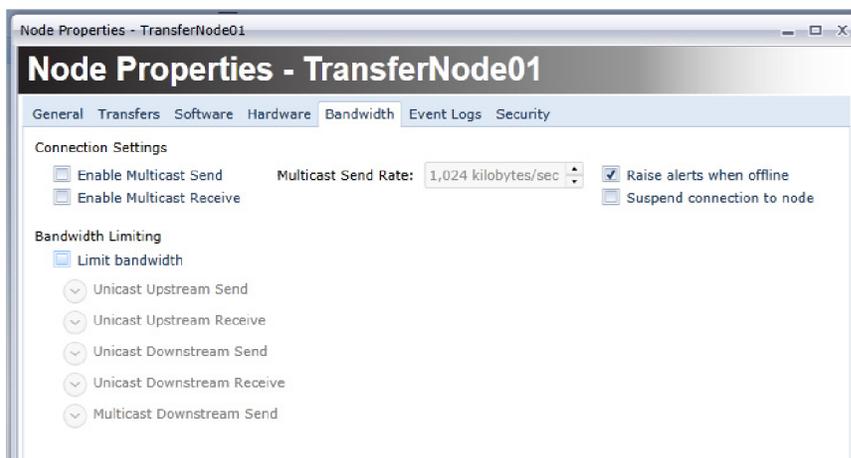
3. Apply your desired bandwidth limit settings.
4. Click **OK** to save your settings.

For more information on bandwidth, see "About Bandwidth".

About Event Logs

The **Event Logs** tab lets you retrieve information, warnings, and errors logged by the CoolSign software running on a node. You can use the event logs to help troubleshoot problems you might be having with your network or a node.

For more information on troubleshooting your nodes, see "Troubleshooting".

To access the Event Logs tab:

1. From the Node Properties dialog, click **Event Logs** to open the Event Logs dialog.
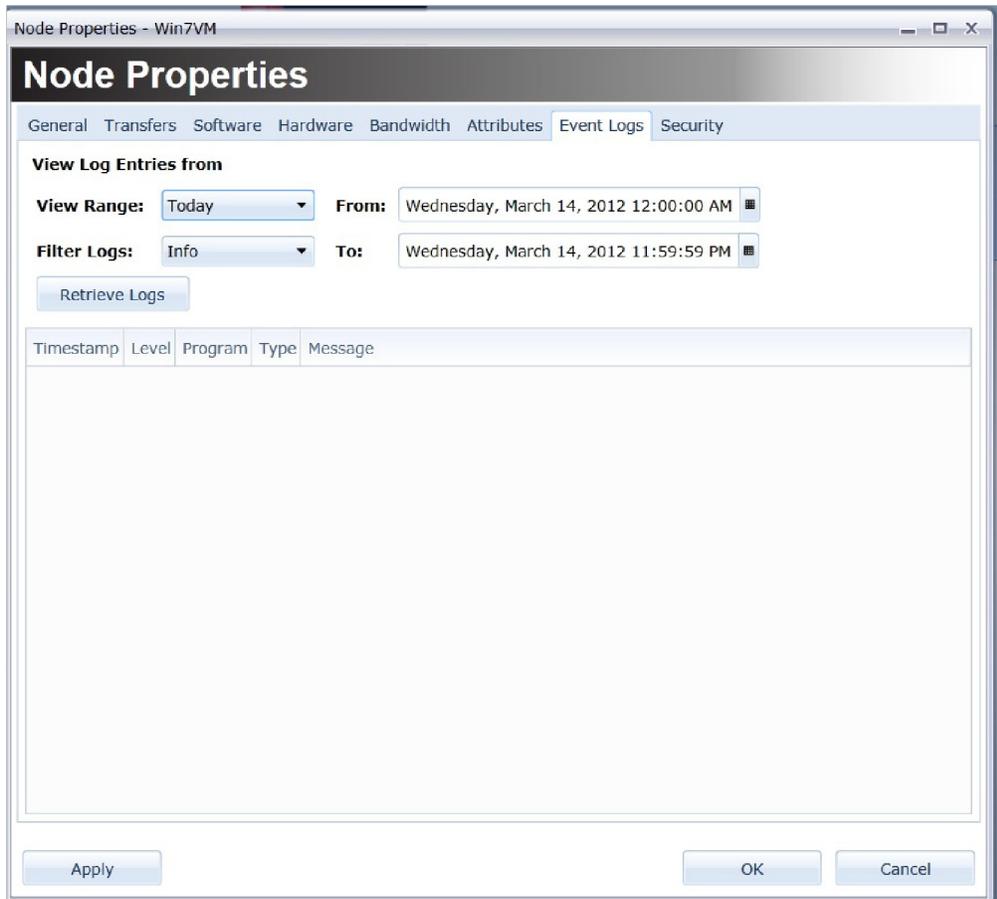
2. Select a value from the VIEW RANGE drop-down. This enables you to specify a time period for which to display corresponding log entries. You can modify the default values in the **From** and **To** fields to make the range more specific.
3. Select a value from the FILTER LOGS drop-down. This enables you to specify the level of detail to be displayed.
4. Click **Retrieve Logs** to view log history.
5. Click **OK**.

Configuring Advanced Properties

The Configure Advanced Properties dialog provides access to a number of advanced settings and features for technical configuration and troubleshooting of the nodes in a network. You can use the Configure Advanced Properties dialog to:

*   Review or change your software configuration and settings.
*   Open a command line interface to the hard drive on a node.
*   Send commands directly to the CoolSign Watchdog software.
*   Review the currently running processes.

> ⚠️ **Warning**
>
> The Configure Advanced Properties provides direct access to a number of properties and commands that can cause a node to lose connectivity or otherwise stop working. Do not attempt to use the Advanced Properties dialog unless you are very familiar with the CoolSign software and your network infrastructure.

To configure advanced properties:

- From the **General** tab of the Node Properties dialog (see "Editing Node Properties"), click **Edit Advanced Properties**.

About Software Configuration

You can use the **Software Configuration** tab on the Advanced Properties dialog to review and change a number of configuration settings used by the software installed on a node. You can also configure how a node raises alerts that appear on the CNM Home page. The **Software Configuration** tab allows you to select three types of configuration files to edit:

- **Alerts**—Contains settings that affect how and when alerts are raised by the software on the node.
- **Agent**—Contains settings that affect networking, how often logs are kept and uploaded, and other technical properties.
- **AdPlayer**—Contains settings that affect how the Player software works.

> ⚠️ **Warning**
>
> In most cases, you should avoid changing the settings for the Agent or AdPlayer unless instructed to by CoolSign Technical Support. Incorrect settings can result in loss of network connectivity or software failures that require physical access to the PC to repair.

Editing Agent Configuration Settings

While most of the Agent settings should be left alone unless instructed by CoolSign Technical Support, there are a few properties that it may be useful to edit under certain conditions:

- **PARENT_URL_PREFIX**—This setting can be used to re-point a node to a different parent node. The usual process for re-pointing a node is to reconfigure the node using the CoolSign Configurator software on the node. In the rare case that you need to remotely re-point a node, you can change this value to a new IP address.

  > ⚠️ **Warning**
  >
  > If you point a node to an invalid parent IP address, you will lose connectivity to that node until you physically access the PC to reconfigure.

- **PLAY_LOG_MAX_DAYS**—Indicates the number of days that playlogs will be retained on the player. Normally, playlogs are uploaded frequently and stored in the database of the Network Controller. If you have intermittent network connectivity or know that a node will be offline, you may want to change this setting so that you don't lose data while the node is offline.
- **SEND_EMAIL_FOR_ALERTS**—Set this to TRUE if you want to channel alerts to an e-mail address in addition to displaying them on the Home page.

Sending DOS Commands to a Node

You can use the **Remote Command** tab of the Advanced Properties dialog to remotely access the node's file system and execute standard DOS commands.

To send DOS commands to a node:

Enter a valid DOS command into the command line prompt field and press Enter.

- If you are executing a remote command (such as `dir`) that will return results, check the **Wait for Finish** box.
- If you are executing a remote command that starts a new process (application), verify that the **Wait for Finish** box is *not* checked. Otherwise, the command request might time out.

In addition to standard DOS commands like `CD`, `DIR`, `ECHO`, and so forth; you can enter the following special commands:

putfile [destpath]—Allows you to manually upload a file to the current working path on the node or to the location set in the destpath argument.
getfile [filepath]—Downloads the file set by the filepath argument and saves it to your local hard disk. **cshelp**—Provides Help information for CoolSign custom commands.
mget [wildcard]—Retrieves a set of files from the remote file system matching the dosformatted wildcard (such as `*.txt`).

Sending Watchdog Commands

You can send commands directly to the Watchdog software running on a node. A full list of the commands available for the Watchdog can be found in the document "How To Create Watchdog Scripts and Software Packages", available from CoolSign Technical Support.

To send a command to the watchdog:

1. Click **Send WatchDog Command**.
2. Enter the command and click **OK**.

Opening the Remote Monitor

The remote monitor is a debugging tool that provides a number of useful features for investigating the file transfer status and current closure for a node. While the remote monitor is currently an internal debugging tool only, it is accessible through the Advanced Properties dialog for cases where CoolSign Technical Support might need further information. The use of the remote monitor is currently not documented.

To open the remote monitor:

- Click **Open Remote Monitor** to launch the Remote Monitor application.

Cleaning Up Space on a Node

The CoolSign system self-maintains the available disk space on a node through a garbage collection algorithm. When new content is scheduled onto a player, CoolSign will, if necessary, automatically delete old, unused files to make room for the new files. In normal operation, you should not need to worry about the disk usage on a player node. You can force CoolSign to delete any unused content files if you want to reclaim the disk space without waiting for the garbage collection.

To force a node to garbage collect unused files:

- Click **Force Garbage Collect**.

Viewing Running Processes on a Node

You can review the current processes that are running on a node if you want to check to see which applications are running and how much CPU and memory they are using.

To view running processes:

1. Navigate to the **Process List** tab of the Configure Advanced Properties dialog.
2. Click **Refresh Process List** to update the list.

Monitoring Your Network

Topics Discussed

- **About the Home Page**
  - **About the status summary**
- **Alerts**
  - **Viewing Information about Alerts**
  - **Jumping to a Node or Player**
  - **Filtering Alerts**
  - **Viewing Detailed Timestamps**
  - **Marking Alerts as Read**
  - **Clearing and Deleting Alerts**
  - **Cleaning Up Old Alerts**
  - **Creating a User Alert**
  - **Setting Alert Preferences**
- **Tasks**
  - **Filtering Tasks**
  - **Reviewing the Status of Tasks**
  - **Setting Preferences for Tasks**
- **About Application Logs**

CNM provides a number of tools and dashboards to help you monitor the health and status of your network. CoolSign supports thousands of players connected to a network. You can view either a rollup of the connection, player, and display status of all the nodes on your network or drill down to view the individual status of each node.

About the Home Page

The CNM Home page is the first screen you see when connecting to a CoolSign network. The Home page provides a high-level dashboard on the health of your network as well as a list of any alerts that may require your attention.
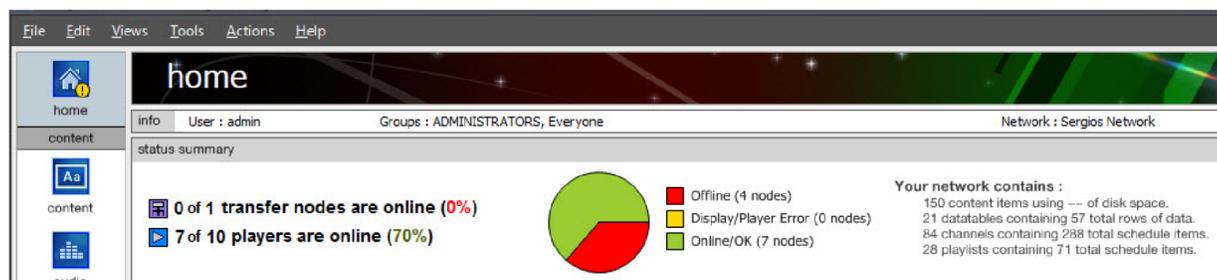
About the status summary

The status summary dashboard provides a high-level rollup of the status of the nodes connected to your CoolSign network. You can use this summary to determine at a glance if any nodes are offline or if any players are having content or display errors. The dashboard also provides a summary of how much data your CoolSign network contains.

Alerts

Alerts are warning or error messages when problems or events occur on your network. Each node in your network can raise an alert when it detects some issue requiring your attention. For a list of possible alerts, see "Troubleshooting Alerts".

Each node on your network can be individually configured as to which alerts it raises and how long until an alert can be raised again.

When an alert is raised on your network, it appears in the Alerts grid on the Home page. Additionally, you can set your CNM preferences to display a notification dialog, flash the task bar, or play a sound when the alert is raised.

Viewing Information about Alerts

Each alert in the grid displays information about where the alert was raised, a description of the event, and the time and date when the alert was first and last raised. Depending on its configuration, a node may continue to raise alerts repeatedly for an issue until that issue is repaired. Instead of filling up your alerts grid with duplicate alerts for the same node and issue, each alert shows the first time the alert was raised for the node, the last time the alert was raised, and a count of the total number of times the alert was raised.

Jumping to a Node or Player

You can quickly jump to the node or player that raised an alert so you can review its Node Properties dialog or other status and settings.

- Jump to players is accessed via the Network Manager.
- Jump to Node is accessed via the Players Manager.

To jump to the node or player that raised an alert:

- Right-click on the alert and choose **Jump to Node** or **Jump to Players**. CNM moves to the Networks page or Players page and selects the node or player that raised the alert.

Filtering Alerts

You can filter which alerts are visible in the Alerts grid to hide alerts for which the condition which raised the alert is no longer true. For example, if an alert was raised for a node because it was offline but now the node is online, you can choose to not view that alert.

To hide alerts for nodes that are fixed:

- Check **Offline** and display alerts for fixed nodes.

Viewing Detailed Timestamps

You can toggle the Alerts grid between a description of when each alert was first and last raised and the exact timestamp.

To view the exact date and time an alert was first and last raised:

- Check Show detailed timestamps.

Marking Alerts as Read

When an alert first appears in the grid, it is displayed in red. This indicates that this is a new alert and is unread. If you want to acknowledge that you have read the alert but not fixed the issue resulting in the alert, you can mark the alert as read.

Alerts

To mark an alert as read:

- Click the unread alert in the Alerts grid. Read alerts are displayed in black.

Clearing and Deleting Alerts

After you resolve the issue that caused an alert, you can either clear it or delete it. Cleared alerts remain in the Alerts grid for 24 hours and are displayed with a line through the alert. Clearing alerts is useful if you want other users of your network to see that a problem was repaired.

If you just want to immediately remove an alert, you can delete it.

To clear an alert, do one of the following:

- Check the **Clear Alert** checkbox in the Alerts grid.
- Right-click on the alert and choose **CLEAR ALERT**.
- Select the alert and choose **Clear Alert**.

To delete an alert, do one of the following:

- Right-click on the alert grid and choose **DELETE ALERT**.
- Select the alert and choose **ACTIONS** > **DELETE ALERT**.

To delete all cleared alerts, do one of the following:

- Choose **ACTIONS** > **DELETE CLEARED ALERTS**.
- Right-click on the alert grid and then select **DELETE CLEARED ALERTS**.

Cleaning Up Old Alerts

Each time you launch CNM, you will be warned if your network contains alerts that are older than 30 days. You can clean up the old alerts by deleting them. Alternatively, you can manually delete old alerts.

To delete alerts older than 30 days, do one of the following:

- **Choose ACTIONS** > **CLEAN UP OLD ALERTS**.
- Right-click on the alert and then select **Clean up Old Alerts**.

Creating a User Alert

You can raise a user alert (custom) alert to inform, instruct or remind yourself or other users of your network.

Tasks

To add a user alert:

1. Choose **ACTIONS** > **NEW ALERT** or right-click and then select **New Alert**.
2. Enter a name and description for your alert.
3. Click **OK** to add the user alert.

Setting Alert Preferences

You can set CNM to warn you of new alerts by displaying a notification dialog, flashing the taskbar, or playing a sound.

To change the alert notification preferences:

1. Choose **FILE** > **PREFERENCES**.
2. Check one or more methods for how you want to be notified of new alerts.
3. Click **OK**.

Tasks

There are a number of activities you can perform with CNM that can take a variable amount of time to complete depending on the size of the data being transferred, the number of nodes affected by the change, and the speed of your network. Instead of forcing you to wait until the action has completed to give you feedback, CoolSign creates tasks that let you review the progress of the activity on each node that it was applied to.

Tasks are created for the following actions:

- Tuning a player to a new channel.
- Updating a channel used by one or more players.
- Updating content.
- Upgrading software.

Filtering Tasks

You can filter the tasks grid to display only active and failed tasks or to only display tasks that were created due to actions that you performed (as opposed to other users).

To only show tasks that are currently active or have failed:

- Uncheck **Show Completed Tasks**.

To only show your tasks:

- Check **Show my tasks only**.

Reviewing the Status of Tasks

> **ⓘ Note**
>
> A failed task does not necessarily mean that the action for that task didn't eventually complete successfully. It only means that it didn't complete within the time limit allocated for the task. For example, applying a software package to an offline node will most likely result in a failed task. But if that node connects at some time in the future, the package could then be applied automatically at that time.

To review details of a task:

- Right-click on the task and choose **VIEW TASK PROPERTIES**.

Setting Preferences for Tasks

You can change some of the default preferences for tasks, including whether to raise alerts when the task succeeds or fails and how long it takes for a task to expire.

To change task preferences:

1. Choose **FILE** > **PREFERENCES** to open the Preferences dialog.
2. Set the desired task preferences in the System Task box.
3. Click **OK**.

About Application Logs

On the Alerts page, the Logs grid displays all the major actions performed on your network through use of CNM. You can use these logs to review what changes or actions were performed, by whom, and when. By default, the Logs grid only shows the last two days of logs. You can edit your preferences to change the number of days in the Logs grid.

To set the number of days of logs shown in the Logs grid:

1. Choose **FILE** > **PREFERENCES** to open the Preferences dialog.
2. In the Application Logs box, set the number of days of log to show.
3. Click **OK**.

Using Schedule Grids

Topics Discussed

- **Working with the Schedule Grid**
  - **Setting a Cell Value in the Grid**
  - **Using the Zoom in the Scheduling Grid**
- **Overriding the Recurring Schedule**
  - **Jumping to an Overridden Week**
  - **Removing Overrides**

You can use the scheduling grid to schedule a number of different properties of your CoolSign network, including any of the following:

- Dayparting a schedule item within a channel (Schedule Item Properties dialog).
- Volume level of a player (Player Properties dialog).
- Display control for a display connected to a player (Configure Players dialog).
- The hours that a site is open (Site Properties dialog).
- Bandwidth limiting for a node (Network Properties dialog).

Working with the Schedule Grid

The scheduling grid provides a powerful interface that can be easily used for most common scheduling, while also providing advanced features that allow you to build very complex schedules quickly. Topics include:

- **Setting a Cell Value in the Grid**
- **Using the Zoom in the Scheduling Grid**

All scheduling grids share the same interface, save for a context-sensitive popup menu that allows you to schedule the specific values available to the property you are scheduling.

Depending on what you are scheduling, the colors of cells indicate different values for the property. For properties like volume and bandwidth limiting, each cell visually displays the percentage level of a value

(as shown above). By default, clicking a cell or dragging across cells toggles the cell value between the minimum or off value and the maximum or on value. Right-clicking on a cell or right-click dragging across cells displays a context-sensitive popup menu to enable you to set any additional value available to that property.

Setting a Cell Value in the Grid

Each cell in the grid has a color that indicates the value of the property at that time. The possible values of a schedule grid and the corresponding colors are different for each type of scheduling grid and are discussed in detail in the documentation for the associated property dialog.

You can quickly toggle the value of a cell or range of cells between the off and on settings. The off and on values of a property differ for each type of scheduling grid. For example, the on setting for the volume schedule grid indicates a volume of 100 while the on setting for the display control schedule grid indicates that the display's input is set to CoolSign.

In addition to the off and on settings, some scheduling grids allow you to set additional values. For example, the volume scheduling grid lets you set a volume level from 0 to 100 and the display control scheduling grid lets you set the display to any labeled input.

To toggle cells between off and on:

- Left-click a cell or left-click and drag across one or more cells. All selected cells are toggled based upon the first selected cell.

To set the value of a cell:

1. Right-click a cell or right-click and drag across a range of cells.
2. Select or set the value using the VALUE popup menu.
3. Click anywhere off the popup menu to close it.

Using the Zoom in the Scheduling Grid

Each cell in the grid represents a block of time during a day of the week. By default, each block represents a full hour during the day. You can use the zoom controls to zoom in and out of the scheduling grid to decrease the block of time that a cell represents so you can schedule at finer resolutions than on the hour.

To zoom in:

- Click ⊕ to zoom into the grid. You can zoom to the following time resolutions: 1 hour, 30 minutes, 15 minutes, 5 minutes, or 1 minute.

To zoom out:

- Click ⊖ to zoom out of the grid.

Overriding the Recurring Schedule

By default, when you are using the schedule grid, you are creating a recurring schedule that will repeat every week. If you want to modify the schedule for a specific week, you can use the override week features. For example, you may want to schedule displays to be on for extended hours during the week before Christmas at a department store or you may want to disable a schedule item from playing on a certain Tuesday in November for some reason. Topics include:

- **Jumping to an Overridden Week**
- **Removing Overrides**

With the scheduling grid override functionality, you can schedule any overrides to the base recurring schedule for any future week.
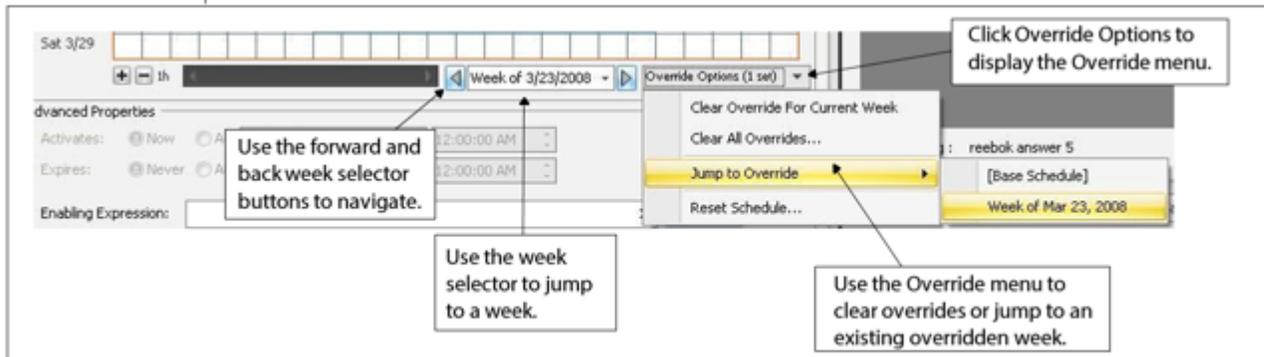
To select a week to override:

1. Click the **Week Selector** box to display the Datetime editor.
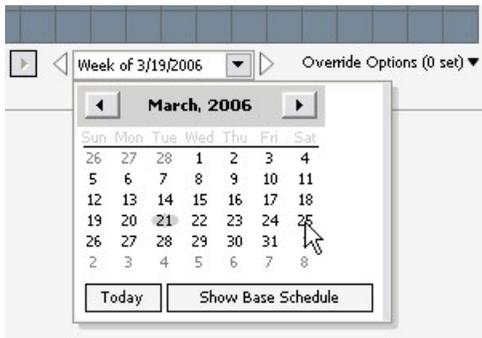
2. Use the month arrows to change the displayed month.
3. Click **Today** to jump to the current date.
4. Click **Show Base Schedule** to return to the base recurring schedule.
5. Click a day to select a week to override.

