

Cisco Vision Operations Guide

Dynamic Signage Director, Release 6.1

CV-HD, CV-UHD, DMP-2K, SV-4K

Revised Date: 2019-12-05

First Published: 2018-07-10

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

© 2019 Cisco Systems, Inc. All rights reserved.



Contents

- About This Guide 13
 - Revision History 13
- Before You Begin 15
- Getting Started with Cisco Vision Dynamic Signage Director Operation 17
 - Introduction to the Cisco Vision Director User Interface 17
 - Stricter Password Policies 17
 - New Default Passwords 18
 - Passwords after Upgrading 18
 - Passwords after Fresh Install 18
 - DMP Admin Password 19
 - Library (Main Menu) 19
 - Using the Library 19
 - Device Management (formerly Command Center Monitoring) 21
 - Device Management (CCM) Application Highlights 21
 - Script Control 22
 - Event Management 22
 - Designer 23
 - Tools (Gear Icon) 23
 - Management Dashboard Application 24
 - Layout of the Management Dashboard 25
 - Control Panel Application 26
 - Dynamic Menu Boards Application 27
 - Turn TVs Off Application 28
 - Manage Software Application 29
 - System State Report Application 29
- Introduction to Cisco Vision Director APIs 30
 - Event Trigger API 30
 - Media Planner Import API 30
 - User Interface Example 31
 - User Control API 31
 - HDMI-In Control 31
 - Information Retrieval 31
 - Security 32

TV Control	32
Understanding User Roles	33
Administrator Role	33
RBAC Role	34
Access Summary By Role	36
Working with TV Displays	39
User TV Control	39
TV Display Specification	39
Closed Captioning	39
Content Orientation	40
Guidelines for Portrait Mode Auto-Rotation	40
Flexible DMP Content Rotation	40
HDMI-CEC	41
TV Qualification for HDMI-CEC Support	42
Serial Commands for RS-232 Communication	42
Serial Commands for RS-232 TV Control	42
Volume Control	44
Volume Strategy Option	44
How to Configure TV Display Specifications	45
Guidelines for RS-232 Command Configuration	45
Configuring Basic Information for TV Display Specifications	45
Configuring HDMI-CEC TV Control in TV Display Specifications	46
Configuring Portrait Mode in TV Display Specifications	47
Configuring Touchscreen Support	48
Configuring Serial Commands for External Volume Support	50
How to Configure the TV Display Banner	52
Modifying the TV Banner Duration	52
Disabling the TV Display Banner	53
Working with Zones, Groups, and Locations	55
Information About Zones, Groups, and Locations	55
Zones	56
Groups	56
Locations	57
Default Zones from Legacy Cisco Vision Dynamic Signage Director Releases ..	57
DMP and Location Relationships	58
Zones and Groups Screen	59
How to Configure Locations	62
Guidelines for Naming Locations	62
Adding Locations Manually in Control Panel Setup	62
Linking DMPs to Locations or Ready State	63
Unlinking DMPs from Locations	64

Associating Venues to Locations for Multiple Venue Support	64
How to Configure Zones and Groups	65
Best Practices for Zones and Groups	65
Guidelines for Zones and Groups	66
Guidelines for Naming Zones and Groups	67
Limits for Deploying Zones and Groups	69
Accessing the Zones and Groups Screen	69
Adding Zones	70
Adding Groups	70
Adding Groups to Zones	71
Removing Groups from Zones	71
Adding Locations to Groups	72
Managing Zones, Groups, and Locations	72
Editing the Name and Description of Zones and Groups	73
Viewing Zone, Group, and Location Associations	73
Finding the Group and Zone to Which a TV Belongs	73
Regrouping and Rezoning Locations	75
How to Migrate Deployed Devices From a Single Venue to a Multiple Venue System	77
Working with Content Deployment	79
Understanding Content and TV Resolution	79
Physical and Signal Resolution	79
Canvas and Template Resolution	79
Cisco Vision Director Template Resolution	80
Guidelines for TV and Content Resolution with the Digital Media Players	80
Restrictions for Control Panel TV Display Specifications with the DMPs Media Player	80
80	
Configuring Resolution Under Control Panel Display Specifications	81
Understanding Content Types and Sources in Cisco Vision Director	82
External and Internal Data Sources	82
HTML Pass-Through Content	84
Menu Board Content	84
RSS Ticker Feeds	84
Workflow Summary to Deploy Content in Cisco Vision Director	85
Working with Screen Templates in Cisco Vision Director	87
Information About Screen Templates	87
Default Screen Template Dimensions	87
Full Screen Default Templates	88
3-Region LWrap with Bug Template	90
3-Region L-Wrapper Default Template	91

Full Screen Dual Video Default Template for All DMPs	93
Custom Screen Templates	94
Custom Overlay Screen Templates	94
How to Configure Screen Templates	95
General Guidelines for All Screen Templates	95
Guidelines for Custom Screen Templates	96
Understanding the Templates Screen	97
Creating Custom Screen Templates	97
Adding a New Template	97
Copying From an Existing Template	98
Naming Screen Templates	98
Setting the Size and Position of a Region on the Template Canvas	98
Resizing a Region	99
Repositioning a Region	99
How to Use Luma Keying for Dual Video Templates	99
Understanding How the Luma Key Works	99
Luma Key Examples	99
Modifying the Default Luma Key Value	100
Working with Content in Cisco Vision Director	103
Configuring the Default Video Channel	103
Tuning Selected Media Players to a Multicast URL	104
Defining Channels and Channel Guides	104
Channel Lineup Designation at the Headend	105
Defining the Master Channel List	105
Adding Channels to the Master Channel List	106
Using “Favorites” (Third-Party Touch Panels Only)	107
Sorting the Master Channel List	107
Creating and Assigning Channel Guides	107
Creating a Channel Guide	107
Assigning Channels to a Channel Guide	108
Assigning a Channel Guide to a Luxury Suite/Local Control Area	108
Adding Icons to the IP Phone Channel Guide	108
Uploading a Phone Channel Icon	109
Assigning a Phone Channel Icon	109
Channel Guide Behavior	110
Controlling the Behavior of the Channel Guide	110
Configuring Channel Guide Settings in the Registry	110
Defining a Delay Channel	111
Defining a Non-Event Channel	111
Setup: Channel Source Types	112
How to Configure HDMI-In Video Sources on the SV-4K and CV-UHD Media Players	114

Guidelines for Using HDMI-In on the SV-4K and CV-UHD.	115
Prerequisites for Using HDMI-In on the SV-4K and CV-UHD.	115
Restrictions for Using HDMI-In on the SV-4K and CV-UHD.	115
Configuring HDMI-In as a Video Source in a Region on the SV-4K and CV-UHD Media Players	116
Verifying the Script Plays Local HDMI-In Content.	117
Configuring a DMP-Encoded Multicast Channel on the SV-4K and CV-UHD in Cisco Vision Director	118
Starting and Stopping HDMI-In Streaming on the SV-4K and CV-UHD Media Players. . . 120	
Starting and Stopping Streaming by IP Phone	121
Starting and Stopping Streaming by IR Remote	121
Starting and Stopping Streaming by Script Action	121
Starting and Stopping Streaming by Management Dashboard Command.	121
HDMI-In Streaming Versus Display Streaming.	122
HDMI-In Streaming	122
Local HDMI-In (HDMI-In Pass-Through Supported by SV-4K and CV-UHD Players) 122	
DMP HDMI-In Streaming	123
HDMI-In Streaming with External URL Source or Playlist	125
Display Streaming	126
Display Streaming with Video Source Input on DMP HDMI-In.	126
Display Streaming with External URL or Mixed Media Playlist.	127
How to Manage Content (Assets)	130
Information About the Library (Content) Screen.	130
Content Screen Views.	130
Library View	130
Asset Items Panel	131
Playlist View	131
Asset (Content) Validation	132
Asset Search Methods	133
Guidelines for Asset Tags	134
Creating and Assigning Content Tags	134
Removing a Tag From Content	135
Getting Content Into Cisco Vision Director.	136
Importing Local Video and Images to the Library	137
Adding a URL for HTML Pass-Through Content.	138
Staging Content to the Media Player	138
Staging Content Manually	139
Scheduling Content Staging with Script Start.	140

Working with Playlists in Cisco Vision Director	143
Information About Playlists	143
Playlist View	143
How to Set Up Playlists	144
Guidelines for Creating Playlists	144
Prerequisites for Playlist Creation	146
Creating a Playlist	146
Adding Content Items to a Playlist	148
Adding Content Items from the Asset Library (Main Menu) to a Playlist	148
Metadata-Validity and Playability	149
Adding Static Graphics to a Non-Video Playlist by Direct Upload	150
Changing the Order of Content Items in a Playlist	151
Replacing Content in a Playlist During an Event	152
Restrictions for Event-Time Content Replacement	152
Enhancements to Content Replacement	152
Limitations to Content Replacement Enhancement	154
Creating a Playlist with Looping Content	154
Setting the Item Duration in a Playlist	156
Copying Content From One Playlist to Another	157
Deleting Content Items From a Playlist	158
Deleting a Playlist	158
Working with Video Walls	161
Information About Video Walls	161
Content Scaling	161
Multicast Video Scaling	161
Video Wall Design Methods	161
TV-Based Tile Matrix	162
DMP-to-DMP Content Synchronization	162
Zone-Based Video Wall Synchronization	162
Summary of Video Wall Synchronization Methods for the DMPs	162
Dynamic Video Wall Sizing	163
Video Wall Cabling	164
Daisy-Chained TV Displays for TV-Based Tile Matrix Video Walls	164
DMP Connection Per TV Display in a Video Wall	164
Video Wall Design Examples	165
2x3 TV-Based Tile Matrix Video Wall Example	165
Other Video Wall Configurations	166
Best Practices for Video Walls	167
Restrictions for Video Walls	168
How to Configure Video Walls with the Digital Media Players	168
Prerequisites for Video Walls	168

Workflow Summary to Configure Video Walls	169
Configuring Zone-Based Video Wall Synchronization for the DMPs	171
Enabling System Support for Zone-Based Video Wall Synchronization for the DMPs 171	
Configuring Groups and Zones for Zone-Based Video Wall Synchronization for the DMPs	171
Working with Event Scripts	173
Information About Event Scripts	173
Event Script	174
Event State	174
Sequential Event States	174
Ad Hoc Event States	175
Emergency Event States	175
Non Event State	175
Targeted Advertising	175
Dynamic Content Management	175
Best Practices for Event Scripts	176
How to Set Up Event Scripts	177
Guidelines for Event States and Event Scripts	177
Prerequisites for Event Script Creation	178
Creating a New Event Script	178
Creating Event States	179
Creating an Emergency State	180
Adding an Event State to a Zone / Group	181
Assigning Actions and Content to an Event State	181
Using External Triggers to Control Script Actions	183
Editing an Event Script	184
Deleting an Event Script	184
Copying Event State Actions	184
Changing an Event Script Color	185
How to Run and Schedule Event Scripts and Series	186
Running an Event Script	186
Staging a Script	188
Stopping an Event Script	189
Information About the Scheduler Application	190
Navigating the Scheduler Application User Interface	190
How to Schedule Event Scripts Using the Scheduler Application	190
Best Practices for the Scheduler Application	191
Guidelines for the Scheduler Application	191
Restrictions for the Scheduler Application	192
Prerequisites for Using the Scheduler Application	192

Accessing the Scheduler Application	192
Creating a New Event	193
Creating a New Event Series	194
Modifying a Scheduled Event.	195
Confirming an Event Script is Scheduled	195
Canceling a Single Event	195
Canceling an Event Script Series or Single Occurrence in a Series	196
Troubleshooting Event Scripts.	196
Troubleshooting Blocked Scripts	196
Running Event Operations	197
Workflow Summary for Running an Event	197
Monitoring Media Player Operation During an Event Using Device Management . . .	199
Information About Device Management.	199
Device Management Highlights	199
Device Management Roles	200
Device Management Views	200
Grid View.	200
Enhancements to Device Management	201
Device Management Filters	202
Best Practices for Device Management	203
How to Use Device Management	203
Prerequisites for Device Management	203
Restrictions for Device Management	204
Understanding the Device Management Screen	204
Enabling Monitoring of Devices in Device Management	204
Viewing DMP Details in Device Management	205
Rebooting DMPs in Device Management	206
Changing the Device Management Polling Period	207
Troubleshooting Event Operations in	
Cisco Vision Director	209
Troubleshooting Event Operations.	209
Troubleshooting Error Messages.	209
Troubleshooting the Network Time Service	212
Managing Switch Data in Cisco Vision Director	215
Information About Importing Switch Data.	215
How to Import Switch Data to Cisco Vision Director	215
Guidelines for Importing Switch Data	215
Prerequisites for Importing Switch Data	216
Configuring the Global Switch Device Default Settings.	216
Importing Switch Data	218

Reimporting Switch Data	219
Viewing Switch Details	220
Managing System Services in Cisco Vision Director	223
Information About Monitored Services	223
Using the Monitored Services Screen	224
Managing Server Resources in Cisco Vision Director	227
Information About Monitoring System Utilization	227
Server Utilization Information	227
Server Alert Thresholds	228
CPU Utilization	229
Memory Utilization	229
Disk Utilization	230
How to Manage Disk Utilization	230
Modifying File Retention Periods on the Cisco Vision Director Server	230
Using the Event Viewer to Monitor Disk Alerts	231
Deleting System Files	231
Running Database Maintenance	232
Managing Media Player Operation in Cisco Vision Director	235
Information About the System Health Report	235
Expand System Health Notification Report	237
Best Practices for Using the System Health Report	237
How to Obtain the System Health Report	237
Configuring the System Health Report for Email Notification	237
Modifying the Time of the System Health Report Task	238
Running the System Health Report Task Manually	239
Viewing Media Player Device Status	240
Managing DMP Operation in Cisco Vision Director	241
Management Dashboard Commands for the Digital Media Player	241
Auto-Registration Commands for the Digital Media Players	243
DMP Commands for the Digital Media Players	243
DMP Install Commands for the Digital Media Players	243
Global Settings Commands for the Digital Media Players	244
Monitoring Commands for the Digital Media Player	244
Switch Commands for the Digital Media Players	244
TV Commands for the Digital Media Players	246
Performing a Regular Reboot of the Digital Media Players	246
Clearing the Storage on the Digital Media Players	246
Clearing Registries on the Digital Media Player by Restoring Factory Defaults	247

Recovering SV-4K Operation After Server Power Loss	248
Replacing a Failed Media Player While an Event Script is Running	248
Troubleshooting the Digital Media Players	249
Before You Begin Troubleshooting the DMPs.	249
RMA Process for the DMPs	249
DMP Diagnostic URL	249
Troubleshooting PTP Operation for the Digital Media Players.	249
Symptom: Local PNGs are not synchronized across devices	250
Symptom: Playlists do not advance to the next content item on the DMPs.	250
Troubleshooting DMP Hardware Operation	251
Symptom: " Please Insert Card" message on SV-4K or DMP-2K startup screen	251
Symptom: Pwr and Eth LEDs are not lit and no signs of activity on the device	251
Symptom: Device Err or Err/Upd LEDs blinking.	252
Symptom: DMP rebooting automatically after startup	252
Troubleshooting DMP TV and Video Display Problems.	252
Symptom: Black screen on the DMP TV display/no multicast video stream	252
Symptom: No local control when external volume strategy configured.	253
Managing Backups in Cisco Vision Director	255
Information About Backups	255
Backup Environment	255
What System Data is Backed Up	255
When to Run a Backup	256
How to Manage Backups.	256
Prerequisites for Running Backups	256
Best Practices for Managing Backups	256
Scheduling a Regular Backup.	257
Starting a Backup Manually for Immediate Execution	257
Verifying Backup Completion	258
Modifying the Number of Backup Files to Retain.	261
How to Restore From Backup	261
Starting a Restore Manually for Immediate Execution	261
What to Do Next After Restoring	262
Restarting Cisco Vision Director Software After a Restore	262
Glossary of Terms	263



About This Guide

This document describes how to operate Cisco Vision Dynamic Signage Director including the concepts and tasks that you need to understand to deliver your content to a screen, run an event, and monitor and maintain the operation of Cisco Vision Director.