To navigate through weeks:

- Click the Forward or Back week selector buttons to move one week forward or back from the current week.

To override the schedule for a week:

1. Edit the schedule for an overridden week using the same tools available for editing the recurring week as described above.
2. The overridden week is labeled as Overridden Week.

Jumping to an Overridden Week

You can quickly jump to any currently overridden weeks to review or modify the overrides. The Override Options menu indicates the number of weeks that are currently overridden.

To jump to an overridden week:

1. Click **OVERRIDE OPTIONS** to display the Override popup menu.
2. Choose **JUMP TO OVERRIDE** to display a submenu of any overridden weeks.
3. Choose the overridden week to which you want to jump.

To jump to the next or previous overridden week:

- Hold down the **Ctrl** key while clicking the **Forward** or **Back** week selector buttons. If an overridden week is set, the schedule grid will jump to that week.

Removing Overrides

You can remove all the overrides applied to a schedule or just the override for a specific week.

To clear all overridden weeks:

- Click **OVERRIDE OPTIONS** and choose **CLEAR ALL OVERRIDES**.

To clear the override from the currently selected week:

- Click **OVERRIDE OPTIONS** and choose **CLEAR OVERRIDE FOR CURRENT WEEK**.

Managing Triggers

Topics Discussed

You can use triggers to cause a piece of content or playlist to instantly play back on one or more players when a specified event takes place. In most cases, you will use triggers in conjunction with some external application that communicates to CoolSign when the trigger should be fired, but you can also fire a trigger manually if needed.

- For a discussion of how to use the Data Watcher to fire triggers automatically, see **Firing Triggers Automatically**.

Types of Triggers

Two types of triggers can be created:

- **One-shot**—One-shot triggers force content to play once when the trigger is fired. This is similar to executing a Play Now command on a player.
- **Recurring**—Recurring triggers force content to play repeatedly until the trigger is cleared. So long as a recurring trigger is active, no other scheduled items in the channel for a player will play. The triggered content will loop repeatedly.

If subsequent recurring triggers are fired before the previous ones are cleared, the player will alternate between each active recurring trigger.

About Payloads

Triggers can include payloads that contain data about the event that fired the trigger. Content that is played due to the firing of a trigger with a payload can display that payload information as dynamic data when it plays.

Working with Triggers

You must manually create triggers using the Manage Triggers dialog. The following topics cover the actions available from this dialog:

- **Creating Triggers**

- **Editing Triggers**
- **Manually Firing Triggers**
- **Clearing Triggers**

> ⓘ **Note**
>
> You can also manually create triggers through an external application, such as Data Watcher (see **The Data Watcher Manager** for details).
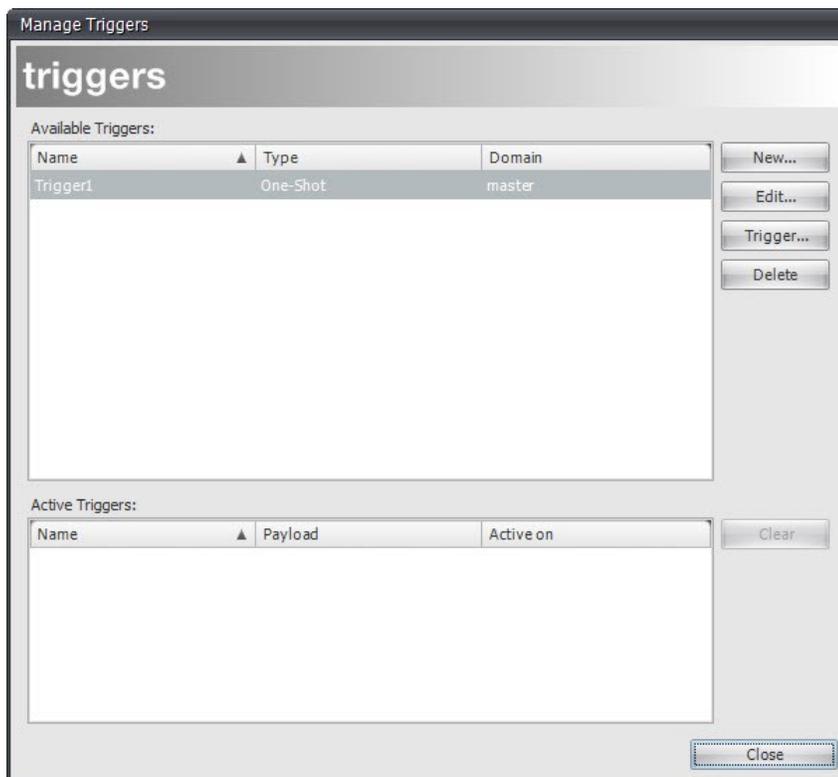
To open the Manage Triggers dialog:

- Choose **TOOLS** > **TRIGGERS**.

Creating Triggers

Triggers are usually created by the external application that fires the triggers. You can create your own triggers if you plan to manually fire the trigger or if the external application doesn't create triggers for you.

To create a new trigger:

1. On the Manage Triggers dialog, click **New**. A new Trigger Properties dialog appears.

2. Enter a name for your trigger.
3. Select **One Shot** or **Recurring** to determine how your trigger will play content. (See **Types of Triggers**.)
4. If your trigger is recurring, set the maximum number of instances of the recurring trigger that can be active at one time. Any triggers in excess of the limit are queued until one of the currently active triggers is cleared.
5. Add any **payload** field to your trigger. See **Adding Fields to a DataTable**.
6. Click **OK**.

Editing Triggers

To edit an existing trigger:

1. On the Manage Triggers dialog, select the trigger that you want to edit, then click **Edit**.
2. When the Trigger Properties dialog appears, make your changes.
3. Click **OK** (to save) or **Cancel** (to discard your changes).

Manually Firing Triggers

You can manually fire triggers if you want to directly cause triggered content to play. When manually firing a trigger, you can also enter data into any fields that are defined for the payload of the trigger. You can only fire a trigger manually if at least one player is playing a channel in which that trigger is scheduled.

To manually fire a trigger:

1. Select the trigger on the Manage Triggers dialog.
2. Click **Trigger** to open a Trigger dialog.
3. If the trigger is recurring, set an expiration date. You must also manually clear active triggers from the Manage Triggers dialog (see **Types of Triggers**).

4. Enter the values for fields defined as the trigger's payload. These values are included with the trigger so that any content played by the trigger can use them as dynamic data.
5. Click **Trigger**.

Clearing Triggers

The currently active triggers are listed in the Active Triggers grid on the Manage Triggers dialog. You can manually clear an active recurring trigger if you want stop content played by the trigger.

To clear a trigger:

1. Select the active trigger in the Active Triggers grid.
2. Click **Clear**.

Scheduling Triggered Items

Before you can fire a trigger, you must schedule a content item or playlist using the Triggered schedule item type in a channel and tune at least one player to that channel. For more information on scheduling, **About Scheduling**.

About Security

Topics Discussed

- **Using Windows Domain Security to Connect to CoolSign**
- **Managing Users and Groups**
    - **About Users**
    - **About Groups**
    - **Linking CoolSign Users_groups to Active Directory Groups**
    - **Linking a Domain User to a CoolSign Group**
    - **About Special Groups**
    - **Capabilities**
    - **Factory-Set Account and Password**
    - **Password Management**
    - **Linking CoolSign Accounts to a Domain User Account**
- **Setting Object Permissions**
    - **About the Security Tab**
- **Security Strategies**
    - **Scenario 1: All users have all permissions and capabilities**
    - **Scenario 2: Managing only capabilities by user**
    - **Scenario 3: Managing only capabilities through groups**
    - **Scenario 4: Managing capabilities and permissions by groups**
    - **Scenario 5: Managing multi-tenancy capabilities and permissions**
- **Content Security**

Security is integrated into the CoolSign system in several different ways. You can control who has access to your CoolSign Network, what they can see and do, and what specific items they can change. There are built-in features to ensure that once content is brought into your CoolSign Network, it cannot be tampered with, and it cannot be used outside of your network. And lastly, there are ways that the CoolSign software is protected from unauthorized use, which will be worthwhile for you to know about as you look at expanding your CoolSign Network.

There are two levels of security access in the CoolSign system: capabilities and permissions. *Capabilities* determine which pages, within the CNM, the user can access (read) and what tasks can be performed. *Permissions* determine which individual items within CNM the user can change (write).

In order to be able to perform a task with an item in CNM, the user must have the capability to access the manager or perform the task, and the user must have the permission to change the object. It is important to note that security access control for the CoolSign system has been designed to be flexible, so there are a number of ways you can manage access. You can use capabilities to manage the general access of users to different managers of the system and use permissions to restrict which users can access specific items within a manager.

Using Windows Domain Security to Connect to CoolSign

If your network uses Windows Vista, Microsoft Windows 7, Windows XP, Windows Server 2003 or Windows Server 2008 and has domain accounts set up for the same users (and/or groups) who access the CoolSign network, you may be able to streamline the user logon process. This is only possible if the domain accounts are in the same domain as the CoolSign Network Controller node. You can set up CoolSign user accounts that are linked to the Windows domain account. For these users, once the CNM application is launched, the user skips the CoolSign log on screen and proceeds directly to the Home page (see About the Home Page).

For information on how to link a CoolSign user account to a domain user account, see About Users.

Alternatively, if your network uses Windows Vista, Microsoft Windows 7, Windows NT, Windows 2000, or Windows XP and has Active Directory groups set up for the same users who access the CoolSign network, you can set up CoolSign groups that are linked to Active Directory groups. When you do this, CNM checks the user's Active Directory groups to determine the appropriate capabilities.

To enable domain security for CoolSign users:

1. If you are using Active Directory groups, associate CoolSign groups with Active Directory groups, as described in Linking CoolSign Users/groups to Active Directory Groups.
2. Exit CNM.
3. At the CNM login screen, click **Edit Networks**.

4. In the Select Network dialog, select the network that you wish to connect to.
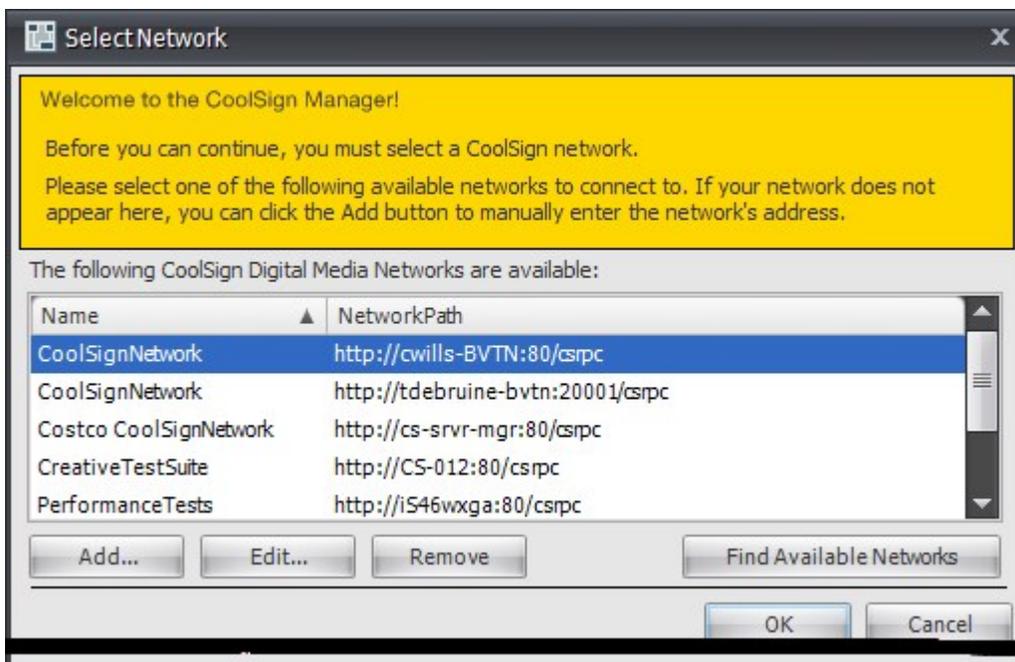
5. In the Edit Network dialog, check the **Connect using Domain Account** box.

6. Click the **Check Network** button. If a network is online and available at the specified address, its name automatically appears.

> ⓘ **Note**
>
> You cannot add a network that is not currently online. If you are having trouble connecting to a valid address, make sure that the Network Controller agent is running.

7. Click **OK**.

8.
> ⓘ **Note**
>
> The next time CNM is launched, it tries to log in using the user domain credentials (as long as the domain credentials were properly defined).

To disable domain security for CoolSign users:

1. Press the **Ctrl** key while double clicking on the CNM shortcut.
2. When the CNM login screen appears, select your desired network.
3. Press **Edit** to disable domain security for CoolSign users.

Managing Users and Groups

You can manage the users and groups allowed access to your CoolSign network from the User and Groups dialog.
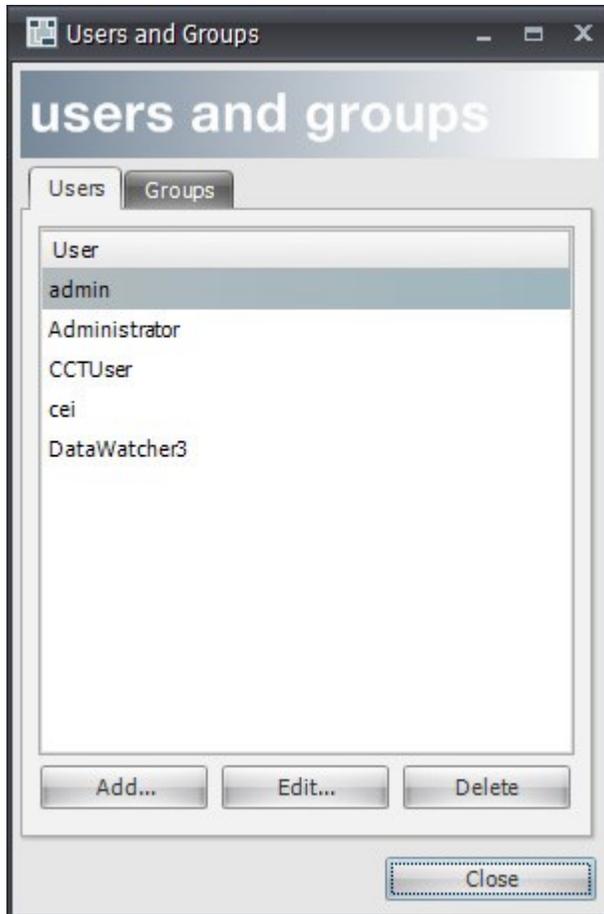
To open the User and Groups dialog:

- Choose **TOOLS** > **USER AND GROUPS**.

> ℹ️ **Note**
>
> Only the admin user or members of the built-in Administrators group can access the User and Groups dialog.

About Users

Users are the individuals who have access to your CoolSign network. A user must enter his or her log on credentials when launching CNM. You can assign capabilities and permissions to restrict a user's access to features or items in your network.

You can manage users from the Users and Group dialog.

To add a new user:

1. From the Users and Groups dialog, click the **Users** tab (if necessary) to display the Users list.
2. Click **Add** to open a New User dialog.
3. Enter the user's login name.
4. If you want to link the user account to an existing domain account, enter the domain name. For more information on linking accounts to a domain, see **Linking CoolSign Accounts to a Domain User Account**.
5. Click **Set Password**.
6. In the Set Password dialog, enter a password for the new user account.
7. Click **OK** to close the Set Password dialog.
8. If you want to restrict access to any features or manager pages for this user, click the **Capabilities** tab and uncheck the appropriate capabilities. (For a description of the capabilities listed here, see **Capabilities**.)
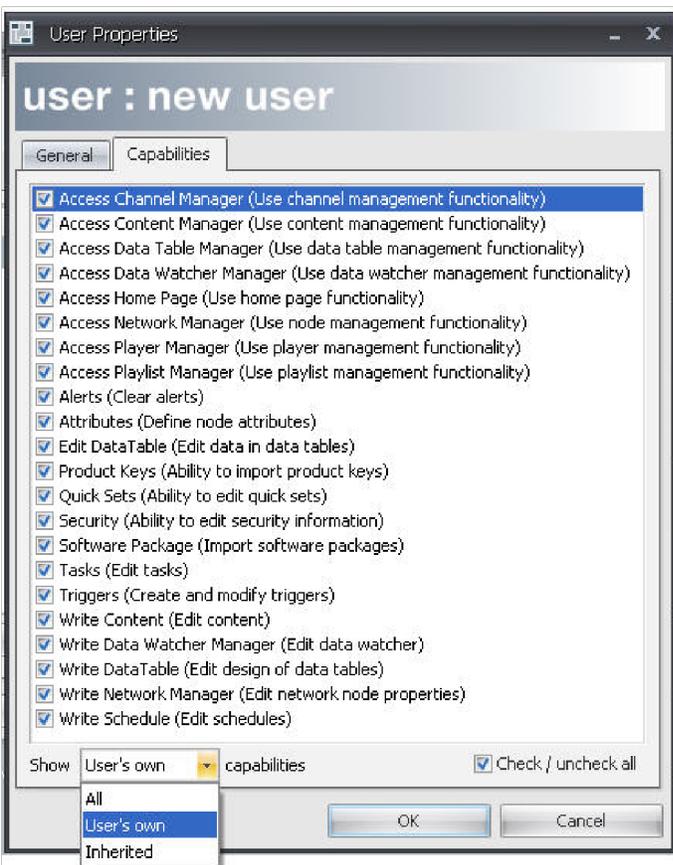
> **ⓘ Note**
>
> As shown here, you can choose whether to display the capabilities that are specifically assigned to the user ("User's own"), the capabilities inherited from the group to which the user belongs (see **About Groups**, or the full set of all capabilities for this user ("All").

9. Click **OK**.

To edit the properties of a user:

1. Select the user in the User and Groups dialog.
2. Click **Edit** to open the User Properties dialog.
3. You can change the capabilities of the user or assign a new password.

About Groups

Groups contain users as members. Both capabilities and permissions can be assigned to either users or groups. When you assign permission or capabilities to a group, all the users in that group receive those security settings as well. You can manage groups from the Users and Groups dialog.

To create a new group:

1. From the Users and Groups dialog, click the **Groups** tab to display the Groups list.
2. Click **Add** to open a New Group dialog.
3. Enter a name for the group.
4. For each user you want to assign to the group, select the user in the Users list and click the left arrow button.
5. If you want to restrict access to any features or manager pages for the members of this group, click the **Capabilities** tab and uncheck the appropriate capabilities.
6. Click **OK**.

To assign group capabilities to a user:

1. Select the user in the User and Groups dialog.
2. Click **Edit** to open the User Properties dialog.
3. In the Available Groups list, select the group whose capabilities you want the user to inherit, then click the left arrow button.
4. In the Member Of list box, right-click to select the group, then click **Use Group Capabilities**.
5. In the **Capabilities** tab, verify that you have assigned the desired capabilities to this user.
6. Click **OK**.

## Linking CoolSign Users_groups to Active Directory Groups

If your network uses Windows Vista, Microsoft Windows 7, Windows XP, Windows Server 2003 or Windows Server 2008 and has Active Directory groups set up for the same users/groups who access the CoolSign network, you may be able to streamline the process of assigning capabilities. You can set up CoolSign users/groups that are linked to Active Directory groups. When you do this, CNM checks the user's Active Directory groups to determine the appropriate capabilities.

To link a CoolSign group to an Active Directory group:
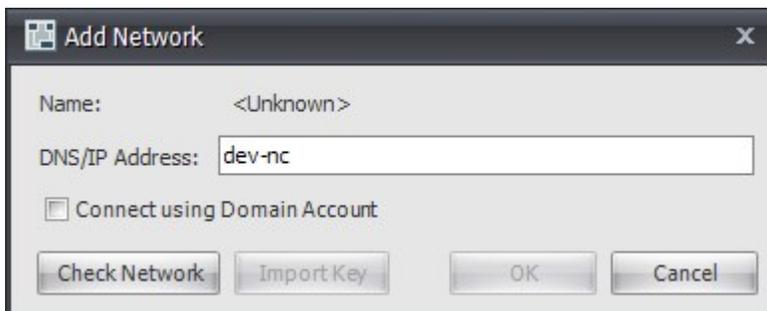
> 🛈 **Note**
>
> Before you can link CoolSign users/groups to domain groups, you must first set up Active Directory groups on your domain controller.

1. From the Users and Groups dialog, click the **Users or Groups** tab to display the Users/Groups list.
2. Select the CoolSign users/group that you want to link to an Active Directory group. Then click **Edit**. (Alternatively, click **Add** to create a new CoolSign users/group.)
3. In the User/Group Properties dialog, choose the Active Directory users/group name from the Domain Group combo box. The combo box lists all users/groups in the current domain.
4. Now you can set the capabilities for the CoolSign users/group. Click **Capabilities**, then enable or disable capabilities as needed. When you're done, click **OK**.

All users/groups in the Active Directory group now have the capabilities that you assign to the linked CoolSign group.

Linking a Domain User to a CoolSign Group

If Active Directory Groups have already been created and correctly linked to their corresponding CoolSign Groups correctly (see above), it is possible to maintain CoolSign users directly using Active Directory.

To link a domain user to a CoolSign group:

1. Create a Domain User in Active Directory (for example, johndoe@qadomain.com)
2. Make the new user a member of an Active Directory Group that is linked to a CoolSign Group.This user must be granted read/write permissions on the startup volume.
3. Log in to Windows using the newly created user domain credentials.
4. Launch CoolSign Network Manager.
5. Enable the "Connect using Domain account" option (see **"To enable domain security for CoolSign users:"**).
6. Restart CNM.