Revision History

Table 1 on page 13 provides information about changes to this document.

Table 1 **Revision History Table**

Date	Description
December 5, 2019	Updated and enhanced video wall configuration details.
February 21, 2019	Corrected the DMP reboot recommendation of best practice: reboot all models of DMPs weekly.
August 31, 2018	<ul style="list-style-type: none"><li>■ Corrected a typo on dmp.portrait TV display parameter configuration property to enable portrait mode on TVs.<li>■ Declared defect: DMP admin password is still using the old default password after fresh install.

Date	Description
Initial release: July 10, 2018	<ul style="list-style-type: none"><li>■ Redesign of Main Menu (Asset Library) to include Script Control icon and give global navigation.<li>■ Redesign of Script Control UI adding hover help, more icons, action boxes and drop-downs, and right-click menus.<li>■ Enhanced content replacement allowing multiple, dynamic changes to playlists without restarting the script.<li>■ Enhanced Asset Library interface allowing various resizing, sorting, and details showing granularity and adding more functionality in one screen.<li>■ Changed default Asset Library view to Listview and reduced thumbnail size.<li>■ Device Management (Command Center Monitoring) control adding multiple selection of devices and ease of functionality such as TV On/Off, Reboot, Refresh, and Remote Control icon availability.<li>■ Added Content Validation caution icon to Library UI.<li>■ Added content rotation of 270 degrees (-90 degrees).<li>■ Added Daktronics NFL ™ Football feed.<li>■ Expanded System Health notifications.<li>■ Implemented stricter password policies.



Before You Begin

This guide focuses on the background information and tasks for standard operation and maintenance of Cisco Vision Dynamic Signage Director. It can be used with the companion [Cisco Vision Director Operations Playbook](#) for your release, which documents a venue and role-based workflow approach with the appropriate timelines for running a Cisco Vision Dynamic Signage Director event.

Network administrators and those responsible for the installation and deployment of the Cisco Vision network and Cisco Vision Dynamic Signage Director system should also refer to the documents in [Table 1 on page 15](#).

Note: The links provided in [Table 1 on page 15](#) are to the cisco.com listing pages. Select the document that corresponds to your release.

Table 1 Related Documentation for Cisco Vision Dynamic Signage Director

Document	Purpose
Cisco Vision Release Notes	This document provides information about the Cisco Vision Dynamic Signage Director solution including hardware and software requirements, new and changed features, installation and upgrade information, known issues, and defects.
Cisco Vision Video Headend Design and Implementation Guide	This document is available to qualified Cisco Vision partners and provides information about how to design and implement a Cisco Vision video headend. It includes hardware and software requirements, recommended physical layouts, recommended configuration settings, as well as deployment caveats and considerations.
Cisco Vision Dynamic Signage Solution Operation and Network Requirements	This document is available to qualified Cisco Vision partners and provides a detailed description of the Cisco Vision Solution. This solution provides the wired infrastructure specifically designed to support the various applications used in Sports and Entertainment venues. As such, it describes the design decisions including relevant samples of configuration and accompanying descriptions of the features within the network elements.
Cisco Vision Director Software Installation and Upgrade Guide	This document describes the requirements and tasks to install and upgrade the Cisco Vision Director software and media player firmware.

Document	Purpose
Cisco Vision Administration Guide: Dynamic Signage Director	<p>This document describes the tasks involved in setting up and maintaining the Cisco Vision Director and Cisco StadiumVision Director Remote servers.</p> <p>The content is intended for Cisco Vision system administrators and technical field engineers who are responsible for designing and deploying Cisco Vision solutions. It is expected that readers of this document are familiar with basic IP networking and Linux.</p>
Cisco Vision Director Deployment Guide: Series 2 and Series 3 Media Players	<p>This document provides information about both the physical installment and initial configuration of the Cisco digital media players with TV displays.</p>
Cisco Vision Local Control Areas Design and Implementation Guide	<p>This document provides information about how to design and implement a Cisco Vision local control area, which includes luxury suites, clubs, bars, restaurants, and back offices. It includes hardware and software requirements, recommended physical layouts, best practice configuration settings, as well as deployment guidelines and considerations.</p>



Getting Started with Cisco Vision Dynamic Signage Director Operation

This section provides an introduction to some of the basic information to get started using Cisco Vision Director. It includes the following topics:

- [Introduction to the Cisco Vision Director User Interface, page 17](#)
- [Introduction to Cisco Vision Director APIs, page 30](#)
- [Understanding User Roles, page 33](#)

Introduction to the Cisco Vision Director User Interface

This section provides an introduction to various pieces of the UI. Global navigation consists of the following five icons:

- [Library \(Main Menu\), page 19](#)
- [Device Management \(formerly Command Center Monitoring\), page 21](#)
- [Script Control, page 22](#)
- [Event Management, page 22](#)
- [Designer, page 23](#)

Next is the **Tools** drop-down that provides the following topics:

- [Management Dashboard Application, page 24](#)
- [Dynamic Menu Boards Application, page 27](#)
- [Turn TVs Off Application, page 28](#)
- [Manage Software Application, page 29](#)
- [System State Report Application, page 29](#)
- [Introduction to Cisco Vision Director APIs, page 30](#)

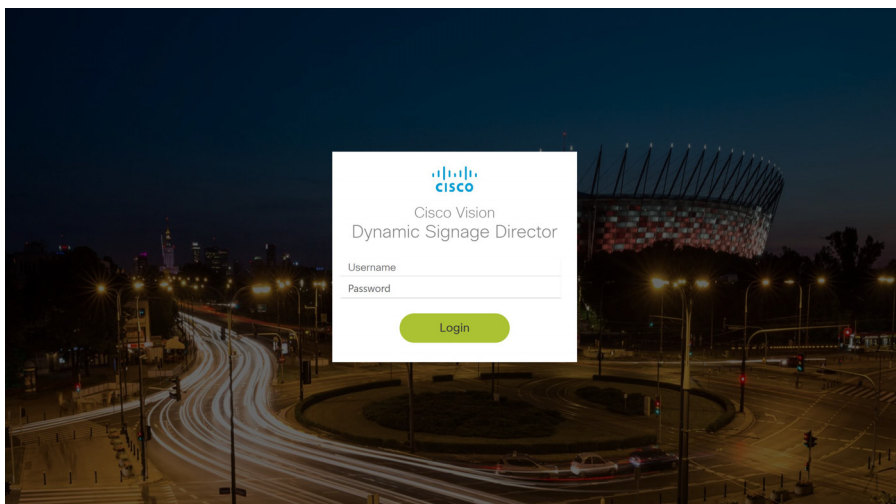
Note: This guide shows Administrator-level privilege only.

Stricter Password Policies

In Release 6.1, Cisco Vision Dynamic Signage Director users must set stronger passwords. When setting a new password, use the following rules:

- Must have at least 1 lower case character (a-z).
- Must have at least 1 upper case character (A-Z).
- Must have at least 1 numerical character (0-9).
- Must have at least 1 special character. Special characters are @ # \$ %
- Must be 8-20 characters.
- Must not contain any of the following characters: space tab newline linefeed backslash (\).
- Must not contain a character sequence from a predefined list maintained in a dictionary.

Figure 1 Log in Screen



New Default Passwords

There is a default web UI administrator user password and there is a DMP administrator password. The new default password for both is:

C-V1\$!0n

Passwords after Upgrading

When upgrading an existing installation, existing passwords are kept.

Passwords after Fresh Install

Role: Administrator

After fresh install, the default administrator user is prompted to change the password on the first login. Starting with Release 6.1, the new password must adhere to the password policies or the password is rejected.

Note: Known defect: the new DMP admin password doesn't work. Use the old default DMP admin password (Cisco123) on fresh installs.

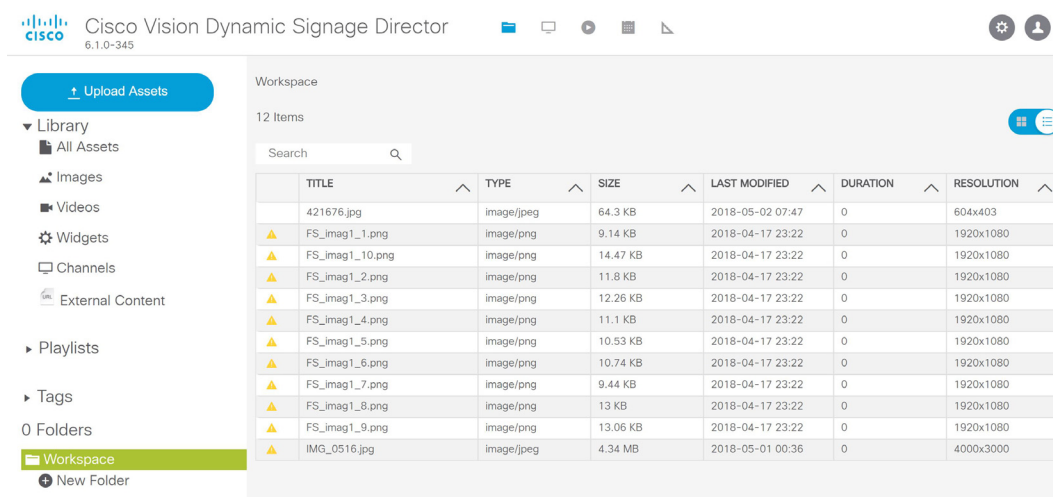
DMP Admin Password

The default password for fresh install is C-V1\$!0n. When changing your password, if you do not choose a valid password, the error message indicates which rule is inviolate. But during a full installation the password isn't reset. Use the password from the registry.

Library (Main Menu)

When you log into Cisco Vision Director, the Library serves as the entry point to different application interfaces that are used to perform a variety of tasks. Hover over the icons in the top banner. The launching point is the Library interface which displays a list view of the assets (content) (Figure 2 on page 19).

Figure 2 Cisco Vision Director Library Screen



The Cisco Vision Director Library (Main Menu) is a web-based portal that is the central point of operation for the following five areas:

- **Library**—Manipulate and Upload all assets/content (images, videos, widgets, channels, and external content), create playlists, add tags to content, and organize your content into folders.
- **Device Management**—Control your devices and TVs, set channels, filter/search for channels, Power On and Off devices, Refresh the set criteria for the TVs and Reboot devices.
- **Script Control**—Stage new event scripts. Centrally control the display of emergency or delay signage for designated areas. Change content “ad hoc” on displays during such things as a touchdown or home run.
- **Event Management**—Schedule and set the scripts to whichever devices you choose, whenever you choose.
- **Designer**—Widget and Template designer to help you create snappy content to display to devices.

Using the Library

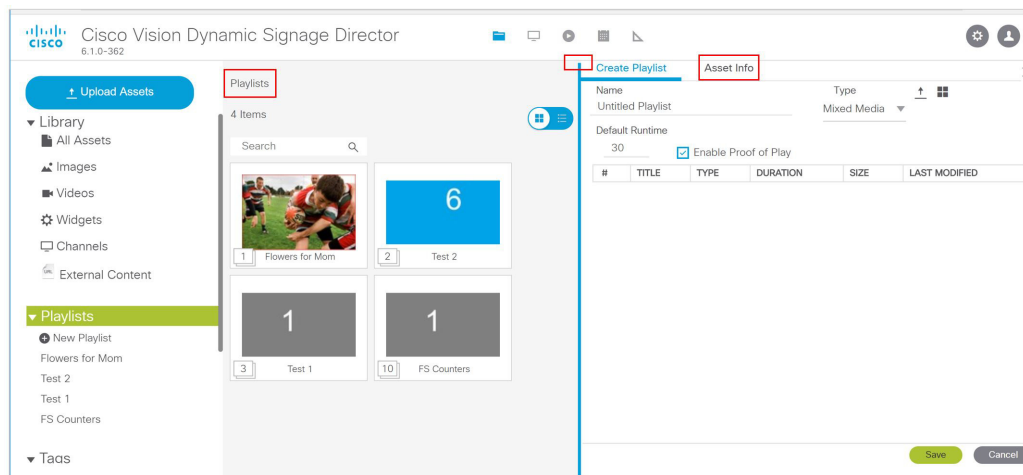
The Library allows you to import and manage content, create event scripts, schedule events, and edit screen templates and widgets. It provides an interface for certain administrative tasks such as configuring channels for luxury suites, configuring devices (Cisco DMPs, Cisco IP Phones, third-party remotes, video displays), staging content, and collecting proof of play data—just to name a few.

These options are available to the Cisco Vision Dynamic Signage Director Administrator, Content Manager, and Event (and venue) Operator roles.

The enhanced Library UI now contains:

- Adjusting bars to size the panels (available in playlist interface)
- Click an asset (content) or playlist to see the detail panel
- Upload, List View and Trash icons in detail panel
- Down-sized the thumbnails for better visibility (accessible from Gridview)
- Size, Last Modified, Duration and Resolution columns to give you greater granularity for your assets
- Drag and drop tagged content to a playlist

Figure 3 Adjusting the Library Screen While in Playlist Detail View



To see more metadata on your content:

1. Click Asset Info at the top of the right panel (Figure 3 on page 20). The metadata appears for the content you chose (Figure 4 on page 21).
2. Preview your content.

Figure 4 Metadata for an Asset (Content)

The screenshot displays the 'Asset Info' panel for 'apple.jpg'. The main content area shows a table of assets with columns for Title, Type, Size, Last Modified, and Resolution. The 'apple.jpg' asset is highlighted in the table. The right-hand panel provides detailed metadata for the selected asset.

TITLE	TYPE	SIZE	LAST MODIFIED	RESOLUTION
AddImageFour.jpeg	image/jpeg	13.92 KB	2017-10-09	1900x1080
AddImageOne.jpeg	image/jpeg	14.1 KB	2017-10-09	1900x1080
AddImageThree.jp...	image/jpeg	16.33 KB	2017-10-09	1900x1080
apple.jpg	image/jpeg	8.28 KB	2017-10-17	1900x1080
BeveragesFour.jpeg	image/jpeg	10.04 KB	2017-10-09	1900x1080
child theme tickets...	image/jpeg	42.71 KB	2017-10-30	1900x1080
Chrysant.jpg	image/jpeg	845.94 KB	2017-10-24	1900x1080
falls.jpg	image/jpeg	11.12 KB	2017-10-24	1900x1080
games.jpeg	image/jpeg	11.01 KB	2017-11-30	275x183
google.png	image/png	2.48 KB	2017-11-01	1900x1080
imag10.jpeg	image/jpeg	10.59 KB	2017-11-30	284x177
imag11.jpeg	image/jpeg	8.36 KB	2017-11-30	185x272
imag12.jpeg	image/jpeg	11.82 KB	2017-11-30	300x168
imag13.jpeg	image/jpeg	6.39 KB	2017-11-30	240x130

Asset Info for apple.jpg:

- Title: apple.jpg
- Created By: admin
- Folder: workspace/folder1
- Last Modified: 2017-10-17 10:39 AM
- Format: image/jpeg
- Size: 8.28 KB
- Resolution: 1900x1080
- Validity Rules:
 - Effective Start Date: 2017-10-13 1:05 AM
 - Effective End Date: 2017-10-29 2:55 PM
 - Playable On: Mon, Tue, Wed, Thu, Fri, Sat, Sun
 - Playback Start Time: 7:08 AM
 - Playback End Time: 6:15 PM

Device Management (formerly Command Center Monitoring)

Device Management shows at-a-glance device status information for media players and their attached TV displays during an event. Select the TV/monitor icon for access.