CNM should be able to connect to the Network Controller using the domain account credentials (without the need to create a user on CoolSign and map it to its corresponding domain account), provided the following conditions are met:

- The Domain account user credentials are set up properly.
- The user is logged into Windows as the domain user (for example, " `johndoe@qadomain.com` " in the example above).
- Both the machines running the NC and CNM are in the same domain as the Domain Controller (" `qadomain` " in the bullet above).

About Special Groups

Your CoolSign network includes two special groups that cannot be deleted: *Administrators* and *Everyone*.

- Any members of the *Administrators* group automatically receive all capabilities and full read/write permissions on every object.
- All users are automatically members of the *Everyone* group and cannot be removed from that group. Members of the Everyone group will automatically receive both read and write access to every object in your network unless you specifically restrict access.

Capabilities

Capabilities are used to control who has access to managers and tasks in the CoolSign system. There are capabilities to access each of the manager pages within CNM, capabilities to edit the items in these managers, and capabilities for specific tasks, such as creating/modifying triggers, importing software updates, and clearing alerts. See the following table.

List of Available Capabilities

Capability	What It Allows a User to Do
Access Channel Manager	Use channel management functionality
Access Content Manager	Use content management functionality
Access Data Table Manager	Use data table management functionality

Capability	What It Allows a User to Do
Access Data Watcher Manager	Use data watcher management functionality
Access Home Page	Use home page functionality
Access Network Manager	Use node management functionality
Access Player Manager	Use node management functionality
Access PlayList Manager	Use playlist management functionality
Alerts	Clear alerts
Attributes	Define node attributes
Edit Data Table	Edit data in data tables
Product Keys	Ability to import product keys
QuickSets	Ability to edit quick sets
Security	Ability to edit security information
Software package	Import software packages
Tasks	Edit tasks
Triggers	Create and modify triggers
Write content	Edit content
Write Data Watcher Manager	Edit Data Watcher configurations
Write Data Table	Edit design of data tables
Write Network Manager	Edit network node properties
Write Schedule	Edit schedules

Capabilities can be assigned to either users or groups (or both, but this should be carefully thought out in order to work well). For example, if you want a user to be able to see the items within the Content Manager, you can assign the Access Content Manager capability to this user. Another way to do this would be to create a group that has the Access Content Manager capability and make the user a member of this group.

Factory-Set Account and Password

When your CoolSign Network is initially installed, it comes with one user account already created. The name for this account is *admin*, and the password is provided in the *Important Notice* document. The Admin account is a member of the Administrators group.

> ❗ **Important**
>
> When you first log in to your network, you should immediately create new user accounts and change the password for the admin account.

Password Management

Passwords can be assigned by any user who is a member of the Administrators group. This capability does not allow the user to view current passwords, only to create new ones.

For information on how to change a password for a user, see "About Users".

Linking CoolSign Accounts to a Domain User Account

If your network uses Windows Vista, Microsoft Windows 7, Windows NT, Windows 2000, or Windows XP and has domain accounts set up for the same users who access the CoolSign network, you may be able to streamline the user logon process. This is only possible if the domain accounts are in the same domain as the CoolSign Network Controller node. You can set up CoolSign user accounts that are linked to the Windows domain account. For these users, once the CNM application is launched, the user skips the CoolSign logon screen and proceeds directly to the Home Manager.

For information on how to link a CoolSign user account to a domain user account, see About Users.

Setting Object Permissions

Permissions are typically used to assign or change read and write access to any item in CNM. These items include individual content, channels, data tables, playlists, and nodes. With read access, a user can see an item; with write access, a user can edit or change an item. Some items in the CoolSign network, such as software packages and players, have permissions but cannot be changed by a user.

Permissions are incorporated into the CoolSign system to allow for more precise security control of specific items. Similar to capabilities, permissions can be assigned to either users or groups.

When a new item is created or imported, the user creating or importing it is made the owner of the item and automatically has read and write permissions. After an item is created, its owner can modify the asset's permissions for groups or individual users. By default, every user is a member of the Everyone group and, as such, is assigned read and write permissions to an item at the time of creation.

In order to change the owner of an object, the user needs to be a member of the Administrators group.

About the Security Tab

You manage permissions on an item from the **Security** tab on the item's properties dialog. You can use the **Security** tab to review the item's creation and modification history, and add or remove permissions to read/write the item to users and/or groups.
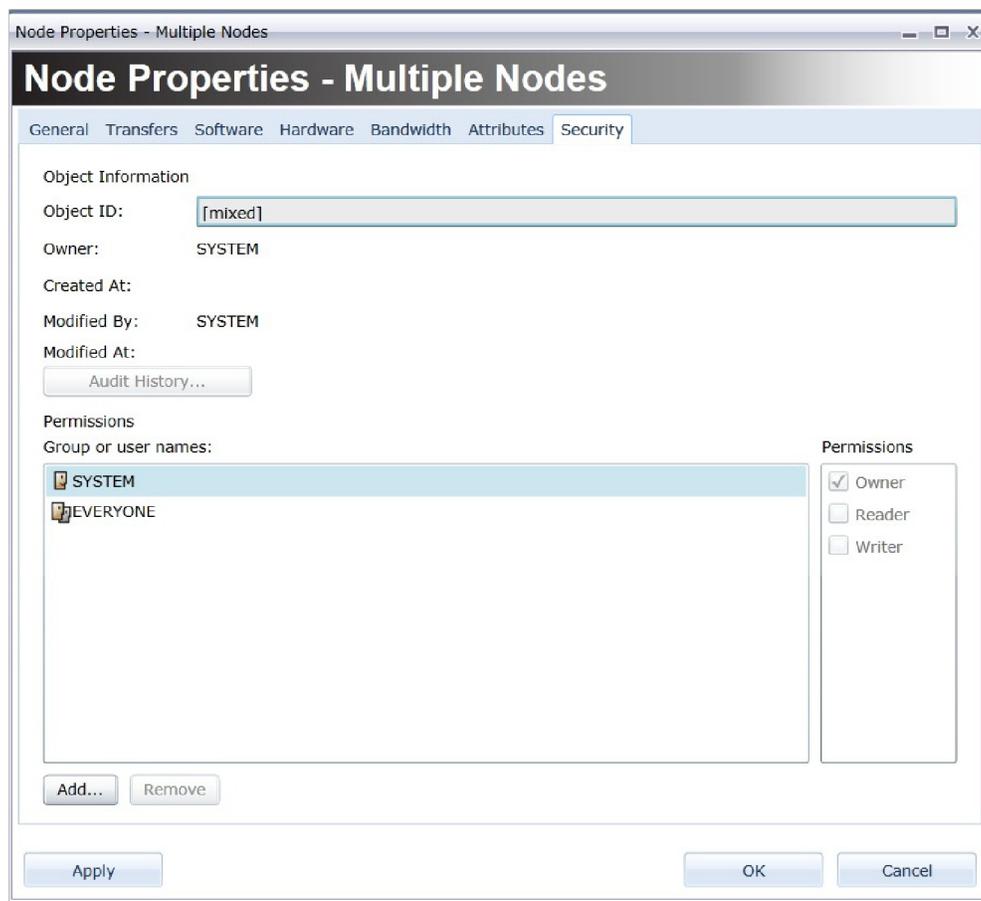
To add a new user or group to the permissions list:

1. Click **Add**.
2. Select a user or group from the User and Groups dialog.
3. Click **OK**.

To modify write permissions for a user or group:

1. Select the user or group in the Group or User names list.
2. Check or uncheck **Write** in the Permissions list.

> ℹ️ **Note**
>
> CoolSign 4 does not support restricting Read access to an item. All users must have Read access to every item.

To assign a new user to an item:

1. Select the user you want to assign as owner of the item in the Group or User names list.
2. Check **Owner** in the Permissions checkbox.
3. Confirm that you want to assign ownership to a new user by clicking OK.

> ℹ️ **Note**
>
> Only members of the Administrators group can assign new ownership of an object.

Security Strategies

The following scenarios are designed to outline a few options on how you may want to manage the security access to your CoolSign network:

- Scenario 1: All users have all permissions and capabilities
- Scenario 2: Managing only capabilities by user
- Scenario 3: Managing only capabilities through groups
- Scenario 4: Managing capabilities and permissions by groups
- Scenario 5: Managing multi-tenancy capabilities and permissions

Scenario 1: All users have all permissions and capabilities

In this situation, a few users need permissions for all items in CNM, and there is no need to restrict the access of managers or items using capabilities and permissions.

The first thing to do is to make all users members of the Administrators group, thus giving all users both read and write permissions for all items. Then create a CoolSign account for each user, and assign each user to the Administrators group.

Scenario 2: Managing only capabilities by user

In this situation, a few users need permissions for all items in CNM, and there is no need to restrict the access of items using permissions. However, you want to control capabilities by user.

When a new user is created, the user is automatically a member of the Everyone group. If you want to manage capabilities by user, remove all capabilities from the Everyone group, so that new users have no default capabilities. Then create a CoolSign account for each user and assign the appropriate capabilities to each user during this process.

Scenario 3: Managing only capabilities through groups

In this situation, a few or many users need permissions for all items in CNM, and there is no need to restrict the access of items using permissions. However, you want to control capabilities by groups.

> ℹ **Note**
>
> When you create a new user, make sure that all capabilities are unchecked (removed).

Scenario 4: Managing capabilities and permissions by groups

Your organization may want to use permissions to restrict access to a few critical items. If this is your objective, you will need to do some planning to determine what groups must be created to manage permissions and capabilities for your system. Be aware that this scenario will require extra work to be performed by each user every time an item is created or imported.

For each of the manager pages in CNM, you must determine which groups will have viewing and editing capabilities, and which ones will have write permissions (you can have different groups with write permissions for similar items). All of these groups should be defined before any items are created or imported into the CoolSign system. In this scenario, only users who need permissions for all items should

be members of the Administrators group. Once the groups are defined, the next step is to assign users to the appropriate groups.

Every time a new item is created or imported, the user who is doing this must add the appropriate group(s) to the permissions list for the item; this is not done automatically. This ensures that all present and future members of the group will have the appropriate write permissions to the item by default. As new members are added to groups, they will automatically inherit the current write permissions for the group.

Restricting user access to an item requires that an appropriate user edit that item to remove the write permissions for that specific user.

Scenario 5: Managing multi-tenancy capabilities and permissions

Some customers desire to own and operate one server and then rent out parts of it to customers of their own. To ensure proper security, user accounts, sub-domains, pass phrases, users, and groups need to be setup so one tenant can't gain access to another tenant's information. *"Multi-Tenancy"* of the *CoolSign Installation Manual* for details about creating domains, sub-domains and permissions.

Content Security

CoolSign uses a hashing algorithm to store a unique signature for each file imported into the network. CoolSign uses this signature to ensure that the content files being played on a player are identical to the ones that were originally imported. Any attempt to modify a content file, or in the rare case that the file becomes corrupted, will result in a player status error and the content will not play.

Using the Agent and Watchdog Services

Topics Discussed

The Watchdog has a rich capability to deliver, update and maintain software that runs on CoolSign nodes. This software typically is installed to support CoolSign itself, but it can also be used to distribute and install arbitrary programs. This section details the process that the watchdog uses for installing and updating these programs using a custom script.

Watchdog Installation Script

The installation script is a set of commands that instruct the watchdog how to install and rollback each component. Since this is the only way that the watchdog can do an update, each script must contain the commands necessary to make the changes for updating a component.

While a script is executing, the watchdog suspends all 'watching' operations it currently is performing. Consequently, you can kill programs, copy files, and update/replace components using a script without worrying that the watchdog will try to restart the programs while they are being updated.

Three different scripts are required for a complete installation that allows rollback of installed components if an error occurs:

Script	Purpose
`PrepareInstall.txt`	Contains instructions to move files that will be destroyed during the install into a temporary directory. Then, if a problem occurs in the next step, the installation can be undone. The installer first searches for this file and executes all commands in it before moving on to the `install.txt` file. If any errors occur during this script, the installation is aborted.
`Install.txt`	Contains instructions to actually do the installation by moving, deleting, registering and otherwise manipulating files on the system. If any command in this script fails, the next script, `UndoInstall.txt`, is executed. Otherwise, that script is ignored.
	ℹ️ **Note**
	If you are updating a piece of software that is currently running on the system, it is up to this script to first kill that program before trying to replace it or any `dll` it depends on. The system will not allow replacement of running program files.

Script	Purpose
`UndoInstall.txt`	Contains instructions to completely undo the installation. This script depends on the first script, PrepareInstall.txt, having been run successfully. It will take files from the temporary directory and move them back into their original positions. It is up to the author of an installation to create these scripts. The system will make no assumptions about steps it must perform to do an installation. **❗ Important** **The above scripts support the launching of JavaScript through the below-described `ExecWRC()` function. You will find that most, if not all, of the CoolSign installation scripts use this functionality to off-load much of the installation process into a single generic `Install.js` script file. Aside from installations, scripting is also useful for everyday commands from the operator to the watchdog using the remote command functionality in the advance node options.** Also, to build the packages themselves, a command-line driven program called **ReleaseBuilder** is employed. This tool is called in the last step of our make scripts so that every time we make a new version of the CoolSign software, a new software delivery package is made. The description of the maintenance of these files and their use to distribute arbitrary programs is described in the "How to Create Custom CoolSign Packages with Your Own Program" file.

Comment and Command Lines

Each line of the script can either be a comment line or a command line. Comment lines start with a ' `#` ' symbol — everything after ' `#` ' is ignored. You can place blanks before the ' `#` ' symbol if you want (in other words, comments can also be indented). You cannot have a comment on the same line as a command.

Command lines instruct the watchdog to perform some action on files in the component's folder or elsewhere on the system. The default directory for commands is the component directory, so any paths in the command can be done relative to it, e.g., if you have `csnode.exe` in the component directory you can refer to its path as 'csnode.exe' without having to have any more of an explicit path.

Macros

Any command line can have embedded macros to refer to the locations of programs that the watchdog is controlling. Macros stand in for the name, path, or directory of an installation component. They are defined for the watchdog in the

`xwatch.ini`

script using the "Name" parameter within a "Task Program" section. For example, the following section would setup a macro called "Agent":

```
    Task program


    Command          C:\Program Files\CoolSign\Agent\csnode.exe


    Name             Agent


    Heartbeat        C:\Program Files\Agent\heartbeats\Agent

```

In the more recent version of the configuration files, as of Watchdog version 2.0.03.0000, the 'task program' section is expressed in XML. In that type of configuration file, the <NAME> tag within the <WATCH_PROGRAM> section holds the macro name.

When using the macros in the `install.txt` script, they look like this: `${MacroName}`, in other words, a dollar sign followed by the name of the macro enclosed in curly braces with no spaces on either side of the name. The macro name itself should also not contain spaces. They are not case sensitive, for example, `${AGENT}` and `${Agent}` will both mean the same thing in the scripts. Every time a "Name" command is used in the `xwatch.ini` script, 3 macros are created (in the following, we assume that "Name Agent" is in the task program area):

- `${Agent}` = The entire path of the program to which it relates (for example: "
    `C:\Program Files\CoolSign\Agent\csnode.exe`
    ").
- `${Agent -Directory}` refers to the directory in which the executable is located (for example, "`C:\Program Files\CoolSign\Agent`").
- `${Agent -Program}` refers to the program name only (for example, "
    `csnode.exe`
    ").

Any of these macros can be used in the installation scripts. Remember that when you use them in installation scripts you should always quote the parameter so that the possible embedded spaces are properly interpreted, e.g., "`${Agent-Directory}`".

As a convenience, the following macros are pre-defined:

Macro	Description
`${Windows}`	The system32 directory within the windows directory (for example, `c:\winnt\system32`).

`${Windows-Directory}`	The windows directory on the system (for example, `C:\WinNT`).
`${CoolSign-Directory}`	The CoolSign folder in which all 2.0 software is installed (for example, `c:\program files\CoolSign`).
`${Watchdog}`	The full path of the watchdog program.
`${Watchdog-Directory}`	The directory containing the watchdog program
`${Watchdog-Program}`	The filename of the watchdog program (in other words, `xwatch.exe`).
`${Install-Directory}`	The directory from which your installation is being run. If you have programs to execute in your install, having this directory is required to fully path the location of the program you want to run.

Commands

The following commands are the meat of the installation script. Each line does something to accomplish the required update task. In the following, all parameters are represented by identifiers in square brackets (for example, <parameter>). In using the commands, the brackets are left out. Quotes should be used for any parameter that might contain spaces (for example, macros that refer to things in the "Program Files" directory.

- **Cd <directory>**
- **Copy <path1><path2>**
- **CopyIfExists <path1><path2>**
- **Delete <path>**
- **Display <on or off>**
- **Execute <program><parameters>**
- **ExecW <program><parameters>**
- **ExecWRC <program><parameters>**
- **ExecTimeout <timeoutSeconds><program><parameters>**
- **Kill <program>**
- **MkDir <path>**
- **Move <file><path>**
- **MoveIfExists <file><path>**
- **Pause**
- **Reboot**
- **Register <dllpath>**
- **RegisterIfExists <dllpath>**
- **Restart**
- **Unpause**
- **Unregister <dllpath>**
- **UnregisterIfExists <dllpath>**

Cd <directory>

Change directory. This changes the directory for any subsequent command. Initially, all commands have a home directory equal to where the installation package is placed. If you must change directory, you should only make relative directory changes since you do not know the directory name in which you will be running. For example, if you have put some install files in subdirectories you can perform the following to get to them:

```
# First CD to our subdirectory
cd subdirectory
# Then perform commands that depend on files in this directory, e.g., Copy myFile c:
\winnt\expectedFileLocation
# Then we CD back to where we were (..)
cd ..
```

Copy <path1><path2>

Copy a file to a location. Typically, this is used to replace files that are being updated, so they actually will replace existing files with new versions that are in the update component. As mentioned above, the default path for copies is the component directory, so the file in 'path1' typically does not have a directory designated. ' `cp` ' also works for this command. <path2> can either be a path to a file or a directory.

> ℹ️ **Note**
>
> Be sure and put quotes around the path1 and path2 parameters if there are spaces in the name, for example, `"c:\program files\coolsign\agent"`, or `"${AgentDirectory}\file.txt"`.

CopyIfExists <path1><path2>

Just like the **Copy** command, but it will not fail if <path1> does not exist. This is most useful in the `PrepareInstall` or `UndoInstall` scripts when we are not sure of the current state of the installation.

Delete <path>

Delete the named file. (' `rm` ' can also be used for this function.) If the <path> doesn't exist, this command doesn't fail because effectively, the file is already gone and thus meets the requirements of the command.

Display <on or off>

Force any connected displays to be ON or OFF. This is mostly useful if you are running an install or other type of script that will potentially expose the Windows desktop. You can pause the watchdog (with ' `set pause` ') and use the command, ' `display off` ', to make sure that all the displays are off during your operation. There is no need to run a ' `display on` ' command afterwards as the watchdog resumes its normal operations when your script exits, and thus will set the displays to the correct ON/OFF setting by itself.

> ✅ **Tip**
>
> This command can be either 'Display' or 'Displays' for purposes of readability.

Execute <program><parameters>

Execute an arbitrary program. The <program> must be a complete path to the program to run. The next line of the installation script will execute while your program runs. It is possible to run the program from the installation directory if that is where it is located as long as it exits during installation. Any parameters are passed to the program as they are specified in the script (unless they contain macros in which case those are substituted first). If the path to the program contains spaces, you should place quotes around it.

ExecW <program><parameters>

Execute an arbitrary program and wait for it to complete before moving on to the next step of the script. Otherwise, it works the same as Execute.

ExecWRC <program><parameters>

Execute an arbitrary program, wait for it to complete, and examine the return code before moving on to the next step of the script. If the return code is non-zero, the watchdog will fail the script and will not execute any more commands. Otherwise, it works the same as Execute.

ExecTimeout <timeoutSeconds><program><parameters>

Execute an arbitrary program, wait " `timeoutSeconds` " for it to complete, and examine the return code before moving on to the next step of the script. If the program exits by itself before the timeout is reached, then the script will move on at that point. This feature is to prevent executed programs from hanging or taking longer than expected and thus holding up the watchdog from doing anything else. Otherwise, it works the same as Execute.

Kill <program>

Kills the indicated program. The program name must be the actual name of the program and not a path to the program. So typically, you would use the `${Name-Program}` macro in your script (for example, `${Agent-Program}`). Due to the fact that a program cannot be updated if it is running, this action should be performed any time a program or a program's component needs to be updated.

> **ⓘ Note**
>
> As mentioned earlier, if watchdog is controlling the program being killed, it will be automatically restarted after the update has been completed because the watchdog will be unpaused.

New in version 2.0.03.0000: instead of naming a specific <program> above, you can put 'all' to instruct the watchdog to kill all the programs that it has started.

New in Version 2.1.00.0002:

The following are optional parameters that must precede the <program> in the command line:

> **/harsh**—Forces a harsh kill; in other words, doesn't wait for program to exit.

/now—The same as 'harsh.'

/nice—Allows the application to stop itself (this is the default). This option is useful if you want your script to be obvious that you are shutting down a program nicely.

/timeout xxx—For a 'nice' kill, wait *nnn* seconds before switching to a harsh kill. This parameter defaults to 7 minutes.

These parameters can be used for any script command. This includes watchdog commands sent via the CNM, within files, and also for any software installation scripts.

MkDir <path>

> **❶ Important**
>
> The ".." directive will not work to move up a directory, so you cannot include this in your path
> specification (for example, `..\..\myNewDir`).

Move <file><path>

Move a file from its current location to another location ('mv' can also be used for this command). As with the copy command, <file> is the name of the file to move (and must be a complete path if not in the current directory), and <path> is the path where the file is to go, it can be a full pathname or a destination directory.

MoveIfExists <file><path>

Just like the above **Move** command, but this one will not fail if the source file <file> does not exist.

Pause

Pauses the watchdog's scanning of the program tasks. This is automatically done during installation scripts, but must be manually done in any other type of script. This command supersedes the previous '`set pause`' command used in older scripting versions (although that command is still supported). To turn the processing back on, use '`Unpause`' or '`Set pause=0`'.

Reboot

Reboot the machine. Of course, this should only be done if it is absolutely necessary.

Register <dllpath>

Register a `.dll` or `.ax` file with the system. This is the same as calling `RegSvr32.exe` on that program. You must give the full path to the file you are registering. This implies that the DLL you're registering has already been copied to its destination before the registration occurs because all files will be deleted from the installation directory after the update has completed.

RegisterIfExists <dllpath>

Works the same as **Register**, but does not fail if the <dllpath> does not exist.

Restart

Restart the watchdog program. 'config' or 'set bounce' can also be used for this command.