Figure 5 Accessing Device Management

The screenshot shows the 'Devices' management interface. On the left, a tree view shows 'Zone1' expanded to 'Group1' and 'TestSuite'. The main area displays 'Zone1 - 1 result found' with a large image of a TV screen showing 'HERO' text. Below the image, it says 'Test CV-UHD 1'. At the bottom, a timer indicates 'Time remaining for next update - 47 seconds'.

Device Management (CCM) Application Highlights

- Is accessible from the Library screen.
- Supports multi-venue site selection.
- Polls media players every 120 seconds (default) and auto-refreshes the monitoring display.
- Supports different ways to view device status.
- Allows you to select media players that you want to monitor by group/zone or search by Location Name, Description, IP or MAC address.
- Allows you to filter the selected device list by several criteria, such as by DMP state or media player model, among others.

- Provides button for Administrator to restart a media player.

TIP: From Release 6.0, you can use the wildcard “%” to search for partial phrases or names in Device Management.

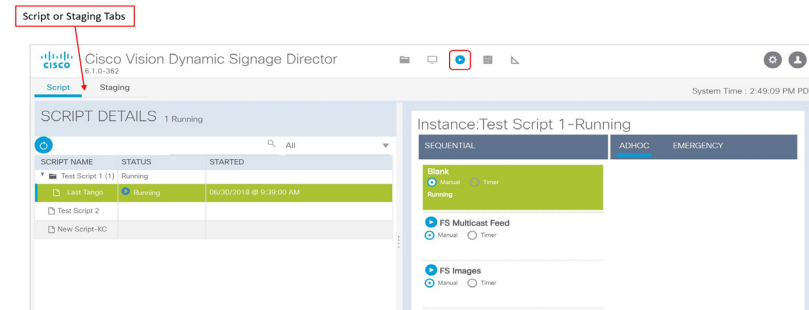
Script Control

Script Control is our next big migration to an HTML-based UI (Figure 9 on page 24). This is the place to stage and run fabulous playlists to engage your audiences and make your venues pop. Here are some highlights of the UI updates:

- Global navigation from the Main Menu to **Script Control**.
- Added customizable color schemes for your UI experience.
- Added hover on rows, right click to drop-down Action Boxes, and tons of new “State of my Stuff” icons.
- Improved search and filter for your scripts.
- Stage “Icons” telling you the precise instance of your scripts.
- At a glance, you see: the script name, the status, when it was started, a description, the running state, the venue name, and if you want it in the Proof of Play record. All these rows are editable on hover or right click.
- Added dragging/reordering the columns, resizing everything to maximize real estate on your screen, and columns are even collapsible.

Here’s the new screen for *managing* scripts (Figure 6 on page 22).

Figure 6 Script Control > Script Details



More information on scripts is covered later in this document.

Event Management

The Scheduler application provides a calendar-based script scheduling function that you access from the Cisco Vision Dynamic Signage Director **Main Menu > Event Management**.

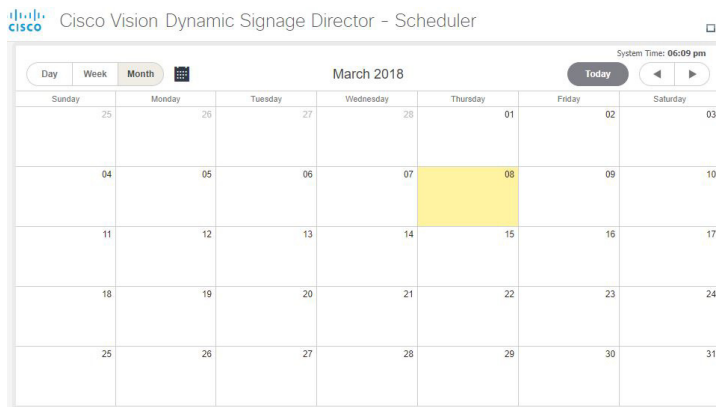
Note: The Scheduler Application is only available to Administrator and Event Operator roles.

The application opens a calendar that allows you to perform the following tasks:

- Schedule a single occurrence or recurring event series in advance.
- Modify and/or cancel a single occurrence, recurring event series, or an occurrence within a recurring event series.
- Automate the start and stop of an event script.
- Define event script parameters when scheduling an event script.
- View scheduled event scripts by day, week, and month.

- Schedule a state within a script.

Figure 7 Schedule a Script

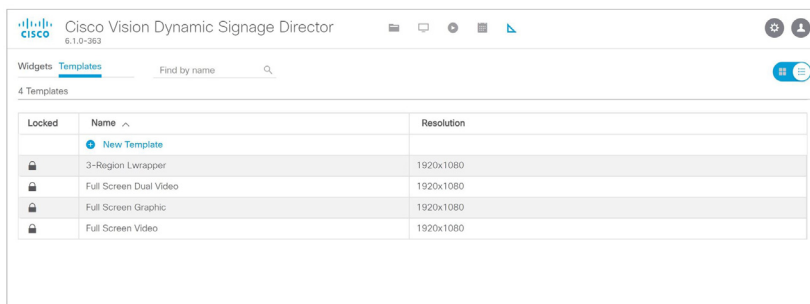


Designer

The updated Designer interface is the gateway for creating your displays in regions with interesting and engaging ads, tickers, menus, videos and graphics.

This interface is now fully searchable, sortable, and scalable, shows the resolution values of each of your templates, and shows if it is locked with a padlock icon. For more detailed information on using the widgets or templates, see [Working with Screen Templates in Cisco Vision Director, page 87](#).

Figure 8 Designer Interface—Widgets and Templates



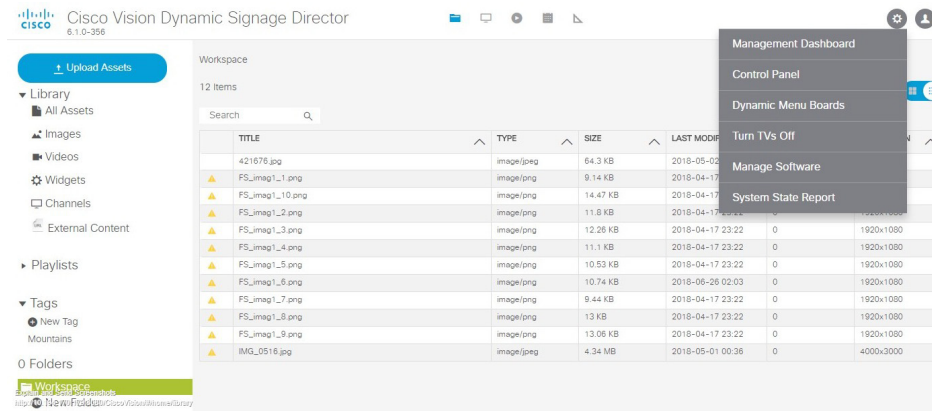
Tools (Gear Icon)

Use the Tools drop-down menu to access the following options ([Figure 9 on page 24](#)):

- **Management Dashboard**—Provides a comprehensive interface for managing and monitoring the services and status of the DMPs, TVs, the Cisco Vision Dynamic Signage Director Server, and DMP-to-switch connections for your deployment. This is a very full-featured portion of the UI.
- **Control Panel**—Provides comprehensive interface for setting up device and venue controls for content display in Zones&Groups, Channels, Devices, Suites, Triggers, Proof of Play and Data Integration. Each of these tabs has a multitude of options to aid in your venue experience.

- **Dynamic Menu Boards**—Provides dynamic control of the content on menu boards in the concession stands during an event.

Figure 9 Tools (Gear icon) on the Main Menu (Library)



- **Turn TVs Off**—Provides for quick control and to power off the TVs.
- **Manage Software**—Provide interface to upgrade to the latest software or Service Pack, download the latest language packs available, control the fonts you use, and manage the DMP and Data Integration certificates.
- **System State Report**—Provides easy capture and export of system state data for the Cisco Vision Director server. This information can be sent to a remote support engineer to help troubleshoot any issues that occur with the system.

Management Dashboard Application

Using the Management Dashboard, you can:

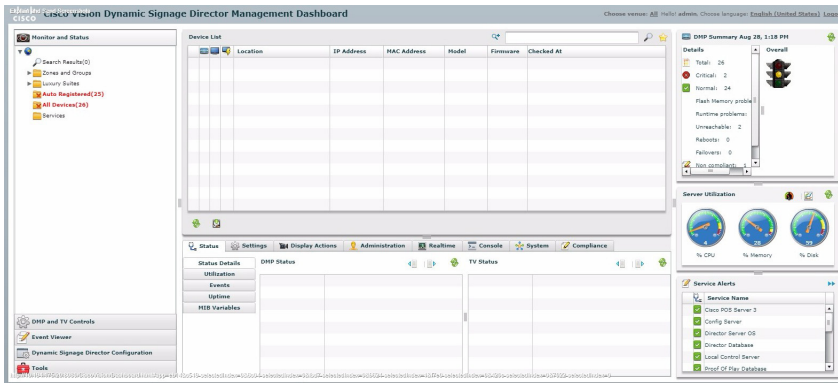
- View status, configure settings, and send commands to devices to keep your network up and properly running
- Upload versions of firmware for automated distribution to DMPs
- Quickly identify issues that need your attention by observing alert icons that provide at-a-glance device status
- Mouse over an alert icon to see a tool tip with suggestions for how to resolve the issue

Additionally, detailed status for devices and monitored services is easily accessible from the Management Dashboard interface to help you pinpoint and troubleshoot issues occurring on the network.

Note: Not all commands or display areas apply to all media players; some features are unique to media player type. Some areas of the Management Dashboard might not report the information for a particular device. [Figure 10 on page 25](#) shows the Management Dashboard.

Introduction to the Cisco Vision Director User Interface

Figure 10 Management Dashboard Interface



Layout of the Management Dashboard

Figure 11 on page 25 shows the six primary panels available in the dashboard.

Figure 11 Areas of the Management Dashboard

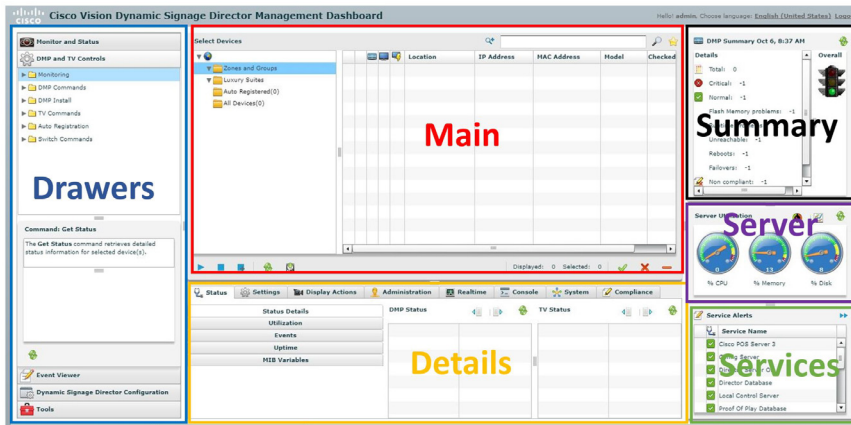


Table 1 on page 26 provides a breakdown of what each panel displays.

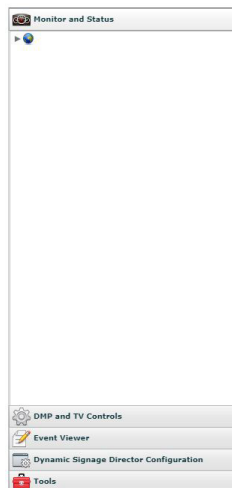
Table 1 Management Dashboard Panel Descriptions

Panel Area	Description
Drawers	Drawer panel groups operations of the Management Dashboard
Main	Shows information for the selected functions or devices and drawer area
Details	Shows details for the selected functions or devices in the Main panel
Summary	Shows how many media players you have and a summary of their overall condition
Server	Shows utilization statistics for the Cisco Vision server
Services	Displays the status of the services that control the operation of Cisco Vision

Management Dashboard Drawers

Selecting and expanding a Management Dashboard *drawer* is generally how you begin working with and navigating the Management Dashboard interface. Figure 12 on page 26 shows the set of drawers available in the Management Dashboard.

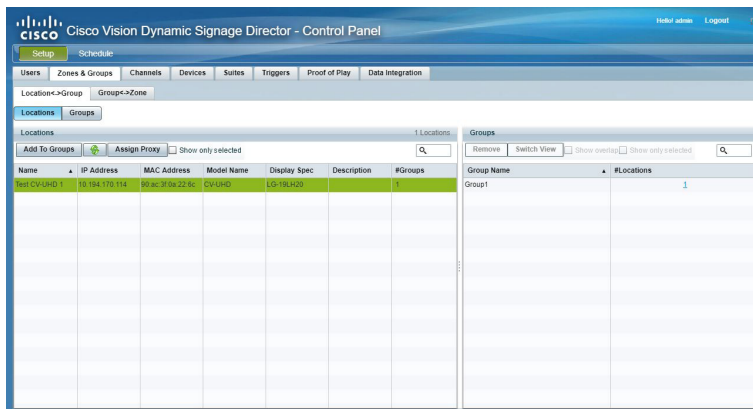
Figure 12 Dashboard Drawers



Each drawer opens a group of related commands and options for monitoring, configuring, and managing the operation of Cisco Vision hardware and software components.

Control Panel Application

This interface is the powerhouse for configuring your venue zone by zone, group by group, and location by location. You can set up channels, all your devices like TV and IP phones, triggers, and ingest data. Figure 13 on page 27 shows the Setup tab UI options.

Figure 13 Control Panel Setup

Here are the tab highlights of the Control Panel:

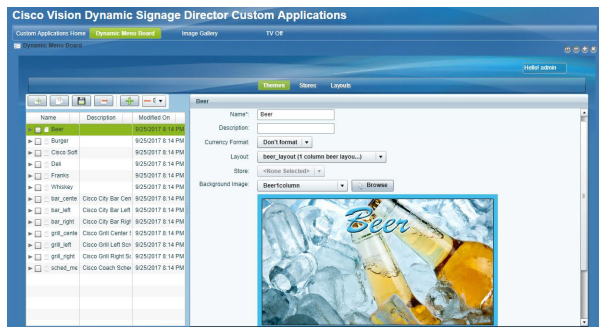
- **Users**—Shows all the users and their level of accessibility.
- **Zones & Groups**—Sets the Zone and Group names in the venue “areas” so you can track and organize what devices are connected to what TV displays.
- **Channels**—Sets the channel names, master channel list, and channel guides for your devices. You choose the source type of Video Stream, External URL, or HDMI-In. You set the channel name and number here.
- **Devices**—Add, edit, import and export devices to your venue set up. Devices can be configured by Locations and DMPs, Location-DMP Mapping, IP Phones, Local Control, and Display Specifications.
- **Suites**—Set up the suites of your venues to ensure an engaged experience.
- **Triggers**—Configure the input and output triggers here.
- **Proof of Play**—Generate a Proof of Play report here for your sponsors.
- **Data Integration**—Deploy or Undeploy the data sources you created.