Unpause

Restart the watchdog's scanning of its program tasks. This command is unnecessary in installation scripts as the watchdog will automatically be unpaused once the script has been completed, but it necessary in other scripts when you have paused the watchdog with 'Pause' or 'Set Pause'. This command is equivalent to the old script command 'set pause= 0'.

Unregister <dllpath>

Un-register a .dll or .ax file with the system. This is the same as calling `RegSvr32.exe` /U on that program. You must give the full path to the file you are un-registering.

> **Note**
>
> If the DLL is present and is already unregistered, this command will not fail.

UnregisterIfExists <dllpath>

The same as the **Unregister <dllpath>** command, but it does not fail if <dllpath> does not exist.

Examples:

1. Replace the Agent program (assumes that the 'Name Agent' line is in the task program area for the agent.

```
    Kill ${Agent-Program}

  Copy "${Agent-Program}" "${Agent}"

  Replacing the Watchdog Itself
```

2. On a typical system, these commands would translate into:

```
    Kill csnode.exe

  Copy "csnode.exe" "c:\Program Files\CoolSign\Agent\csnode.exe"
```

3. Replace the Elecard filters for the AdPlayer:

```
    # First kill the AdPlayer since we're messing with its filters
```

```
Kill $(AdPlayer-Program}

# Unregister the filters

# Note: The ${Windows} macro points to the system32 directory

Unregister "${Windows}\mpgdec.ax"

Unregister "${Windows}\mlcom.ax"

Unregister "${Windows}\mpeg2dmx.ax"

# Get rid of the existing filters

Delete c:\winnt\system32\mpgdec.ax

Delete c:\winnt\system32\mlcom.ax

Delete c:\winnt\system32\mpeg2dmx.ax

# Copy over new filters (assumes we run from install directory)

Copy mpgdec.ax c:\winnt\system32\mpgdec.ax

Copy mlcom.ax c:\winnt\system32\mlcom.ax

Copy mpeg2dmx.ax c:\winnt\system32\mpeg2dmx.ax

# Register the filters


   Register c:\winnt\system32\mpgdec.ax

Register c:\winnt\system32\mlcom.ax

Register c:\winnt\system32\mpeg2dmx.ax
```

Replacing the Watchdog Itself

Since the watchdog is the program that is executing the update scripts, it cannot itself be updated while the installation scripts are being run. So, a special update method is required to update the watchdog. We will use the same method as in the 1.5 release where we place an xwatch.exe.new file into the watchdog directory and do a 'restart' to get the watchdog to restart itself. The script would look like this:

```
Copy "${Watchdog-Program}" "${Watchdog}.new"


Restart
```

> **ⓘ Note**
>
> The
> ```
>    ${Watchdog}
> ```
> macros are automatically created when watchdog starts up. The last part of the line appends the *.new* characters to the full pathname of the watchdog program, so we get what we require, in other words, "
> ```
>    xwatch.exe.new
> ```
> ".

Assumed Watchdog Configuration

In order for the software updates to work properly, the watchdog must be configured to 'watch' (listen) for software updates and other commands. To do this, you add one more line to the
```
xwatch.ini
```
file. This line is the '*agent*' command. The command argument is the path to the agent directory where it will get software updates and commands.

An example of the completed 'Agent' section follows:

```
Agent ..\Agent
```

> **ⓘ Note**
>
> Commands can still be received by the old method of putting them into a file called `c:`
> `\watchdogcommand.txt`
>   . If you do not want that additional functionality, you can leave that line out of the
>   `xwatch.ini`
>   file.

Using the Custom Display Control Editor

This following provides instructions for creating a custom display entry in CoolSign for non-supported displays connected to Player nodes.

Topics Discussed

- **Custom Display Control Editor Introduction**
  - **Install the Custom Display Control Editor**
  - **Create a Custom Display Control XML File**
  - **Control the Custom Display from CNM**

Custom Display Control Editor Introduction

CoolSign allows you to remotely manage the displays (monitors) associated with any networked Player nodes. For instance, you can turn a display on or off, switch inputs, and disable panel buttons.

For this to work, the specific display must have a profile created within CoolSign. A profile is an XML file that contains the information that CoolSign (more specifically, the Watchdog application) will use to control the display.

> **ℹ Note**
>
> The Custom Display Control Editor can be used to configure any display capable of being controlled via serial (RS-232) commands. As of CoolSign 5.1, this includes monitors that support hexadecimal commands.

Install the Custom Display Control Editor

1. Download the Custom Display Control Editor installer — available from the **Haivision Support Portal** (`CustomDisplayXmlEditorInstaller.msi`) — onto the networked player to which the custom display will be connected.

2. Run the installer and follow the steps displayed in the installation wizard.
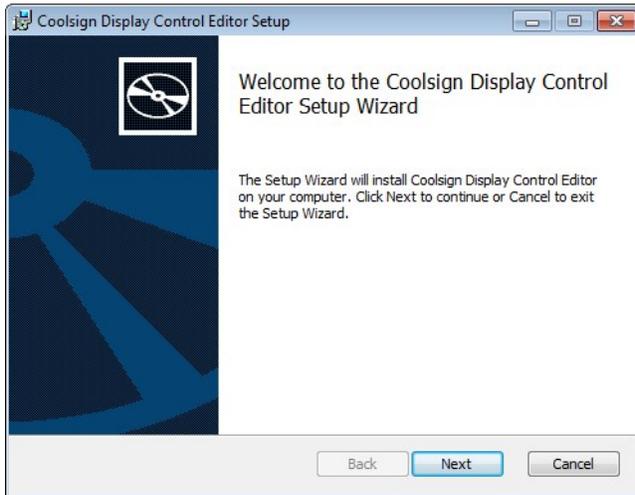
3. Connect the display to be profiled to the PC running the Custom Display Control Editor using the proper serial cable (refer to the user manual for the display).
4. Power up the display and verify that it functions properly.
5. On the PC, quit any other applications that may use the COM port to which the display is connected.

Create a Custom Display Control XML File

1. From the **Start** menu, open the **Custom Display Control Editor** (**Program Files** > **CoolSign** > **CoolSign Display Control Editor**).

2. In the **Display Information** tab, enter the display and serial port settings. Refer to the display user manual.
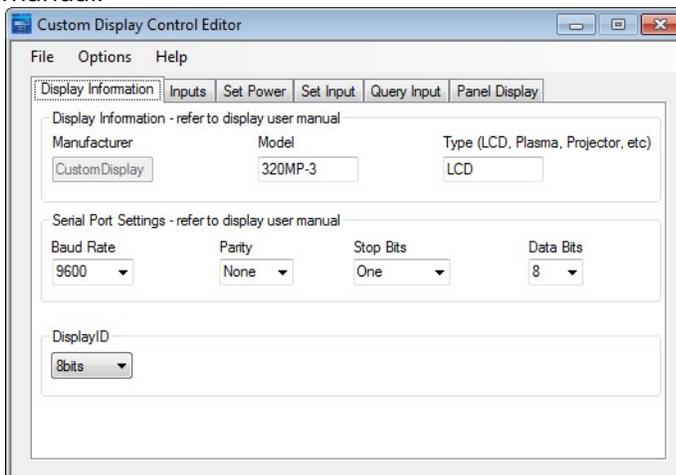
3. If you are configuring the display to be controlled via hexadecimal commands, choose **Use Hex** from the **Options** menu.
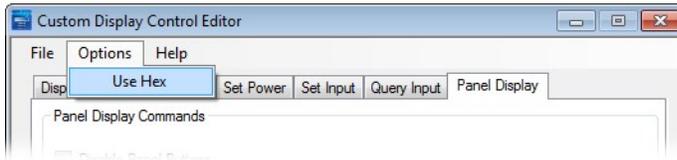
4. In the **Inputs** tab, list all inputs, separated by commas.
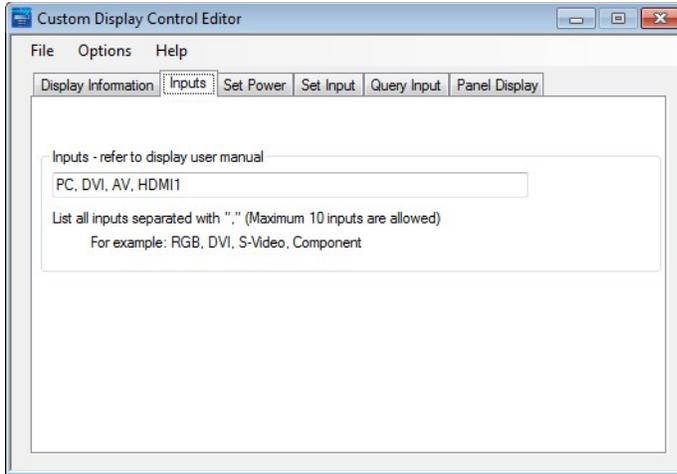
5. In the **Set Power** tab, enter the power commands for this display.
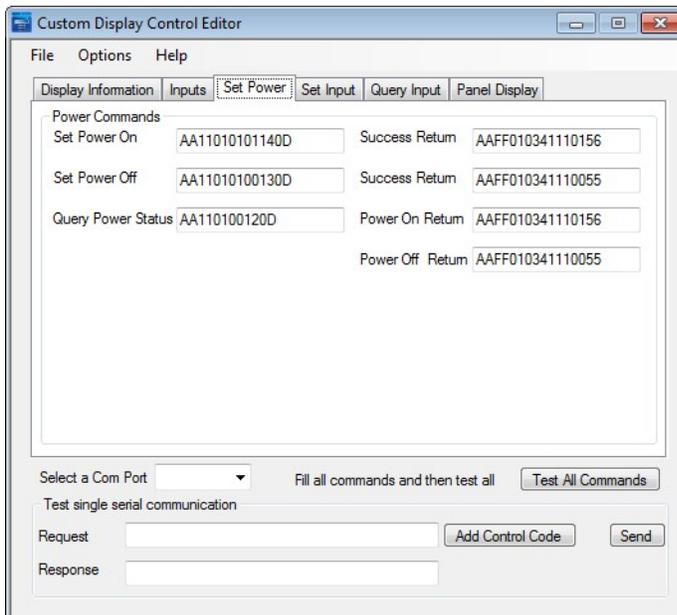
6. To insert a control code into a command, click **Add Control Code**. Select the code and click OK.
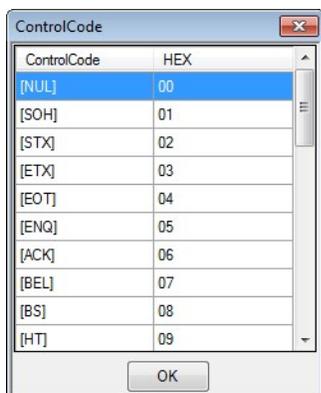
7. In the **Set Input** tab, enter the input commands for this display.
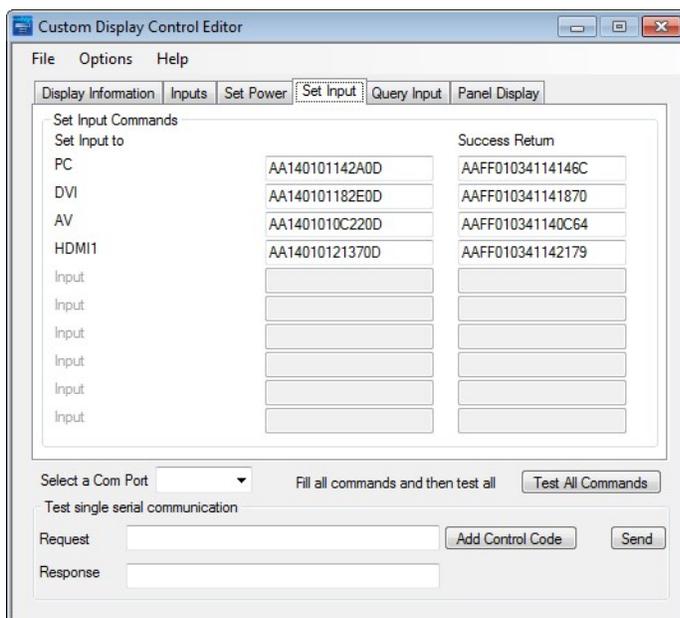
8. In the **Query Input** tab, enter the query input commands for this display.
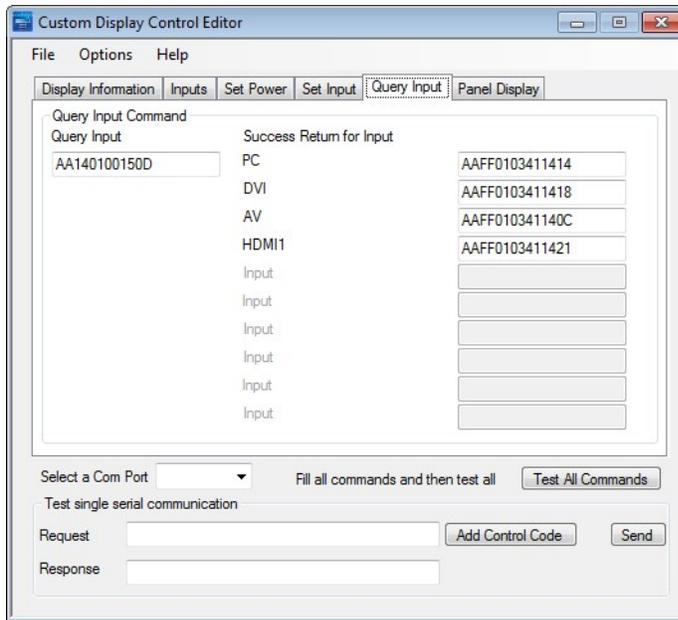
9. In the **Panel Display** tab, enter the panel display commands.
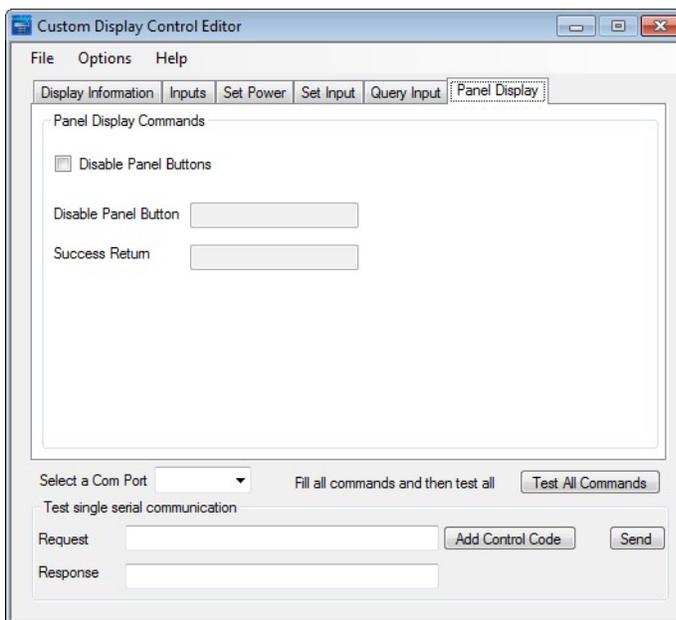
10. To test all of the serial commands that you've defined, click **Test All Commands**. When the dialog appears, select the display ID and request delay, then click **Run**.
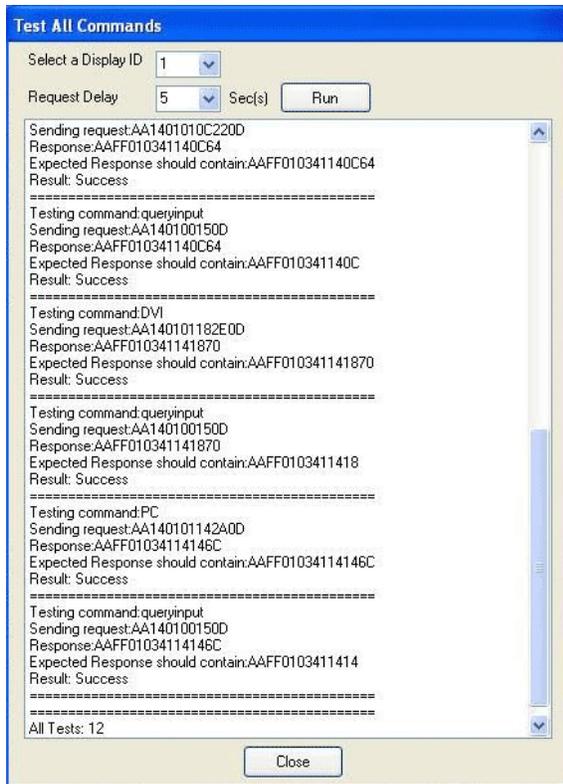
11. After the test concludes, click **Close**.
12. On the Player node to which the custom display will be connected, save the file (**File** > **Save As**) with the name the file " `CustomDisplay.xml` " to the following folder:

```
C:\ProgramData\CoolSign\Watchdog
```

Control the Custom Display from CNM

The XML file you created for your custom display contains the information needed to control the display. But you must also edit the

```
ManufacturersModels.xml
```

file so that you can subsequently control the custom display from CoolSign Manager or the Configurator.

The `ManufacturersModels.xml` file is installed by default in the `AppResources` folder:

```
C:\Program Files\CoolSign\CoolSign Manager\AppResources
```

To add a custom display from a new manufacturer, do the following:

1. Create a new entry in the **Manufacturers** (first) section of the

   `ManufacturersModels.xml`

   file. For example:

```
<Manufacturers_x0024_>
<Manufacturer>CustomDisplay</Manufacturer>
</Manufacturers_x0024_>
```

2. In the **Models** (second) section of the file, create an entry for the model, using the characteristics defined in the display's user manual. In the example below, the manufacturer is "DisplayTech" and the model is "Z2009":

```
<Models_x0024_>
<Manufacturer>CustomDisplay</Manufacturer>
<Model>320MP-3</Model>
<Type>LCD</Type>
<Calibration>No</Calibration>
<Inputs>HDMI1, PC, DVI, AV </Inputs>
<RecommendedX>1920</RecommendedX>
<RecommendedY>1080</RecommendedY>
<RecommendedRefresh>60</RecommendedRefresh>
<SupportsDaisyChaining>False</SupportsDaisyChaining>
<SupportsPanelDisabling>False</SupportsPanelDisabling>
</Models_x0024_>
```

> 🛈 **Note**
>
> A networked Player is limited to one type of custom display at a time.

3. Save the updated file to the **AppResources** folder.
4. Restart CoolSign Manager. You will be able to add and edit your newly created custom display.

Using the Offline Update Imager

Topics Discussed

- **Creating the Update Image**
- **Copying the Update Image**
- **Updating Offline CoolSign Nodes**

> ⓘ **Important**
>
> Use the default install directory location for the Offline Update Imager. Running the Offline Updater from a user-defined install path can cause it to not work properly.

Creating the Update Image

There are two steps in the creation of an image to be used to make offline updates:

- Modify an existing channel or create a new channel in CoolSign Network Manager.
- Use the Offline Update Imager application to create an image file (or files) with the channel information and the content needed for the update.

Step 1: Modify an Existing Channel or Create a New Channel
Log into CoolSign Network Manager (CNM) and make all of the changes to the Content or Channel that you want to distribute to offline players. The changes can include using the Channel Manager to modifying an existing channel, creating a new channel, adding/deleting content, and/or using the Content Manager to modify the settings of content.

Step 2: Create the Offline Update Image.

1. Launch the Offline Update Imager application.

The first time you use this, you will have to select the **Edit Networks** button.

2. In the Select Network dialog, click the **Refresh** button, and select the network containing the offline players/nodes.
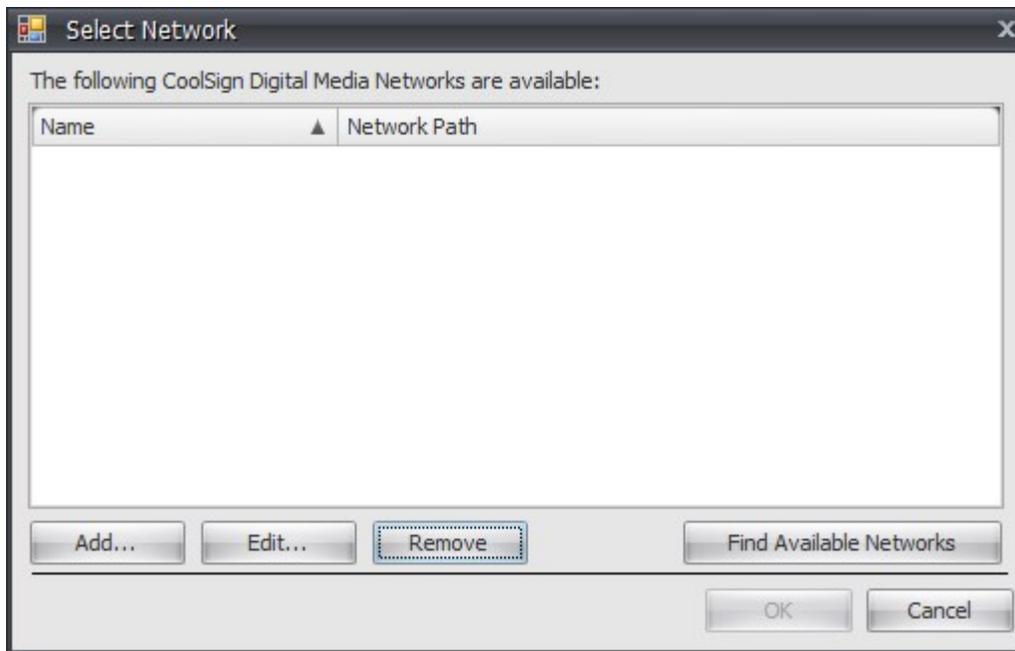
After selecting Login, the application will disappear for a few seconds.