Dynamic Menu Boards Application

The Dynamic Menu Board (DMB) Application is a custom application within Cisco Vision Director that allows you to add your own content for display in a particular menu theme and layout. The default configuration of the DMB application provides sample menu themes. You can copy a sample theme to create menus of your own items that will use the predefined format and layout of that theme. The DMB menu themes support background graphics and both textual and graphical content depending on the predefined format for the selected theme and layout.

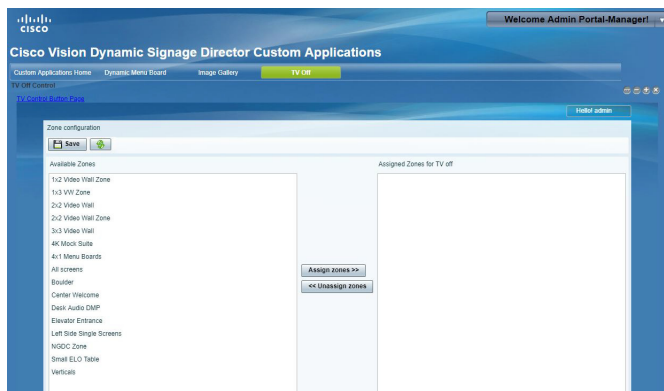
You can add content to a menu independently, or you can link to content that are already defined in Cisco or Point of Sale (POS) samples in Cisco Vision Director. The benefit of linking to content in a store is that you can make a change within the store, such as hiding a menu item or changing its price, and populate the change across all menus that are appropriately configured with a link to that item.

For a summary of these menu board creation methods, see [Menu Board Content, page 84](#). [Figure 14 on page 28](#) shows the interface.

Figure 14 Dynamic Menu Boards UI

Turn TVs Off Application

With so many TVs in each Cisco Vision deployment, it is important that all TVs are turned off when not in use. The Turn TVs Off application allows an Operator or Administrator to control the power to all TVs within one or more zones, or across the entire venue. Only authorized users can access the Turn TVs Off application ([Figure 15 on page 28](#)).

Figure 15 TVs Off Interface

The Turn TVs Off application provides the following functionality:

- Administrators can define which TVs (which zones) are to be controlled by the Turn TVs Off custom application.
- Administrators can exclude certain TVs, for example those in the back offices, from being controlled by the Turn TVs Off application.
- A non-IT person, for example the security guard, can access the portal to turn off the TVs (as defined by the Administrator).
- Email notifications can be sent to a configurable list of email addresses whenever the portal is used to turn TVs off.

When the Turn TVs Off button is clicked from the Main Menu:

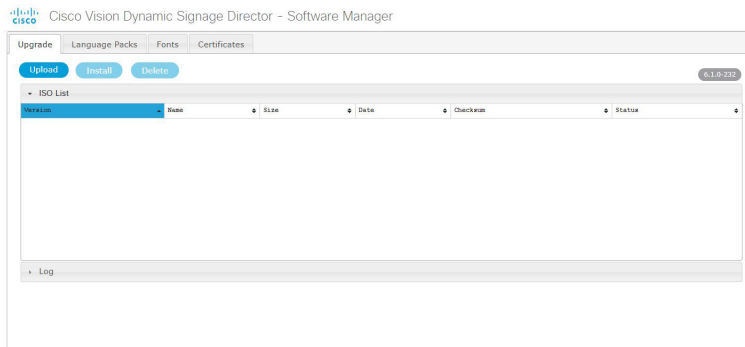
- Commands to turn the TVs off are sent to the DMPs attached to all TVs in the configured zones.
- An email notification is sent to a pre-defined set of users.
- The change in TV status is logged in Cisco Vision Dynamic Signage Director.

Manage Software Application

The Manage Software application (Figure 16 on page 29) is used only by the Administrator to to:

- Upgrade Cisco Vision Director software
- Install language packs for user interface (UI) localization.
- Install custom fonts
- Install certificates

Figure 16 Manage Software Interface



For more information about how to use the Manage Software application, see the [Cisco Vision Software Installation and Upgrade Guide: Dynamic Signage Director, Release 6.1](#).

System State Report Application

The System State Report application (Figure 17 on page 29) enables easy capture and export of system state data for the Cisco Vision Director server. This information can be sent to a remote support engineer to help troubleshoot any issues that occur with the system.

Figure 17 System State Report Interface



For more information, see the [System State Reports](#) module of the [Cisco Vision Administration Guide, Dynamic Signage Director, 6.1](#).

Introduction to Cisco Vision Director APIs

This section summarizes the Application Programming Interfaces (APIs) that are supported in Cisco Vision Director.

- [Event Trigger API, page 30](#)
- [Media Planner Import API, page 30](#)
- [User Control API, page 31](#)

Note: All APIs in the Cisco Vision Dynamic Signage Director are made available by special agreement. Contact your Cisco Systems representative for more information.

Event Trigger API

Cisco Vision Dynamic Signage Director supports an HTTP-based Representational State Transfer (REST) API that a software or hardware contact closure source can use to trigger one or more actions by the Cisco Vision Dynamic Signage Director software.

For more information about support for external input triggers, see the [Configuring Cisco Vision Director for External Triggers](#) guide and the [Enhanced Triggers on Cisco Vision Dynamic Signage Director 6.0](#). Event Trigger API is not supported by Cisco Technical Assistance Center personnel.

Note: If you want to control external triggers from a software application, you can contact your Cisco Systems representative to obtain the Event Trigger API that is made available by special agreement. “TriggerSVD” is an example of a third-party demo application for the Event Trigger API on iOS (supporting Apple iTouch, iPhone, and iPad products) and is available as a free download from the iTunes store.

Media Planner Import API

Cisco Vision Director supports the Media Planner Import API that is used to import external, third-party generated playlists. The API can be used to support automatic updates to an already imported playlist that has been placed in a script, or an external playlist can be manually imported.

The Media Planner API supports the following features:

Import Playlist Functionality

- Automatically creates playlist and populates it with existing content.
- Automatically links missing content to playlist after each missing content item is uploaded.
- Updates to playlists tied to a script that have all content items requires no human intervention.

Special User Interface Indications

- Imported playlist are easily identifiable as “external playlist.”
- Indicates playlist with missing content.
- Warn user when trying to assign a missing content playlist to template.
- Warn user when starting a script with missing content playlist.

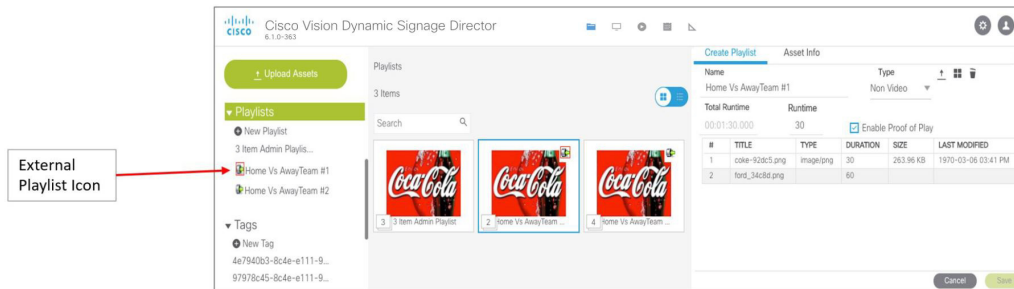
Proof of Play Addition

- Works in the same way as a manually created playlist, but with more granularity.
- Automatic insertion of Proof of Play (POP) tag for each time slot play.

User Interface Example

The API automatically creates the playlist, which you can easily identify by an icon that tags it as an external playlist source (Figure 18 on page 31).

Figure 18 External Playlists in Control Panel Content Screen



The playlist is populated with existing content in Cisco Vision Director and you are alerted to any missing content in the playlist. The missing content item is identified with a question mark. Once you import any missing content, it is automatically linked to the external playlist.