3. Click **OK**, and then click **Login**. After a few seconds, the **Select Nodes** tab will appear.

4. Select the node(s) that you want to include in the image and click **Next**.
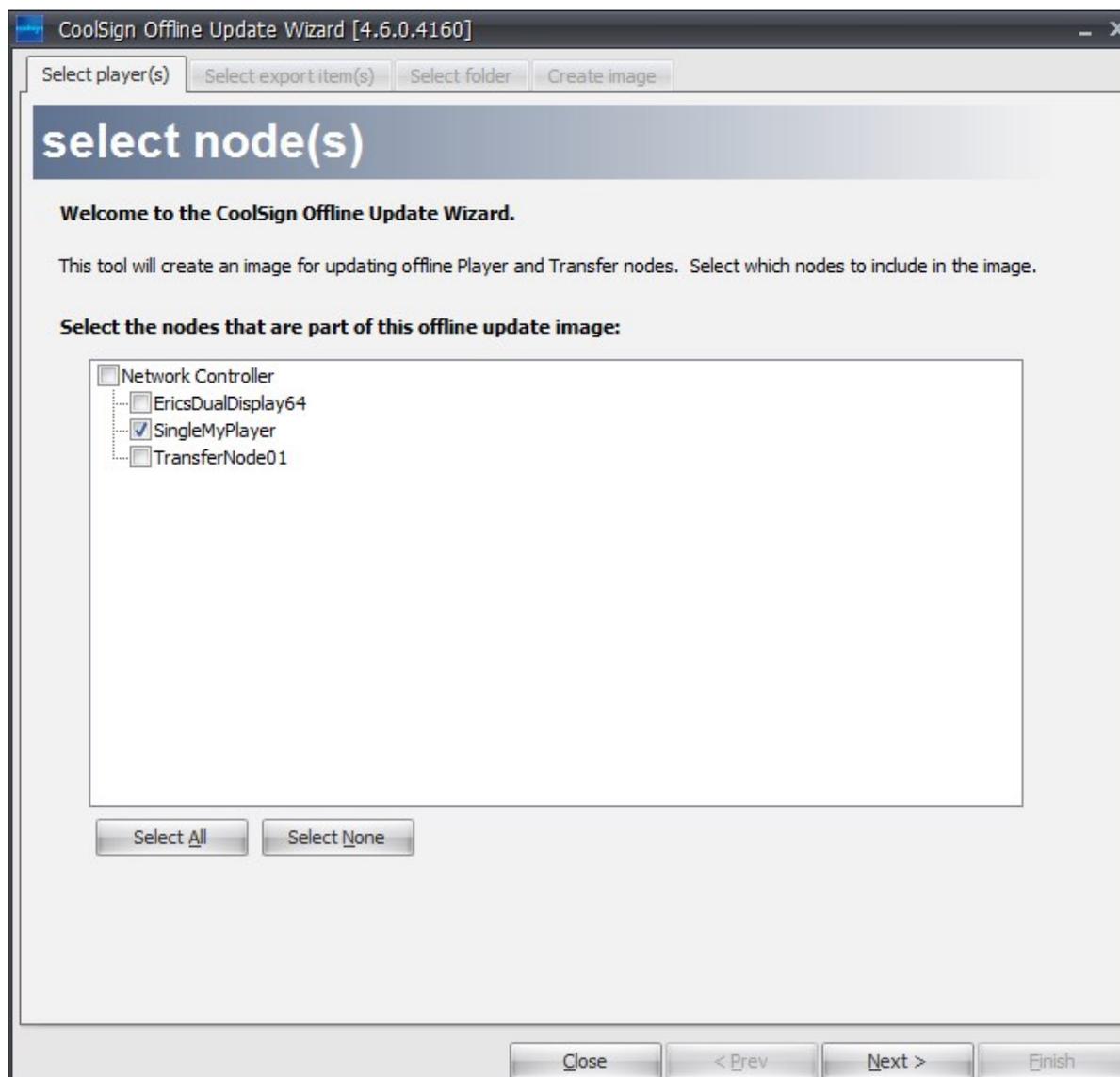
5. Select export item(s) that you want to include with the update image and click **Next**.
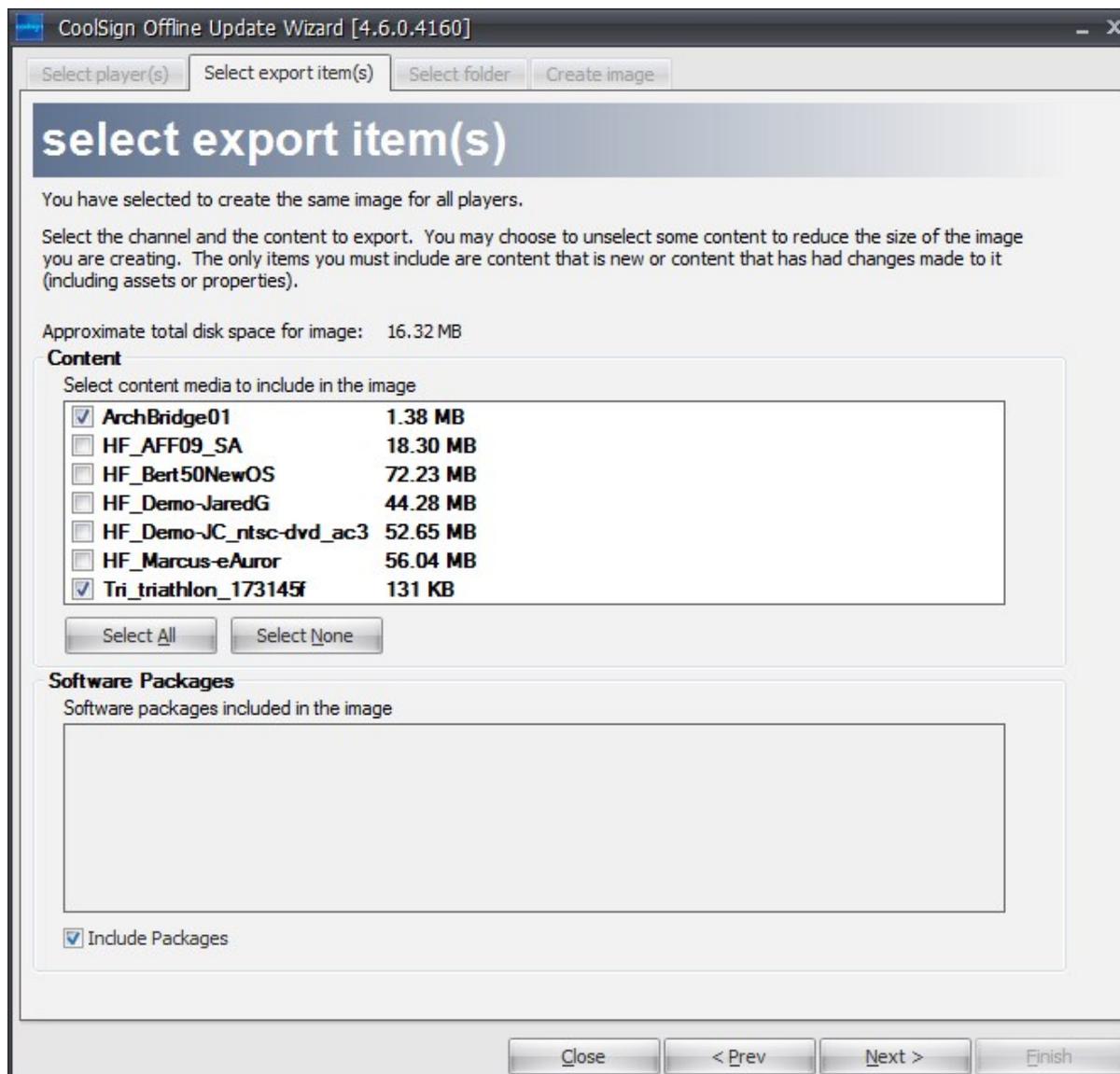
The only content you must include is that which is new or has had changes made to it (including changes to the assets or properties). You may not want to include unnecessary content in order to keep the size of the update smaller. A smaller update image will allow the update to be applied faster and may be necessary in order to fit on some media.

You may also export CoolSign Software Packages along with the content in the image by clicking the Include Packages check box.

6. Select the media type that you will be using to distribute the update. This selection will cause the Offline Update Imager to automatically break the update files into easy-to-manage chunks, if necessary. For example, if you are using CDs and the update you are distributing is greater than 680 MB, this application will break the update into chunks that will fit onto multiple CDs. In this dialog, you will also need to specify where you want the application to put the update imager files.
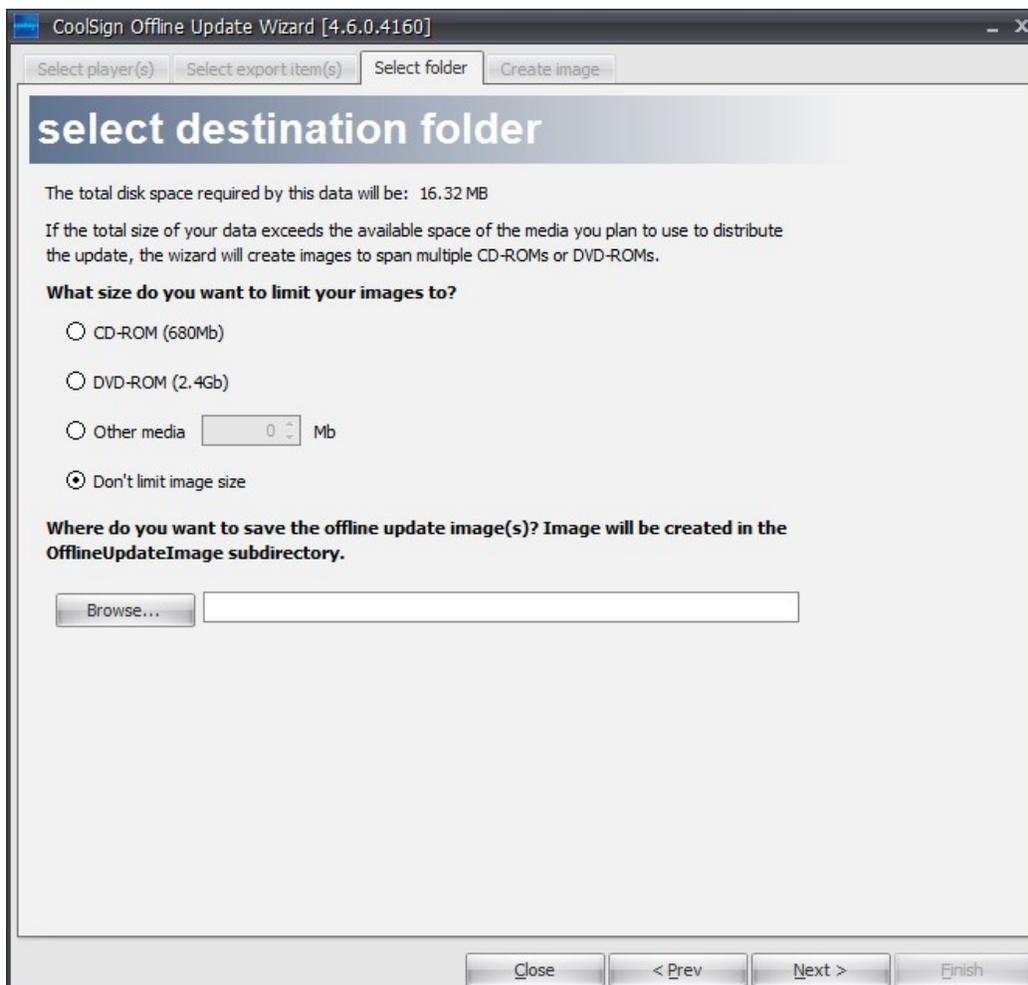
7. Click **Next** when all of these settings are complete.
8. In the *Create Image* tab, verify what will be in the Offline Update image and click **Finish** to create the image.
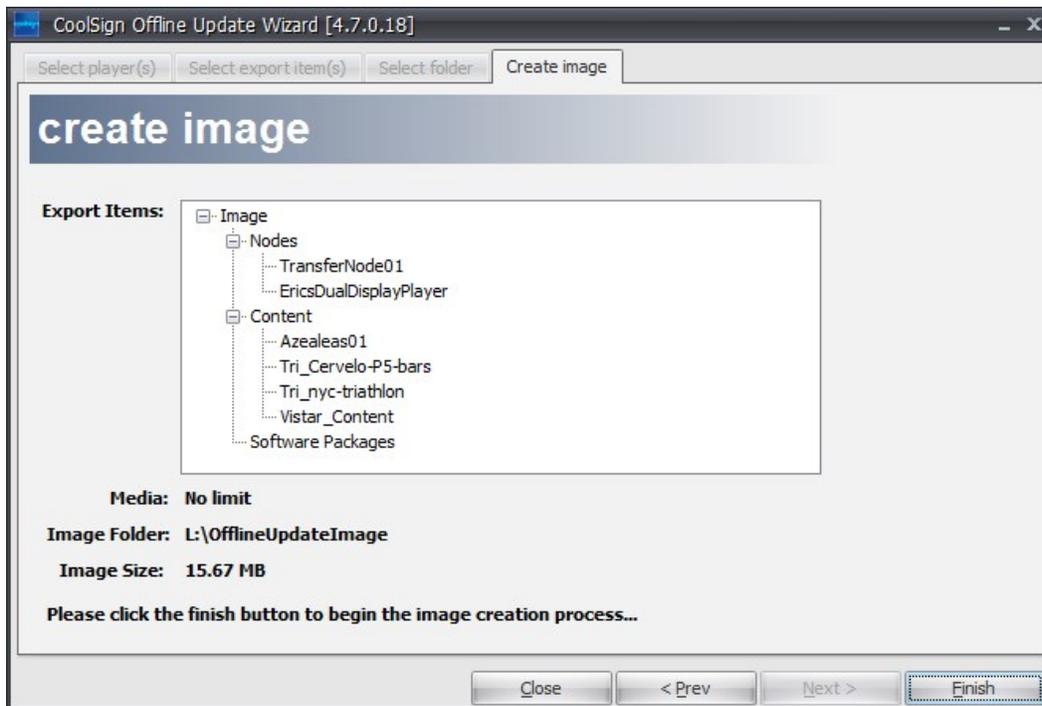
Copying the Update Image

Once the Offline Update Imager Wizard has finished creating the image files, they must be copied to some form of writable media (such as a CD, DVD, or USB thumb drive) for distribution. The following instructions demonstrate how to copy image file to CDs, but apply to other media as well.

Update Distributed on One CD

The Offline Update application will create a folder entitled *OfflineUpdateImage*. Copy the contents of this folder to the highest-level directory of a blank CD. This directory structure will allow the application to automatically launch when inserted into a CD drive.

To run this update on a CoolSign node:

1. Ensure the CoolSign WatchDog is currently running.
2. Using Windows Explorer, browse to the folder containing Disk1 of the update and double-click the file named `coolsign.offlineupdate.updater.application.exe.`
3. The WatchDog will close the AdPlayer (if this is a Player Node) and the Agent and the offline update window should appear displaying the status of the update.
4. After the update completes, the WatchDog will restart the AdPlayer (if applicable) and the Agent.

Updating Offline CoolSign Nodes

This topic describes how to update Players from a Transfer node and from a Player node.

- **Updating from a Transfer Node**
- **Updating from a Player Node**
- **Troubleshooting Updates**

> ℹ️ **Note**
>
> Every channel is created for a specific format. This update process will only allow you to update players that have the same format as the channel being updated.

Updating from a Transfer Node

> ❗ **Important**
>
> **Before you start the update process**, you will need to make sure the CoolSign WatchDog is currently running.

This process will update the schedule and content on a Transfer node and all Player nodes that are downstream from it. It will not work if there are other Transfer nodes downstream from the Transfer node being updated.

1. Insert the first CD (or other media) into the Transfer node. The update process should begin automatically (e.g. if CDs are being used, it should begin about five to ten seconds after the CD is inserted into the drive, depending on the speed of the drive). If the update process does not

automatically start, double-click the file **startupdateimage.bat** on the CD or double-click on the **coolsign.offlineupdate.updater.application.exe** on the stored media.

2. Follow the instructions as they appear.
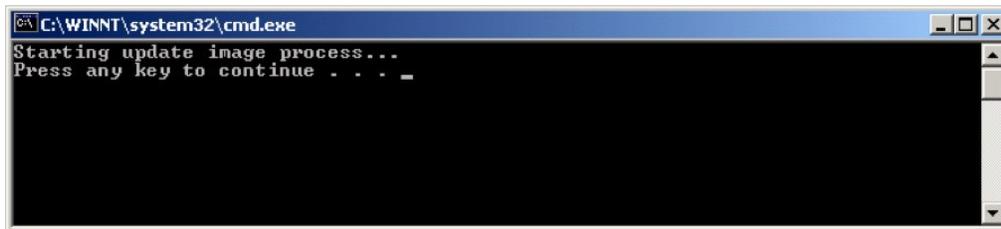
The application registers the necessary dlls, copies files to a temporary directory, and launches the update application.

During the update process, you will see a few progress updates:
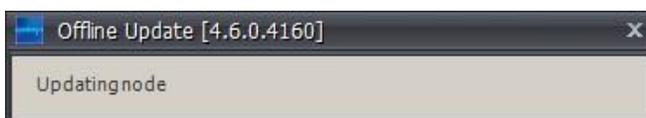
Once the process is completed and, you will see the following message:
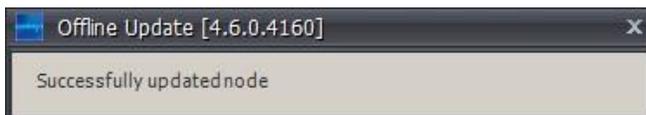
The WatchDog will restart the AdPlayer (if applicable) and the Agent.

Updating from a Player Node

To perform an update on a Player node, follow the same process as described above in "**Upgrading Transfer Nodes**".

Troubleshooting Updates

As the updater progresses through the update process, it logs every action and issue. If an update does not go as expected and you need additional information, it is recommended that you review the CoolSign syslog file(s):

```
C:\ProgramData\CoolSign\Agent\logmgr\system\logs\<year>\<month>\<day>{color}
```

Using Flash-Based Content

Topics Discussed

This following topics provide an overview of what is required to play back Flash-based content in CoolSign.

- **Preparing Flash Files**
- **ActionScript Methods**
  - **function CoolSignVersion() _ String**
  - **function GetScriptName() _ String**
  - **function GetScriptDuration() _ Number**
  - **function GetScriptTime() _ Number**
  - **function ExpandDataSlotString (str_String) _ String**
  - **function GetAttribute (str_String) _ String**
  - **function GetDataTableFilename (tblOID:String, tblFilename:String) :String**
  - **function AddRowToDataTable (params_String) _ Boolean**
  - **function ReportError (msg_String) _ Boolean**

Preparing Flash Files

To play back Flash-based content in CoolSign, you must convert any SWF file you wish to use into the CoolSign content format.

To prepare a Flash file for use with CoolSign, do the following:

1. Design your content in Adobe Flash. Include the following line of code in your ActionScript:

```
var msg:String =
String(flash.external.ExternalInterface.call("ExpandDataSlotString", "$(GetDataTableAsXml)"));
```

This line of code retrieves the CoolSign DataTable that the content is bound to (or rather, will be bound to at the time of playback). The data table is retrieved as an XML string, with elements for each row and field within the DataTable. For example, if you know that your CoolSign data table will contain a **City** field and a **Temperature** field, you can expect to receive the data in the following format:

```
<table>
<row>
<_oid>0aca630b-ba6a-42e4-9109-a0409bae4a09</_oid>
<_seqnum>0</_seqnum>
<City>Portland</City>
<Temperature>67</Temperature>
</row>
<row>
<_oid>9b7f630b-ba6a-42e4-9109-a040910e4910</_oid>
<_seqnum>1</_seqnum>
<City>Beaverton</City>
```

```
<Temperature>69</Temperature>
</row>
...etc...
</table>
```

The `__oid` field represents a unique identifier for the row.

The `__seqnum` field represents the order of the rows within the table.

> ℹ️ **Note**
>
> When viewing your Flash content outside of the CoolSign system (for example, from within the Adobe Flash designer or from a browser), this line of code will return the value "null".

2. Start CoolSign Content Creator and create a new project.
3. In the **General** tab of the Project Settings dialog, specify the title, layout, and dimensions for the new project:
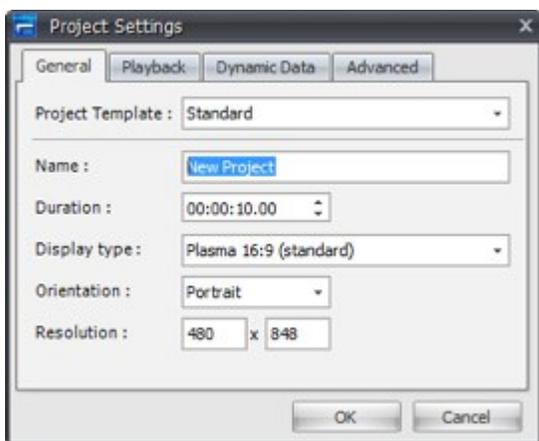
4. In the Data Tables window, create or import the table structure that your content will use. The names that you assign to your data table fields determine the structure of the XML you can access from Flash ActionScript. For the example in Step 1, you would create two data table fields named **City** and **Temperature**, since that is what you designed your Flash content to expect.
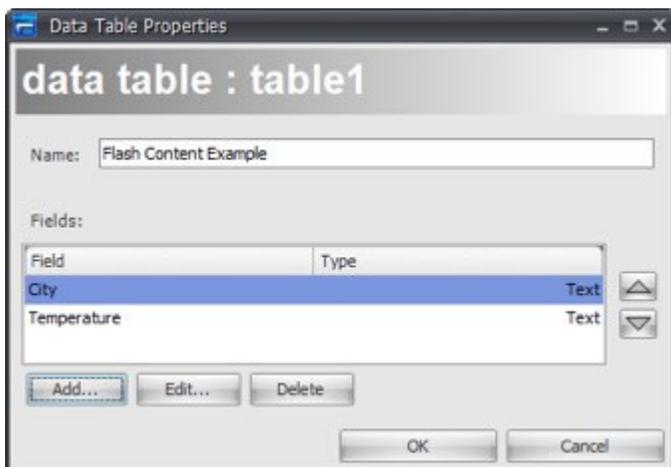
5. Select the menu item Assts > Import File and import your completed Flash content into CoolSign Content Creator.
6. Center and size the Flash asset to fill the Media Window.

7. If your Flash content is script-driven (as opposed to linear timeline-based), enable the **Timeless** property on the Flash asset.
8. Save the project to a folder on disk, and then close CoolSign Content Creator.
9. Navigate to the project folder (on disk) and open the file

   `Control.xml`

   , using a text editor such as Notepad.

10. In the file

    `Control.xml`

    , find this line:

    `</ControlInfo>`

11. Paste the following code immediately after it.

```xml
<DataSlot>
<DefaultExpression>=GetDataTableAsXml(); function GetDataTableAsXml()
{
// load the xml values from the data table rows var myXml = "";
for (i = 0; i < myTable.Size; i++)
{
myXml = myXml + myTable.Row(info).AsXML;
}
return "<table>" + myXml + "</table>";
}</DefaultExpression>
<LogValue>False</LogValue>
<Name>GetDataTableAsXml</Name>
<Type>Text</Type>
<UserProperties>
<RowIndex>1</RowIndex>
</UserProperties>
</DataSlot>
```

12. Save and close the file. The content is now ready to be deployed using the CoolSign Network Manager.

ActionScript Methods

The following methods can be invoked from ActionScript:

- function CoolSignVersion() _ String
- function GetScriptName() _ String
- function GetScriptDuration() _ Number
- function GetScriptTime() _ Number
- function ExpandDataSlotString (str_String) _ String
- function GetAttribute (str_String) _ String
- function GetDataTableFilename (tblOID:String, tblFilename:String) :String
- function AddRowToDataTable (params_String) _ Boolean
- function ReportError (msg_String) _ Boolean

function CoolSignVersion() _ String

Returns the name and version of the CoolSign Media Player.

```
    var csVersion:String = String(ExternalInterface.call("CoolsignVersion"));
```

function GetScriptName() _ String

Returns the name of the current media script.

```
    var scriptName:String = String(ExternalInterface.call("GetScriptName"));
```

function GetScriptDuration() _ Number

Returns the time of the current script in seconds. This value can range from 0 to GetScriptDuration();

```
    var scriptTime:Number =
    Number(ExternalInterface.call("GetScriptTime"));
```

function GetScriptTime() _ Number

Returns the time of the current media script in seconds. This value can range from 0 to GetScriptDuration().

```
    var scriptDur:Number =
    Number(ExternalInterface.call("GetScriptDuration"));
```

function ExpandDataSlotString (str_String) _ String

Returns a string in which each data slot reference is replaced with the current value of the data slot. A data slot reference is encoded as " `$(dataslotname)` ". For example, the line:

```
    ExpandDataSlotString("Hello $(Name), you're in $(City)!")
```

might return "Hello Bob, you're in New York!"

```
    var msg:String = String(ExternalInterface.call("ExpandDataSlotString", "Hello $
(Name)"));
```

function GetAttribute (str_String) _ String

Returns a string that contains the value of the specified attribute.

```
    var msg:String = String(ExternalInterface.call("GetAttribute", "MyAttribute"));
```

function GetDataTableFilename (tblOID:String, tblFilename:String) :String

Returns the path to a file that belongs to the given data table, usually a media file. The file should be considered read-only; the media player checks for changes and will not use a file if it has been tampered with.

```
var tblOID:String; // get the oid of the table from the table?s XML
var tblFilename; // this is the name of a file that you found in the table
var path:String = String(ExternalInterface.call("GetDataTableFileName", tblOID, tblFilename));
```

function AddRowToDataTable (params_String) _ Boolean

Adds a new row to a data table. This request is sent to the Network Controller and executed there. If the local Agent isn't currently connected, the requests are queued and sent once a connection is established. A return value of TRUE only means that the request was queued, not that the row was successfully added.

```
var added:Boolean = Boolean(ExternalInterface.call("AddRow", params));
```

The `params` parameter is some XML that contains all the parameters to use when adding the row to the data table. Here is what the XML looks like:

```
<req>
<DataTableID>OID</DataTableID>
```

```
<DataTableName>SomeName</DataTableName>
<ShouldAutoCreate>true</ShouldAutoCreate>
<DataTableComment>some comment</DataTableComment>
<ActivationDate>2008-01-01T00:00:00.000</ActivationDate>
<ExpirationDate>2008-01-01T08:00:00.000</ExpirationDate>
<RelativeActivation>0</RelativeActivation>
<RelativeExpiration>0</RelativeExpiration>
<BumpTableVersion>true</BumpTableVersion>
<SequenceNumber>0</SequenceNumber>
<Data>
<Field>
<Name>Person</Name>
<Value>Tom</Value>
<Type>String</Type>
</Field>
<Field>
<Name>Score</Name>
<Value>975</Value>
<Type>Number</Type>
</Field>
</Data>
</req>
```

- **DataTableID** — Required: Yes Default: n/a
  The OID of the data table to update. You must specify either *DataTableID* or *DataTableName*, but not both.
- **DataTableName** — Required: Yes Default: n/a
  The name of the data table to update. You must specify either *DataTableID* or *DataTableName*, but not both.
- **ShouldAutoCreate** — Required: No Default: False
  If TRUE, then if the data table specified by *DataTableName* doesn't exist it will be created. This can only be used when you include the *DataTableName* parameter. The structure of the table is determined by the field information for the row that you are trying to insert.
- **DataTableComment** — Required: No Default: "Auto-created table"
  If the data table is created by this call, this parameter specifies the value to use as the comment.
- **ActivationDate** — Required: No Default: "1600-01-01T00:00:00.000"
  Specifies the activation date for the data row, in the following format: "YYYY-MMDDTHH:MM:SS.FFF". The default value means that the row is immediately active.
- **ExpirationDate** — Required: No Default: "1600-01-01T00:00:00.000"
  Specifies the expiration date for the data row "YYYY-MM-DDTHH:MM:SS.FFF". The default value means that the row never expires.
- **RelativeActivation** — Required: No Default: n/a
  Specifies the activation date as the number of seconds from now (now being the time that the row is actually created in the database). This value cannot be used with the *ActivationDate* parameter.
- **RelativeExpiration** — Required: No Default: n/a
  Specifies the expiration date as the number of seconds from now (now being the time that the row is actually created in the database). This value cannot be used with the *ExpirationDate* parameter.
- **BumpTableVersion** — Required: No Default: True
  If TRUE, the version of the data table is incremented when the row is added. Incrementing the version number of the data table makes the new row visible to the media engine, so if you are adding multiple rows and don't want them to become visible until all the rows are added, then you would set this parameter to FALSE for all the rows except for the last row you add; when adding the last row, you would set this parameter to TRUE.
- **SequenceNumber** — Required: No Default: 0
  An arbitrary number that can be used to sort the rows in the data table.

- **Data** — Required: Yes Default: n/a
  The Data section of the XML specifies the values to assign to each field of the row. It contains three parameters: *Name*, *Value* and *Type*. The *Type* field is only used when autocreating the data table and must be one of the following: *Text, Number, Boolean, Date, Time*.

```
    function LocalPropertyGet () : String



    function LocalPropertyGetAll () : String



    function LocalPropertySet (name:String, value:String) : Boolean



    function LocalPropertyIsSet (name:String) : Boolean



  function LocalPropertyDelete (name:String) : Boolean



    function LocalPropertyDeleteAll () : Number
```

Local properties are private to a single piece of content. In fact, they are local to a single *instance* of a piece of content; if a piece of content is in a schedule twice, each instance has its own set of local properties.

```
    var myValue:String =
String(ExternalInterface.call("LocalPropertyGet",

    "MyProperty"));



    var myProps:String =
```

```
    String(ExternalInterface.call("LocalPropertyGetAll"));


    var wasSet:Boolean =
Boolean(ExternalInterface.call("LocalPropertySet",

    "MyAttribute", ?Hello?));


    var isSet:Boolean =
Boolean(ExternalInterface.call("LocalPropertyIsSet",

    "MyAttribute"));


    var wasSet:Boolean =

    Boolean(ExternalInterface.call("LocalPropertyDelete",
"MyAttribute"));


    var count:Number =

    Number(ExternalInterface.call("LocalPropertyDeleteAll"));




    function GlobalPropertyGet (name:String) : String
```

```
    function GlobalPropertyGetAll () : String function GlobalPropertySet
(name:String, value:String) : Boolean



    function GlobalPropertyIsSet (name:String) : Boolean



    function GlobalPropertyDelete (name:String) : Boolean



    function GlobalPropertyDeleteAll () : Number
```

Global properties are identical to local properties but are shared by all pieces of content.

var myValue:String = String(ExternalInterface.call("GlobalPropertyGet", "MyProperty"));

```
    var myProps:String =

    String(ExternalInterface.call("GlobalPropertyGetAll"));


    var wasSet:Boolean =
Boolean(ExternalInterface.call("GlobalPropertySet",

    "MyAttribute", ?Hello?));


    var isSet:Boolean =
Boolean(ExternalInterface.call("GlobalPropertyIsSet",

    "MyAttribute"));
```

```
    var wasSet:Boolean =

    Boolean(ExternalInterface.call("GlobalPropertyDelete",
"MyAttribute")); var count:Number =

    Number(ExternalInterface.call("GlobalPropertyDeleteAll"));
```

```
    function EvalLogGet (clearLog:Boolean) : String

    function EvalLogAdd (msg:String) : Boolean

    function EvalLogClear() : Boolean

    function EvalLogGetEnabled () : Boolean

    function EvalLogSetEnabled (enabled:Boolean) : Boolean
```

The Eval log is used for debugging content. Messages written to the Eval log can be retrieved by the host application and shown to the user.

```
    var messages:String = String(ExternalInterface.call("EvalLogGet",
```

```
true));


    var msgAdded:Boolean = Boolean(ExternalInterface.call("EvalLogAdd",

    "Some message"));


    var bTrue:Boolean = Boolean(ExternalInterface.call("EvalLogClear"));



    var isEnabled:Boolean =

    Boolean(ExternalInterface.call("EvalLogGetEnabled"));


    var bTrue:Boolean =
Boolean(ExternalInterface.call("EvalLogSetEnabled", true));
```

```
    function WriteToSystemLog (level:String, msgID:String, msg:String) :
Boolean
```

Returns TRUE if the message was written to the system log. The system log is used to help debug issues that happen in the field.

- **level** — The log level of the message: "Severe", "Error", "Warning", "Info", "Debug" or "Trace".

- **msgID** — Message IDs are used to track specific events without having to parse the message itself. Using message IDs allows you to change the text of the message and still allow tools and tech support to search for that event.

  Message IDs should be globally unique and normally take the format <prefix><number>, where the <prefix> uniquely designates a particular customer and <number> is a value used to keep the message ID unique; for example, "Nike1001". Spaces are not allowed in message IDs.

  Most messages are not assigned an ID and are reported with "" as the message ID. When you supply a message ID, the message is also written to the application log. The application log is then uploaded so that it is viewable by the CoolSign operator. Since this creates network traffic, only very important messages should be written to the application log. You can override this behavior by prefixing an underscore to the message ID. For example, "Nike1001" is written to both the application and system logs, but "_Nike1001" is written to just the system log.
  - **msg** — The message itself. This can be any arbitrary text, but it is best to include specific information. Generic messages are not useful when trying to track down problems.

```
                    ExternalInterface.call("WriteToSystemLog", "Info",
"", "Something interesting happened");
```

function ReportError (msg_String) _ Boolean

Returns TRUE if the error was properly reported. The error message is viewable by the CoolSign operator. After an error is reported, the AdPlayer will select another piece of content to play.

```
   ExternalInterface.call("ReportError", "I don?t want to play ***");
```

Third-Party Content

Topics Discussed

- **Adding Vistar content**

Vistar Media (**www.vistarmedia.com**) operates a marketplace for digital place-based advertising. Vistar Media's platform automates the delivery of ads from buyers to digital signage networks. This enables advertisers to connect seamlessly to ad networks to sell their ads — Vistar Media effectively acts as a broker between ad sellers and ad buyers.

The CoolSign Vistar Content feature gives CoolSign network operators the ability to schedule ad content purchased through Vistar Media — an increasingly popular solution for filling spare capacity in a pipeline.

> **Note**
>
> Vistar content requires that sites have longitude and latitude information defined. Sites that are created automatically for new players do not contain any information other than the site's name. To set geographic information for a site, see "**Editing Site Properties**".

Adding Vistar content

Adding Vistar content is straightforward. You need only specify your Vistar Media account credentials, and then block out sections of your schedule to be filled by Vistar Media "plays". As with any content in CoolSign, Vistar content must be added to the system before it can be scheduled or played on the CoolSign players connected to your network.

To add Vistar content to a CoolSign network:

1. Choose **CREATE VISTAR** content from the ACTIONS menu:
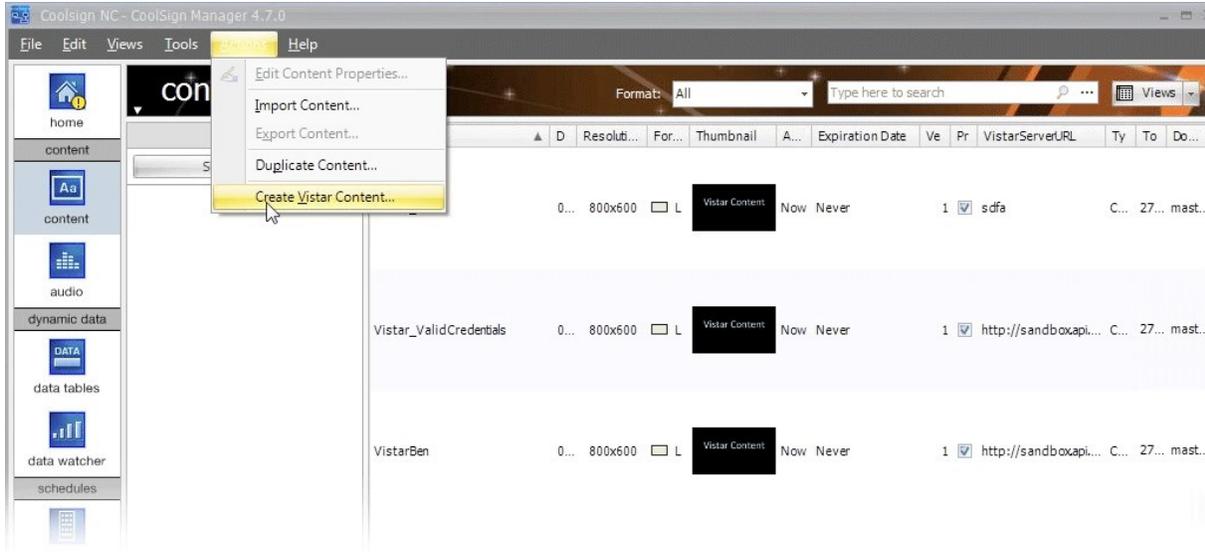
2. In the dialog box that appears, enter the information required to identify the Vistar content:
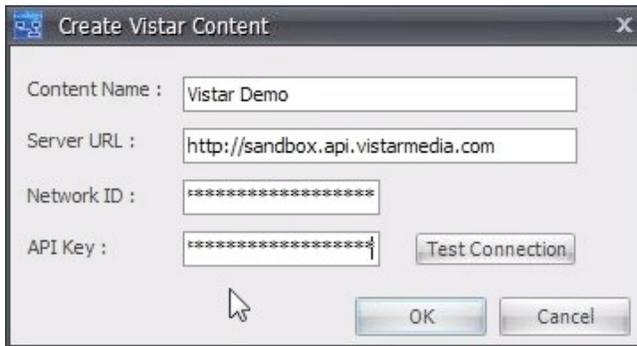
Content Name — The content's name is used wherever the content is referred to, including play logs and scheduled items.
Server URL — The URL of the server hosting the Vistar content.
Network ID — A unique identifier provided by Vistar Media Inc.
API Key — A unique identifier provided by Vistar Media Inc.

3. Click **Test Connection** to verify that the connection to the Vistar server is good. If an error message appears, check the settings and try again.
4. Click **OK**. The new Vistar content item appears on the Content page.
5. Right click on the new content and choose Edit Content Properties:
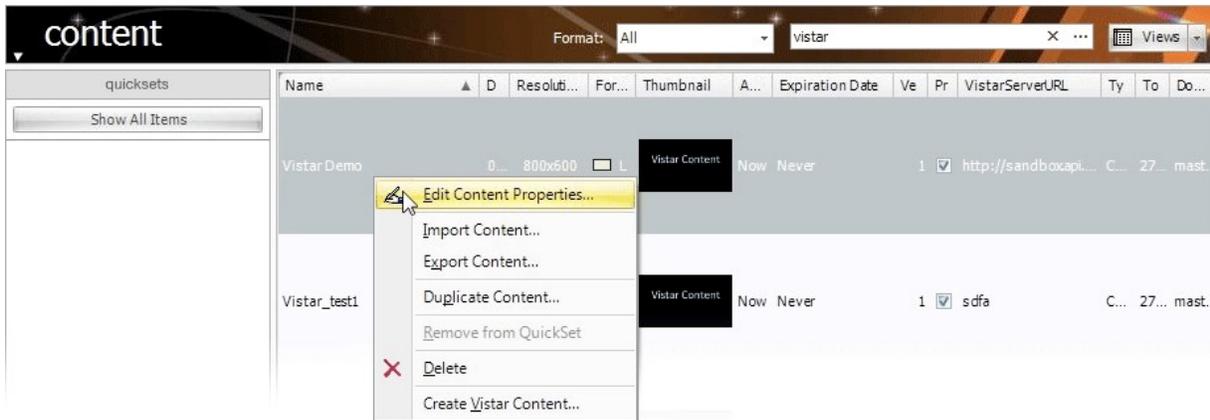
6. In the Content Properties window, specify the properties of the new Vistar content as necessary (see Using the Content Properties Dialog):
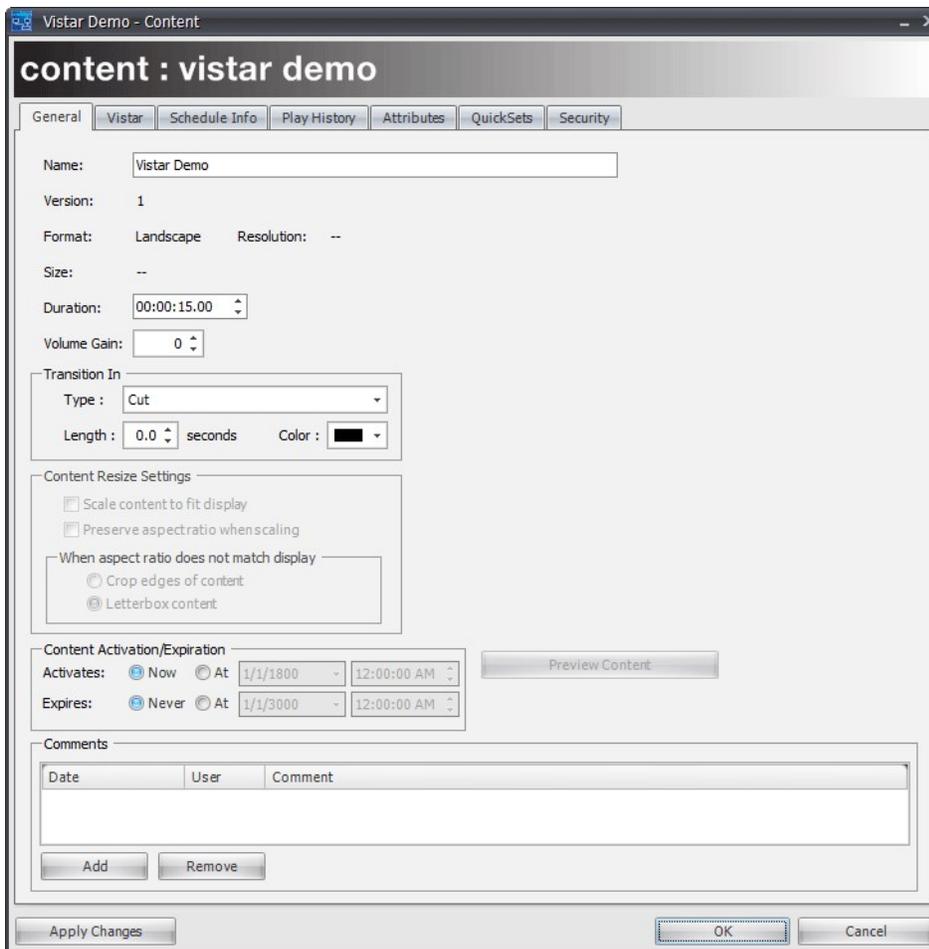
> **ℹ Note**
>
> The Vistar version of the Content Properties page has one new tab (**Vistar**), but does not have the **Assets** tab that appears on the Content Properties page for standard CoolSign content.

7. Click **OK**. The new Vistar content is now available to be used in your CoolSign network. For information on how to duplicate, modify, or delete Vistar content items, see **Working with Content**.

To add Vistar content to a channel:

1. Open the Channel Manager and find or create a channel to which you wish to add the Vistar content (see **Working with Channels**).
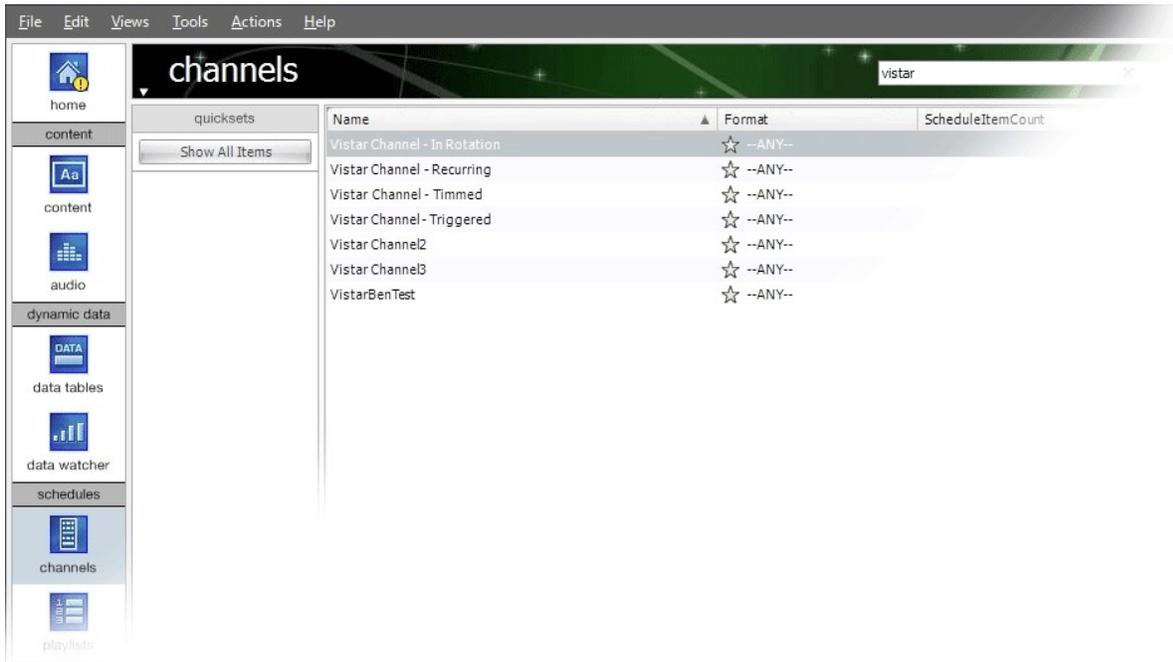
2. Open the channel:
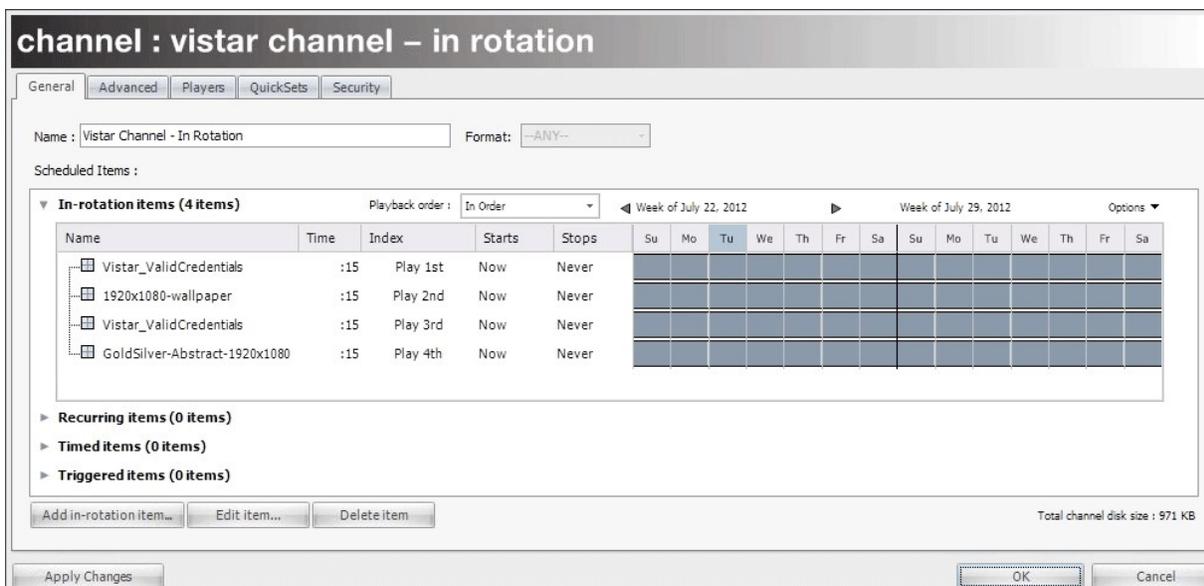
> **ℹ Note**
>
> While this example shows the addition of an *in rotation* item, Vistar content can also be added to a schedule as a *timed*, *recurring*, or *triggered* item. For information on adding content, see **Adding Items to a Channel**.

3. Click **Add in-rotation item**. The content picker window appears:
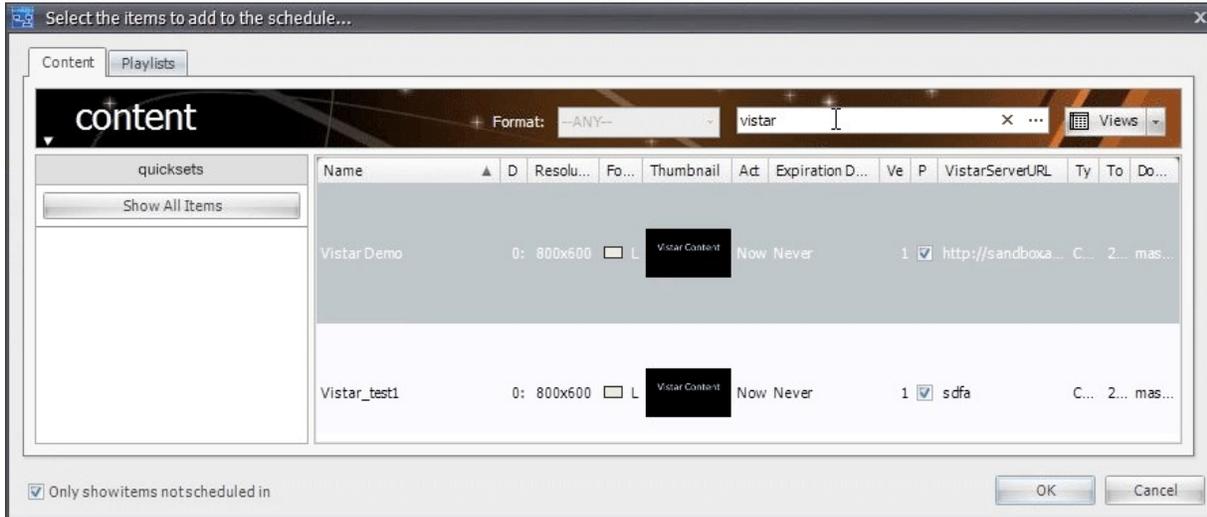
4. Select the Vistar content you wish to add to the channel, and then click **OK**. The Vistar content appears in the channel's In rotation items list:
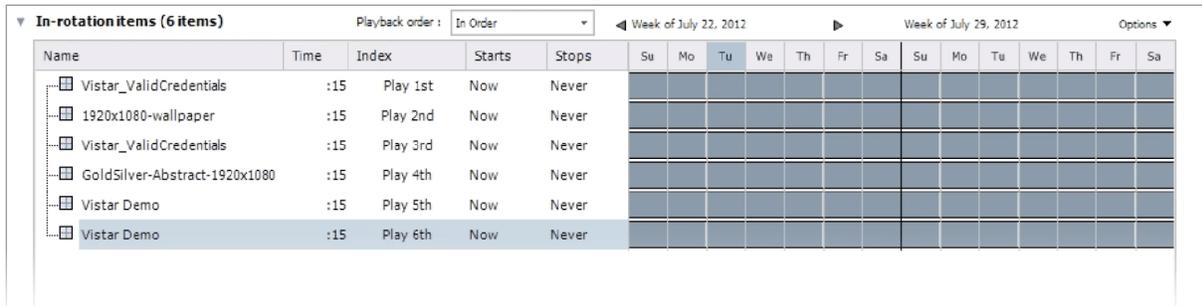
5. Double-click the Vistar item to open the Schedule Item Properties window:
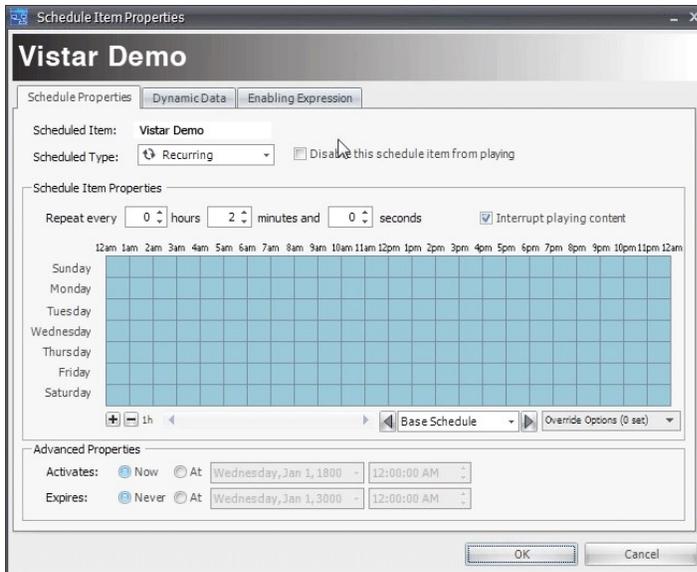
6. Specify the scheduling properties as needed (see **About the Channel Properties Dialog**).

> **ℹ Note**
>
> If, for example, you have a 15-minute segment of Vistar content, but 2 hours of free space in the schedule, you can make eight copies of Vistar content to fill the empty block in the schedule.

7. Click **OK**. At the specified times, the designated players will connect to the Vistar server, download the content, then play it on screen. Once done, the players will send an acknowledgement back to the Vistar server, confirming that the ad content has been played.

> **ℹ Note**
>
> Exchanges of content and confirmation take place directly between the CoolSign Players and the Vistar Media Server. The CoolSign Network Manager is not involved.
> For more information, see **Adding and Editing an In-Rotation Schedule Item**.

Configuring Devices to Stream Content

Topics Discussed

- **Configuring Furnace for CoolSign**
  - **Tagging Assets in Furnace**
- **Configuring Makito Devices**
  - **Playing Encoder Streams in CoolSign**
    - **Encoder Setup**

There are two ways to acquire streaming content:

- Direct (via Furnace v6.3)
- URL (via Makito)

Before you stream content you must configure your Furnace or Makito device to work with CoolSign.

Configuring Furnace for CoolSign

> ⚠ **Important**
>
> Before you continue, you will need to obtain the IP address and access credentials for the Furnace server that will be connected to CoolSign. The Furnace server should have a trusted SSL certificate (not installed by default). Without it, users will encounter CoolSign warning messages, and the thumbnails for linked videos may not be displayed.

To configure a Furnace device:

1. In a new browser tab or window, browse to the IP Address of your Furnace server.
2. Sign in with an admin username and password:

3. On the VF Admin page, click the **General > Configuration** link. In the row labelled Select REST API version, choose **2.0 (Authentication Enabled)**. In the row labelled **Conditional Access Method** choose **NONE**. Click **Save Configuration**.
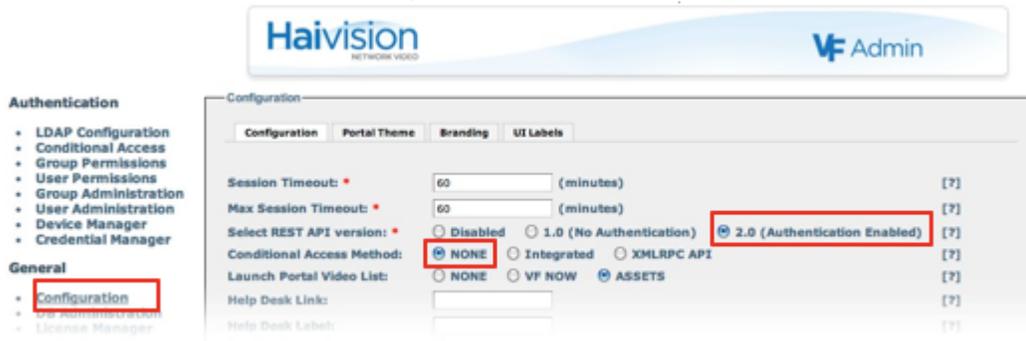
4. Click the **Credential Manager** link. Create a credential with a valid expiration date. This credential will be used to authenticate Furnace on your CoolSign server. Click **Submit**.
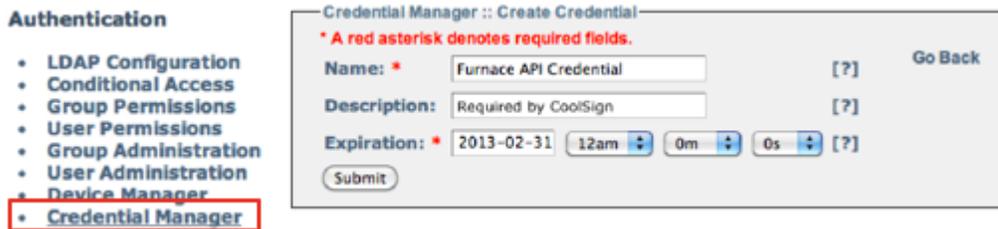
5. Under the **Groups** tab, click the **Modify** link corresponding to a group to which you would like to add the new credential (the credentials MUST be added to a group that has ADMIN permissions):
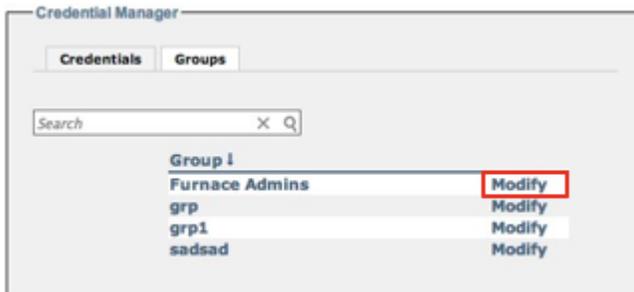
6. Click the checkbox corresponding to the new credential, then click **Add Selected**:
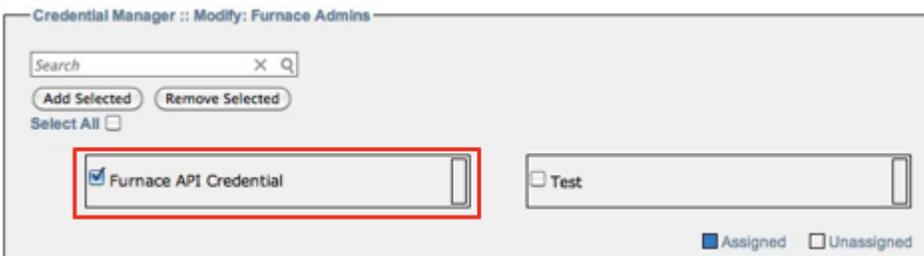
7. Click the **Group Permissions** link, then navigate to the **Permissions** page for the group you modified in Step 6. Make sure that **All Permissions** is checked:
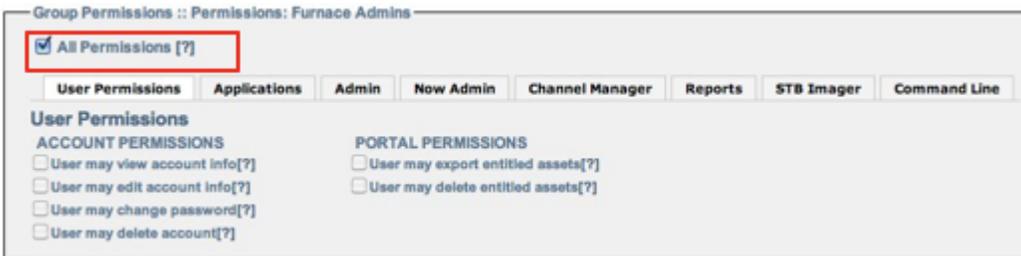
> **ⓘ Note**
>
> Having a specific CoolSign credential will allow you to revoke that credential, if needed, without affecting other active credentialed applications. The CoolSign credential must be created with a valid expiration date, and can be added to any Group that has the **All Permissions** enabled (i.e., Furnace Admin users). For more information, refer to "Configuring Group Permissions" and "Managing API Credentials" in Chapter 2 of the Furnace Administration Guide.

8. Click the **Credential Manager** link, then click the **Modify** link corresponding to the credential you created in Step 4. to view the CoolSign credentials. You will need some of the information displayed here to complete the configuration on the CoolSign server:

Tagging Assets in Furnace

CoolSign can recognize video assets on the Furnace server and make them available as content to add to CoolSign channels. While all assets on the Furnace server are accessible to CoolSign, you can associate specific videos with corresponding channels by tagging them with a channel name.

To tag assets in Furnace:

1. In CoolSign, identify the channel name.
2. Launch VF Editor on the Furnace server.

3. Load an asset you wish to tag:
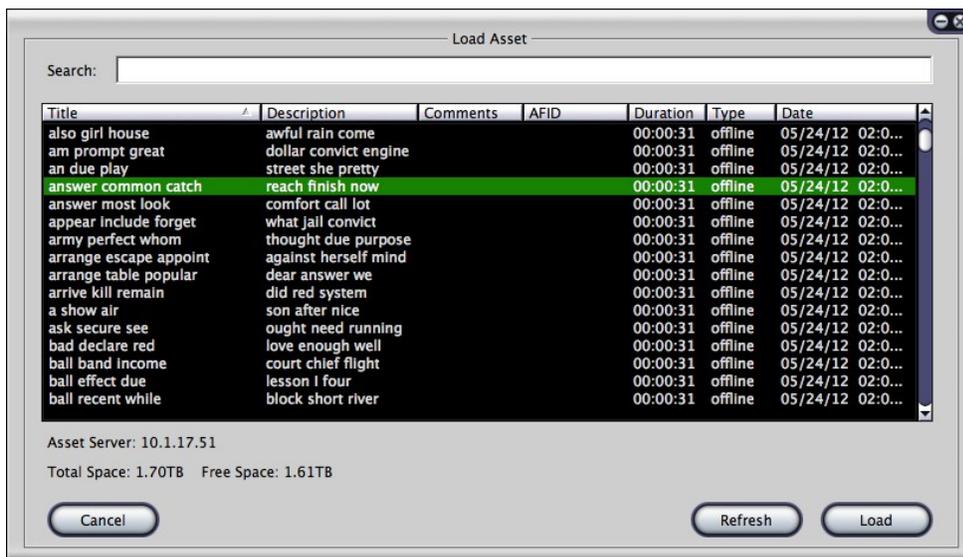
4. In the Editor, choose the **Metadata** tab:

5. Click on tab 5. Type the CoolSign channel name, then press the **Enter** key.

6. Click **Done** then **Save** the asset.

For more information on:

- Adding metadata in Furnace, see <u>VF Editor - Digitizing and Managing Assets</u> in the Furnace Administration Guide.
- How to set up an output stream, please refer to the Furnace product documentation available from the Haivision Support Portal (**https://support.haivision.com**).

Configuring Makito Devices

Playing Encoder Streams in CoolSign

This section provides instructions for configuring Haivision's Makito and Barracuda H.264 encoders to stream to a CoolSign Player.

Encoder Setup

For information on how to set up an output stream, please refer to the Makito or Barracuda user documentation available from the Haivision Support Portal (**https://support.haivision.com**).

- Follow the instructions in the *Makito/Barracuda Quick Start Guide* to power on the unit and log in to the encoder's Web Interface.
- Refer to the *Makito/Barracuda User's Guide* or the online help (available from the encoder's Web Interface) for instructions on how to configure a Makito or Barracuda encoder to provide a stream to a CoolSign network.

> 🛈 **Important**
>
> The Makito device should be on the same subnet as the player.

Troubleshooting

Need some help?

General Support	North America (Toll-Free) **1 (877) 224-5445** International **1 (514) 334-5445** *and choose from the following:* Sales - 1, Cloud Services - 3, Support - 4
Managed Services	U.S. and International 1 (512) 220-3463
Fax	1 (514) 334-0088
Support Portal	https://support.haivision.com
Product Information	info@haivision.com

Topics Discussed

- Troubleshooting Alerts
- Troubleshooting Player Errors
- Troubleshooting Display Errors
- Troubleshooting Data Migration Tool Issues
- Reviewing Audit History for an Item

Troubleshooting Alerts

The Home page displays alerts that are raised by the nodes in your CoolSign network. This section lists some of the more common alerts and steps to troubleshoot.

- Node Offline
- Unexpected Reboot
- Not Enough Free Space on Disk
- Display Error
- Task succeeded_Task timed out
- Content Wizard is not Encoding Correctly

Node Offline

The CoolSign node is no longer communicating with the Network Controller.

Either the CoolSign Agent or AdPlayer components have been restarted multiple times within a short period of time. This may indicate severe issues with the CoolSign node or software configuration. You can troubleshoot this issue by doing any of the following:

- Ensure that no one has been physically accessing the PC for maintenance or other reasons.
- Review the Home page application logs to check if a user has remotely issued restart software component commands.
- Review the event logs for the node to determine if additional information regarding the software restart is available. For more information on event logs, see "About Event Logs" .

Unexpected Reboot

The CoolSign PC has rebooted multiple times within the previous 24 hours. This may indicate issues with the CoolSign software or hardware problems. You can troubleshoot this issue by doing any of the following:

- Check that no one is physically rebooting the PC or working on the power at the location.
- Review the Home page application logs to check if a user has remotely rebooted the node.
- Review the event logs for the node to determine if additional information regarding the node reboot is available.

Not Enough Free Space on Disk

The available disk space on the hard drive of a CoolSign PC has fallen below the configured low disk space threshold. CoolSign automatically attempts to free up disk space by deleting any unused files. You can troubleshoot this issue with any of the following actions:

- Check that you haven't scheduled more content than you have total disk space. You can check the total required disk space for each piece of content from the **Content Properties** dialog, and you can check the total required disk space for a channel from the **Channel Properties** dialog. If the total disk space required by a channel is too large, you may need to unschedule some content or upgrade your hard disk.
- Remove any other non-CoolSign applications or files that may be installed on the PC.
- Force the node to garbage collect. See "Cleaning Up Space on a Node".
- Manually clean up the CoolSign log folders. You can delete any local log files by manually deleting the `LogMgr` folder in the CoolSign Agent folder by using the remote console command on the **Advanced Node Properties** dialog.

Display Error

A serial-controlled display has reported an error or is no longer communicating with the CoolSign node. For more information, see "Troubleshooting Display Errors".

Task succeeded_Task timed out

These alerts are raised when a task succeeds or fails within the configured time limit. For more information on tasks and configuration, see " Tasks".

Content Wizard is not Encoding Correctly

Content Wizard is not encoding correctly. Verify that the Activation/Expiration fields is not using the short date format (m\d\yy).

Steps

1. Change the host system's date/time format to use long format (dddd, MMMM d, yyyy).

2. Launch Content Wizard.
3. Convert a single file (such as a .jpg) > **Next**.
4. Press **Next** on the Options tab.

> **ℹ Note**
>
> Leave Activation/Expiration set to Now/Never.

5. Press **Next** on the Thumbnail tab.
6. Press **Finish** on the Create tab.

Troubleshooting Player Errors

CNM provides a number of tools to help you troubleshoot problems with your players:

- **Understanding Region Status**
- **Understanding Display Status**

Understanding Region Status

You can view the status of a player or player region in the Region Status column of the Players page or on the Player Properties dialog.

FullName	Format	Channel	Now Playing	Region Status	Display Status
JDev1 > Weather	Portrait	(Unknown)	--	🟡 Stopped	
MyPlayer(2)	Landsca...	--	--	🔴 Offline	
Opti 745 with 1650[Output...	Portrait	Synch Test (Portrait,...	DSE_SplitSCreen_Left_01	🟢 Ok	
Opti 745 with 1650[Output...	Portrait	Synch Test (Portrait,...	DSE_SplitSCreen_Right_01	🟢 Ok	
Opti 745 with 1650[Output...	Landsca...	Bills Test Channel	Planar Branding - UnderSeaC...	🟢 Ok	
Panasonic_Test	Landsca...	--	--	🔴 Offline	🔴 Unknown (Offline)

The status of a player can be any of the following values:

🟢 **OK**—No issues have been reported and the player or region is playing its tuned channel correctly.

🟡 **Content Error**—One or more of the content items scheduled on the player or region reported an error during playback. For more information, refer to "**Troubleshooting Display Errors**".

🔴 **Offline**—The entire player node is currently offline and not connected to the network.

🟡 **Initializing...**—The player or region has just been created and is still starting up. This status should be transitory. If a player reports the Initializing status for more than a few minutes, there may be other issues with its configuration that are preventing it from starting.

🟡 **Paused (Display off)**—Occurs when any or all of the displays connected to a player have been set or scheduled to OFF using the Display control.

🟡 **Paused (Display set to X input)**—All the displays connected to a player are set or scheduled to a non-CoolSign input.

🔴 **No Channel**—Either a new player has not yet been tuned to a channel, or the channel a player was tuned to has been deleted.

🔴 **Empty Channel**—The channel that the player is tuned to has no scheduled items.

💥 **No Active Scheduled Items**—The channel has items but none of the items are currently active due to pending activation, expiration, or disabling.

💥 **Unknown**—No status is reported by the player. Please try restarting the player remotely.

💥 **No Product Key**—The player does not have a valid product key. See "About Product Keys".

💥 **Unsupported Resolution**—A player is configured to a video output resolution that is not supported by the video card. Refer to "Configuring Players and Devices".

💥 **Fatal Error**—A player encountered a severe error that prevents it from starting up successfully. Fatal errors can be a result of improperly installed software, decoders or video drivers. In most cases, if rebooting the player does not clear a fatal error, you must reinstall the CoolSign software onto the player.

> ℹ️ **Note**
>
> Review the event logs for detailed information on the errors. It doesn't guarantee that all the errors have an event log entry; however, most will. For more information on event logs, see "About Event Logs".

Understanding Display Status

You can view the status of any display devices being serial-controlled by CoolSign in the Display Status column of the Players page or on the Display Properties dialog for a display. The Display Status of a device can be any of the following values:

(blank)—This player is not configured with any display control. The player cannot retrieve status from any connected display devices.

🖥️ **Display OK**—The display device is reporting an OK status to the player and is set to the configured CoolSign input.

🖥️ **Display OK (Set input is XXX)**—The display device is reporting an OK status and its display control has been directly set to the indicated input from the Display Properties dialog.

🖥️ **Display OK (Scheduled input is XXX)**—The display device is reporting an OK status and the current input is set to the indicated input as defined in the display's input schedule.

🖥️ **Waiting for status on new display**—Newly configured displays will report this status until the display device first reports its status to the player.

🖥️ **No Connection**—Indicates that the display device configured for this player is not reporting any status to the player. Refer to the following discussion, "Troubleshooting Display Errors".

💥 **Unknown (Offline)**—The player is currently offline and the current display status cannot be determined.

💥 **[Error status]**—Any other status values are reported directly from the display device and are dependent on the error messages for that device.

Troubleshooting Display Errors

Unfortunately, providing an exhaustive resource on troubleshooting every possible make, model, and configuration of display device is beyond the scope of this document. Refer to the manufacturer's documentation for additional assistance or check the resources at our Support Portal.

- Display Status Reads "No Connection"
- DE2 Display Turns Off and On

Display Status Reads "No Connection"

Display Status reads No Connection

If you are getting a **No Connection** display status for a display you believe to be connected, you should check the following conditions:

- Confirm that the display properties match the actual display device. Both the brand and model must match the actual device exactly.
- Confirm that the display is configured to use the correct COM port.
- Verify the display is receiving power and shows a signal with the OSD.
- Check that the serial cable is securely connected to both the player PC and the display device.
- Verify that the serial cable is not defective by using it on another player that is already working or by doing a continuity check on all pins.

If you are still receiving a display-specific error status, please check with the manufacturer's documentation provided with your display device.

DE2 Display Turns Off and On

Verify the DE2 Power Settings

> ⓘ **Important**
>
> The device's power setting can impact the overall CoolSign performance. If the Power Scheme is set to save battery power, Windows will try
> to turn off the monitor every 15 minutes due to user inactivity. Consequently, due to the time needed for the HDCP handshake to reestablish a valid display link, the screen can be shut off for a few seconds before CoolSign overrides it and turns the monitor back on.

Displaying the Active Power Scheme

After the device has booted, do the following to determine the active power scheme:

1. From the Windows **Start** menu, select **RUN**, and then type `cmd` to open a DOS command window.

2. In the command window at the prompt, enter the following query to determine the current power setting:

       powercfg –list

   The response is a listing of the existing power schemes. The currently active scheme includes an asterisk at the end of the listing.

> **For example:**
>
> ```
> Existing Power Schemes (* Active)
> ---------------------------------
> Power Scheme GUID: 381b4222-f694-41f0-9685-ff5bb260df2e (Balanced)
> Power Scheme GUID: 8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c (High Performance) *
> Power Scheme GUID: a1841308-3541-4fab-bc81-f71556f20b4a (Power Saver)
> ```

The preferred power scheme to use in conjunction with CoolSign is "(**High Performance)**". Refer to the Power Settings table below to ascertain the settings for different schemes.

Changing the Active Power Scheme

1. From the Windows **Start** menu, select **RUN**, and then type `cmd` to open a DOS command window.

2. To change the power scheme, enter the following command at the prompt:

```
powercfg -setactive 8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c
```

where you specify the associated GUID for the Power Scheme you want to use. **This example sets the active power scheme for use with CoolSign.** *See the following table for other options.*

Power Settings Table

> ⓘ **Important**
>
> The preferred scheme to use in conjunction with CoolSign is "**Always On** (**High Performance)**".

Power Scheme Name	Associated GUID	Power Settings
Max Battery (Power Saver)	a184130835414fabbc81f71556f20b4a	• Name **Max Battery** • Numerical ID 1 • Turn off monitor (AC) Never • Turn off monitor (DC) After 5 mins • Turn off hard disks (AC) Never • Turn off hard disks (DC) After 5 mins • System standby (AC) Never • System standby (DC) After 5 mins • System hibernates (AC) Never • System hibernates (DC) Never • Processor Throttle (AC) ADAPTIVE • Processor Throttle (DC) DEGRADE
Presentation (Balanced)	381b4222f69441f09685ff5bb260df2e	• Name **Presentation** • Numerical ID 2 • Turn off monitor (AC) Never • Turn off monitor (DC) Never • Turn off hard disks (AC) Never • Turn off hard disks (DC) After 5 mins • System standby (AC) Never • System standby (DC) After 15 mins • System hibernates (AC) Never • System hibernates (DC) Never • Processor Throttle (AC) ADAPTIVE • Processor Throttle (DC) DEGRADE

Power Scheme Name	Associated GUID	Power Settings
Always On **(High Performance)** *Preferred Power Scheme for use with CoolSign.*	8c5e7fdae8bf4a969a85a6e23a8c635c	• Name **Always On** • Numerical ID 3 • Turn off monitor (AC) Never • Turn off monitor (DC) After 15 mins • Turn off hard disks (AC) Never • Turn off hard disks (DC) After 30 mins • System standby (AC) Never • System standby (DC) Never • System hibernates (AC) Never • System hibernates (DC) Never • Processor Throttle (AC) NONE • Processor Throttle (DC) NONE
…		

Troubleshooting Data Migration Tool Issues

Table creation failed, The Generic Schema file is missing. Unable to create the DDLs from zuma.xml

1. Stop all CoolSign processes on the Network Controller.
2. Using the Microsoft SQL Server Management Studio, connect to the existing DB that CoolSign is currently using and make a backup of it.
3. Using the Microsoft SQL Server Management Studio, connect to the new DB that you want CoolSign to use and restore from the backup.
4. On the Network Controller, launch the CoolSign Configurator then click the **Launch Database Connection Setup Tool**.
5. Configure all the settings to the new DB instance.
6. Verify Connection.
7. Save Settings.
8. Start all CoolSign processes on the Network Controller.

Reviewing Audit History for an Item

When troubleshooting problems with your CoolSign network, it can be useful to review exactly what actions were performed on an item. The item audit history lists every change made to an item, when the change was made, and which user made the change. You can review the audit history for the following items in your network:

- Content
- Audio
- Data Tables
- Channels
- Playlists
- Nodes
- Triggers

To review the audit history for an item:

1. Open the properties dialog for the item you want to review.
2. On the **Security** tab, click **Audit History** to open the Audit History dialog.

Audit History

History log:

TimeStamp	User	Event	Child Type	Child OID	Data
3/14/2012 11:18:02 AM	system	create-Node	-	-	<Node>
3/14/2012 11:18:02 AM	system	update-Node	-	-	<Node>
3/14/2012 11:18:02 AM	system	addchild-Node	NodeConfigFile	4058A724-B6C	<NodeConfigFile>
3/14/2012 11:18:08 AM	system	update-Node	-	-	<Node>
3/14/2012 11:18:21 AM	system	addchild-Node	SoftwareComponentForNode	AB31DCA5-33F	<SoftwareComponentForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	SoftwareComponentForNode	3EACC453-832	<SoftwareComponentForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	SoftwareComponentForNode	0EFFBA75-877	<SoftwareComponentForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	SoftwareComponentForNode	C9512797-EB5	<SoftwareComponentForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	SoftwarePackageForNode	8755C87B-27F	<SoftwarePackageForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	SoftwarePackageForNode	833B2D9C-CF9	<SoftwarePackageForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	SoftwarePackageForNode	28BCC1E7-92A	<SoftwarePackageForNode>
3/14/2012 11:18:22 AM	system	addchild-Node	NodeRequest	AECB0336-0DE	<NodeRequest>
3/14/2012 11:18:22 AM	system	addchild-Node	NodeRequest	E9984600-4D7	<NodeRequest>
3/14/2012 11:18:22 AM	system	addchild-Node	NodeRequest	EC5F26E7-33A	<NodeRequest>
3/14/2012 11:18:28 AM	system	update-Node	-	-	<Node>
3/14/2012 11:18:28 AM	system	update-Node	-	-	<Node>
3/14/2012 11:18:28 AM	system	addchild-Node	VideoOutput	B524CD71-824	<VideoOutput>
3/14/2012 11:18:28 AM	system	addchild-Node	AudioOutput	78FCD272-2DB	<AudioOutput>

Close

3. Click in the Data column to view which fields were modified on the object.

Warranties

1-Year Limited Hardware Warranty

Haivision warrants its hardware products against defects in materials and workmanship under normal use for a period of ONE (1) YEAR from the date of equipment shipment ("Warranty Period"). If a hardware defect arises and a valid claim is received within the Warranty Period, at its option and to the extent permitted by law, Havision will either (1) repair the hardware defect at no charge, or (2) exchange the product with a product that is new or equivalent to new in performance and reliability and is at least functionally equivalent to the original product. A replacement product or part assumes the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever is longer. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Haivision's property.

EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only to hardware products manufactured by or for Haivision that can be identified by the "Haivision" trademark, trade name, or logo affixed to them. The Limited Warranty does not apply to any non-Haivision hardware products or any software, even if packaged or sold with Haivision hardware. Manufacturers, suppliers, or publishers, other than Haivision, may provide their own warranties to the end user purchaser, but Haivision, in so far as permitted by law, provides their products "as is".

Haivision does not warrant that the operation of the product will be uninterrupted or error-free. Haivision does not guarantee that any error or other non-conformance can or will be corrected or that the product will operate in all environments and with all systems and equipment. Haivision is not responsible for damage arising from failure to follow instructions relating to the product's use.

This warranty does not apply:

(a) to cosmetic damage, including but not limited to scratches, dents and broken plastic on ports;

(b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other <u>external causes</u>;

(c) to damage caused by operating the product outside the permitted or intended uses described by Haivision;

(d) to a product or part that has been modified to alter functionality or capability without the written permission of Haivision; or

(e) if any Haivision serial number has been removed or defaced.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY AND REMEDIES PROVIDED ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, STATUTORY, EXPRESS OR IMPLIED. AS PERMITTED BY APPLICABLE LAW, HAIVISION SPECIFICALLY DISCLAIMS ANY AND ALL STATUTORY OR IMPLIED WARRANTIES,

INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS. IF HAIVISION CANNOT LAWFULLY DISCLAIM STATUTORY OR IMPLIED WARRANTIES THEN TO THE EXTENT PERMITTED BY LAW, ALL SUCH WARRANTIES SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS WARRANTY AND TO REPAIR OR REPLACEMENT SERVICE AS DETERMINED BY HAIVISION IN ITS SOLE DISCRETION. No Haivision reseller, agent, or employee is authorized to make any modification, extension, or addition to this warranty. If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE EXTENT PERMITTED BY LAW, HAIVISION IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE; LOSS OF ACTUAL OR ANTICIPATED PROFITS (INCLUDING LOSS OF PROFITS ON CONTRACTS); LOSS OF THE USE OF MONEY; LOSS OF ANTICIPATED SAVINGS; LOSS OF BUSINESS; LOSS OF OPPORTUNITY; LOSS OF GOODWILL; LOSS OF REPUTATION; LOSS OF, DAMAGE TO OR CORRUPTION OF DATA; OR ANY INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE HOWSOEVER CAUSED INCLUDING THE REPLACEMENT OF EQUIPMENT AND PROPERTY, ANY COSTS OF RECOVERING, PROGRAMMING, OR REPRODUCING ANY PROGRAM OR DATA STORED OR USED WITH HAIVISION PRODUCTS AND ANY FAILURE TO MAINTAIN THE CONFIDENTIALITY OF DATA STORED ON THE PRODUCT. THE FOREGOING LIMITATION SHALL NOT APPLY TO DEATH OR PERSONAL INJURY CLAIMS, OR ANY STATUTORY LIABILITY FOR INTENTIONAL AND GROSS NEGLIGENT ACTS AND/OR OMISSIONS.

OBTAINING WARRANTY SERVICE

Before requesting warranty service, please refer to the documentation accompanying this hardware product and the Haivision Support Portal **https://support.haivision.com**. If the product is still not functioning properly after making use of these resources, please contact Haivision or Authorized Reseller using the information provided in the documentation. When calling, Haivision or Authorized Reseller will help determine whether your product requires service and, if it does, will inform you how Haivision will provide it. You must assist in diagnosing issues with your product and follow Haivision's warranty processes.

Haivision may provide warranty service by providing a return material authorization ("RMA") to allow you to return the product in accordance with instructions provided by Haivision or Authorized Reseller. You are fully responsible for delivering the product to Haivision as instructed, and Haivision is responsible for returning the product if it is found to be defective. Your product or a replacement product will be returned to you configured as your product was when originally purchased, subject to applicable updates. Returned products which are found by Haivision to be not defective, out-of-warranty or otherwise ineligible for warranty service will be shipped back to you at your expense. All replaced products and parts, whether under warranty or not, become the property of Haivision. Haivision may require a completed pre-authorized form as security for the retail price of the replacement product. If you fail to return the replaced product as instructed, Haivision will invoice for the pre-authorized amount.

APPLICABLE LAW

This Limited Warranty is governed by and construed under the laws of the Province of Quebec, Canada.

This Limited Hardware Warranty may be subject to Haivision's change at any time without prior notice.

EULA - End User License Agreement

READ BEFORE USING

THE LICENSED SOFTWARE IS PROTECTED BY COPYRIGHT LAWS AND TREATIES. READ THE TERMS OF THE FOLLOWING END USER (SOFTWARE) LICENSE AGREEMENT ("AGREEMENT") CAREFULLY BEFORE ACCESSING THE LICENSED SOFTWARE. BY SCANNING THE QR CODE TO REVIEW THIS AGREEMENT AND/OR ACCESSING THE LICENSED SOFTWARE, YOU CONFIRM YOUR ACCEPTANCE OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THESE TERMS, HAIVISION IS UNWILLING TO LICENSE THE LICENSED SOFTWARE TO YOU AND YOU ARE NOT AUTHORIZED TO ACCESS THE LICENSED SOFTWARE.

Click the following link to view the Software End-User License Agreement: **Haivision EULA.pdf**

If you have questions, please contact **legal@haivision.com**

SLA - Service Level Agreement

1. Introduction

This Service Level and Support supplement forms a part of and is incorporated into the Service Agreement (the "Agreement") between You and Haivision Network Video Inc. ("Haivision"). Capitalized terms used but not otherwise defined in this supplement shall have the meaning ascribed to them in the Agreement. Haivision may, upon prior written notice to You, amend this supplement to incorporate improvements to the service levels and support commitments at no additional cost to You. This supplement applies only to those products and services set forth below.

2. Definitions

- "Audience Member" means an individual or entity that accesses Your Published Media Objects through a public URL.
- "Access Service" means the service provided by Haivision VCMS that verifies an Audience Member's credentials.
- "Digital Media File" means a computer file containing text, audio, video, or other content.
- "Outage" is a 12-minute period of consecutive failed attempts by all six agents to PING the domain on the Haivision Streaming Media network.
- "Published Media Object" means a Digital Media File with a public URL.
- "Transaction" means the creation of a right for an Audience Member to access a Media Object and the completion of an order logged in the order history service.

3. Service Levels for the Video Content Management System

The service levels in this **Section 3** apply only to the hosted version of Haivision VCMS and the Haivision VCMS development kit (collectively, the "Standard Hosted Components" of Haivision Video Cloud Services). Subject to the exceptions noted in **Section 4** below, the aforementioned components of Haivision Video Cloud Services will be available for use over the course of each calendar month as follows:

Type of Access	Definition	Availability Level
Write Functions	• Access to all functions through the administrative user interface. • Ability to add or modify objects and metadata through the application programming interface ("API") • Ability of ingest service to check for new or updated files or feeds	99.999%
Read-Only Functions	• Ability to retrieve data through the API • Ability for Audience Members to authenticate through the Access Service • Ability for Audience Members to play Published Media Objects • Ability for Audience Members to play Haivision VCMS-authenticated or entitled Published Media Objects • Ability to complete Transactions	99.999%

4. Exceptions to Availability for the VCMS

The Standard Hosted Components may not be available for use under the following circumstances, and in such case such periods of unavailability shall not be counted against Haivision Video Cloud for purposes of calculating availability:

a. Normal Maintenance, Urgent Maintenance and Upgrades as defined in the table below;
b. Breach of the Agreement by You as defined in the Agreement;
c. The failure, malfunction, or modification of equipment, applications, or systems not controlled by Haivision Video Cloud;
d. Any third party, public network, or systems unavailability;
e. Acts of Force Majeure as defined in the Agreement;
f. Modification of software made available to You as part of Haivision Video Cloud Services by You or a third party acting on Your behalf; and
g. Any third party product or service not incorporated into Haivision Video Cloud Services or any third party plug-in.

Haivision Video Cloud shall make commercially reasonable efforts to notify, or work with, applicable third parties to repair or restore Haivision VCMS functionality affected by such exceptions.

Type of Maintenance	Purpose	Write Functions Available	Read Functions Available	Maximum Time Per Month	Continuous Time in Mode (Max)	Window (Central Time)	Min Notice
Normal	• Preventive maintenance on the software/hardware components of Haivision VCMS • Addition of new features/functions • Repair errors that are not immediately affecting Your use of Haivision VCMS	No	Yes	10 Hours	6 Hours	10:00pm - 5:00am	48 Hours
Urgent	• Repair errors that are immediately affecting Your use of Haivision VCMS	No	Yes	30 Minutes	15 Minutes	Any Time	3 Hours

Type of Maintenance	Purpose	Write Functions Available	Read Functions Available	Maximum Time Per Month	Continuous Time in Mode (Max)	Window (Central Time)	Min Notice
Upgrades	• Perform upgrades on software or hardware elements necessary to the long term health or performance of Haivision VCMS, but which, due to their nature, require that certain components of Haivision VCMS to be shut down such that no access is possible	No	No	1 Hour	1 Hour	12:00am - 4:00am M-F	5 Days

5. Credits for Downtime for the VCMS

Haivision Video Cloud will grant a credit allowance to You if You experience Downtime in any calendar month and you notify Haivision Video Cloud thereof within ten (10) business days after the end of such calendar month. In the case of any discrepancy between the Downtime as experienced by You and the Downtime as measured by Haivision Video Cloud, the Downtime as measured by Haivision Video Cloud shall be used to calculate any credit allowance set forth in this section. Such credit allowance shall be equal to the pro-rated charges of one-half day of Fees for each hour of Downtime or fraction thereof. The term "Downtime" shall mean the number of minutes that Standard Hosted Components are unavailable to You during a given calendar month below the availability levels thresholds in Section 3, but shall not include any unavailability resulting from any of the exceptions noted in Section 4. Within thirty (30) days after the end of any calendar month in which Downtime occurred below the availability levels thresholds in Section 3, Haivision Video Cloud shall provide You with a written report detailing all instances of Downtime during the previous month. Any credit allowances accrued by You may be offset against any and all Fees owed to Haivision Video Cloud pursuant to the Agreement, provided that a maximum of one month of credit may be accrued per month.

6. Support Services for the VCMS

Support for Haivision Video Cloud Services as well as the Application Software (defined as the VCMS application software components that Haivision licenses for use in conjunction with the Video Cloud Services) can be reached at hvc-techsupport@haivision.com and shall be available for all Your support requests. Haivision Video Cloud will provide 24x7 monitoring of the Standard Hosted Components.

Cases will be opened upon receipt of request or identification of issue, and incidents will be routed and addressed according to the following:

Severity Level	Error State Description	Status Response Within	Incident Resolution within
1 – Critical Priority	Renders Haivision VCMS inoperative or causes Haivision VCMS to fail catastrophically.	15 minutes	4 hours
2 – High Priority	Affects the operation of Haivision VCMS and materially degrades Your use of Haivision VCMS.	30 minutes	6 hours

Severity Level	Error State Description	Status Response Within	Incident Resolution within
3 – Medium Priority	Affects the operation of Haivision VCMS, but does not materially degrade Your use of Haivision VCMS.	2 hours	12 hours
4 – Low Priority	Causes only a minor impact on the operation of Haivision VCMS.	1 business day	3 business days

7. Service Levels for Haivision Streaming Media Service

Haivision agrees to provide a level of service demonstrating 99.9% Uptime. The Haivision Streaming Media Service will have no network Outages.

The following methodology will be employed to measure Streaming Media Service availability:

Agents and Polling Frequency

a. From six (6) geographically and network-diverse locations in major metropolitan areas, Haivision's Streaming Media will simultaneously poll the domain identified on the Haivision Streaming Media network.
b. The polling mechanism will perform a PING operation, sending a packet of data and waiting for a reply. Success of the PING operation is defined as a reply being received.
c. Polling will occur at approximately 6-minute intervals.
d. Based on the PING operation described in (b) above, the response will be assessed for the purpose of measuring Outages.

If an Outage is identified by this method, the customer will receive (as its sole remedy) a credit equivalent to the fees for the day in which the failure occurred.

Haivision reserves the right to limit Your use of the Haivision Streaming Media network in excess of Your committed usage in the event that Force Majeure events, defined in the Agreement, such as war, natural disaster or terrorist attack, result in extraordinary levels of traffic on the Haivision Streaming Media network.

8. Credits for Outages of Haivision Streaming Media Service

If the Haivision Streaming Media network fails to meet the above service level, You will receive (as your sole remedy) a credit equal to Your or such domain's committed monthly service fee for the day in which the failure occurs, not to exceed 30 days of fees.

9. No Secondary End User Support

UNDER NO CIRCUMSTANCES MAY YOU PROVIDE CONTACT INFORMATION FOR HAIVISION SERVICES TO CUSTOMERS OR AUDIENCE MEMBERS OR OTHER THIRD PARTIES WITHOUT HAIVISION'S EXPRESS PRIOR WRITTEN CONSENT.

Getting Help

General Support	North America (Toll-Free) **1 (877) 224-5445** International **1 (514) 334-5445** *and choose from the following:* Sales - 1, Cloud Services - 3, Support - 4
Managed Services	U.S. and International 1 (512) 220-3463
Fax	1 (514) 334-0088
Support Portal	https://support.haivision.com
Product Information	info@haivision.com