Current proof of play reporting is fully supported for external playlist sources and PoP tags are automatically created for specified sponsor IDs. Any missing content is not included in the PoP report.

For more information about how to use the POS integration with Data Integration, see the [Release 6.1: Cisco Vision Director Data Integration Guide](#).

User Control API

Cisco Vision Director supports the in-suite API, which allows querying as well as sending control information to Cisco Vision Director.

The API supports the following areas:

- [HDMI-In Control, page 31](#)
- [Information Retrieval, page 31](#)
- [Security, page 32](#)
- [TV Control, page 32](#)

For more information about Local Control APIs, contact your local or Cisco representative for details.

HDMI-In Control

The following API HDMI-In controls are available on the DMPs:

- Start HDMI-In streaming
- Stop HDMI-In streaming

Information Retrieval

The API information capabilities include:

- Query of which suites that can be controlled.

- Query of all players that can be controlled.
- Query of all players with in a suite that can be controlled.
- Query control features that exist within all suites.
- Query control features that exist within a specific suite.
- Query control features that exist for all players.
- Query control features that exist for a specific player.
- Query A/V inputs that exist for all players.
- Query A/V inputs that exist for a specific player.
- Query of closed captioning capabilities of Vision Director.
- Query the channel guide for a specific suite. If a channel is marked as a favorite, the favorite order is included.
- Query the status of all players that can be controlled.
- Query the status of a specific player.
- Detailed HTTP POST response messages in XML.

Security

The API security capabilities include:

- Unique permanent PIN for each suite in order to access and control the devices within.
- Temporary PIN for each suite that changes per event script run, can be displayed on TV. The temporary PIN is changed every day at 4 a.m. (default) based on the default scheduled task in Cisco Vision Director. It also can be changed on demand using the UI.
- Common master PIN for administrative control.

TV Control

The API TV control capabilities include:

- Power on and off of the TV.
- Channel change to a channel within the guide.
- Channel change up or down from the current channel in the guide.
- Channel favorites and favorite order.
- Volume change to a specific value.
- Volume change up or down from current value.
- Mute the audio with a specific on or off.
- Mute and unmute the audio with a toggle.
- Closed caption on with specific CC setting.
- Closed caption off.
- A/V input change with specific input setting.

Understanding User Roles

- Show and hide of the information banner on the TV.

Video Replay

Beginning in Cisco Vision Dynamic Signage Director Release 5.0, the User Control API is enhanced to support video replay functions on suite TVs using a mobile application.

The API video replay capabilities include:

- Start the replay application.
- Stop the replay application.
- Load the replay application on multiple DMPs or group of DMPs.
- Start playback of the replay video from encoded URL on specified devices.
- Stop playback of the replay video on specified devices.
- Pause playback of currently running replay video.
- Resume playback of currently running replay video.

Understanding User Roles

Before you begin to work with Cisco Vision Director, it is important that you understand Role-Based Access Control (RBAC).

Cisco Vision Director deployments normally have a team of people who are responsible for different aspects of the site setup and event operation. For example, in addition to a System Administrator, there is usually an Event Operator, a Content Manager, and a Technical Support person, among other personnel. Each person has different skills and needs for working with the Cisco Vision Director software.

The Cisco Vision Director software implements RBAC to control permissions and user access to only the portions of the system for which they are trained and authorized to use. More than one user can be assigned to the same role in the software. However, only a single role can be assigned to each username.

For more details about RBAC in a multi-venue environment, see [Role-Based Access Control for Hierarchical Management of Multiple Venues](#) in the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

Administrator Role

Note: This section describes the primary (or central) Administrator role in a Cisco Vision Director system. In Release 5.0, an additional administrative role called the **Venue Administrator** is introduced. A Venue Administrator has a subset of administrative permissions that are authorized on a per-venue basis.

The primary Administrator role has unrestricted access to the Cisco Vision Director software, and is the only role that can add users and assign RBAC privileges to them. The Administrator role is pre-configured in Cisco Vision Director and cannot be deleted. However, you can change the password. You also can have more than one user assigned with Administrator privileges.

The Cisco Vision Administrator is the person who is responsible for deploying the Cisco Vision solution throughout the venue.

Note: Administrators have global access to all venues in a multi-venue environment. Venue Administrators only have access to those venues for which they are authorized by a primary Cisco Vision Director Administrator.

The primary administrator has sufficient permissions to do all functions and is the only role able to do the following tasks:

Understanding User Roles

- Using the Software Manager to install language packs, fonts, or upgrade software on Cisco Vision Director servers
- Configuring multiple venue support and Cisco Vision Director Remote servers
- Associating objects to venues
- Creating additional users and assigning roles
- Adding devices to Cisco Vision Director
- Configuring local control areas such as luxury suites, back offices, and bars
- Configuring Point of Sale (POS)
- Configuring the Dynamic Menu Board (DMB) application
- Configuring external triggers
- Configuring Device Manager and rebooting DMPs

RBAC Role

[Table 2 on page 35](#) provides an overview of the roles that can be assigned by the Administrator in Cisco Vision Dynamic Signage Director.

Table 2 Cisco Vision Dynamic Signage Director Roles

Role	Description
Concessionaire	<p>Concessionaires have access only to the Dynamic Menu Board application backgrounds, which allows modification of certain text-based and graphics items, and the background graphic on menus.</p> <p>All content uploaded by the Concessionaire is available to all users that have sufficient permissions based on the roles assigned to them.</p> <p>The Concessionaire role does not have permissions in the Control Panel or the Management Dashboard and they can only see the DMB themes that they create.</p>
Content Manager	<p>Content Managers are responsible for uploading content and ads provided by the creative services team. They create event scripts so that the correct content displays in the proper area of the venue and the proper area of the TV screen according to the specified schedule.</p> <p>The Content Manager role has permissions in Cisco Vision Director to configure event states/scripts, zones, groups, screen templates, playlists, and tickers.</p> <p>Content Managers can also assign widgets for custom menus and create playlists for those menus.</p>
Event Operator	<p>Event Operators run the Cisco Vision Director event scripts during an event. The event operator role has permissions to schedule scripts using the Scheduler application, start and stop scripts, and modify their states.</p> <p>They can change the transition of an event state from time-based to manual, move an event into one of the three ad hoc states (Inside Emergency, Outside Emergency, or Delay), and approve ticker content (legacy version).</p> <p>Additionally, the Event Operator can execute state changes and is responsible for performing the pre-game walk-through.</p> <p>Event Operators also can use the TV Off application.</p>
Facility Operator	<p>Facility Operators have access only to the TV Off application. The facility operator must access this application directly using the <code>http://ipaddress:9090/web/sv/home</code>, where <i>ipaddress</i> is the IP Address of the Cisco Vision Director server.</p>
Help Desk	<p>Help Desk users have read-only permissions to view and monitor information on the Management Dashboard and to use Device Management (CCM). This role does not have permissions in the Control Panel, except to change their own password.</p> <p>For more information on the tasks performed by the help desk role, see the Vision Director Management Dashboard Guide.</p>

Table 2 Cisco Vision Dynamic Signage Director Roles

Role	Description
Support	Support users are responsible for first-level technical support. They have limited access to the Management Dashboard to monitor DMP status, troubleshoot, and manage the DMPs on the Cisco Vision network. They also have access to Device Management (CCM). The Support role does not have permissions in the Control Panel, except to change their own password. For more information on the tasks performed by the help desk role, see the Cisco Vision Director Management Dashboard Guide.
Venue Administrator	(Release 5.0 and later) Venue Administrators have limited permissions at the venues authorized by the central Administrator for that user for the following areas of Cisco Vision Director: Control Panel—Content, Control (Script control and Staging), Schedule. Management Dashboard—Read-only access with limited command support. Device Management (CCM)—Read-only access. Setup—Devices (Display specifications only); Read-only access to Zones & Groups, Channels, Luxury Suites.
Venue Operator	(Release 3.1 and later). Venue Operators have script control for venues authorized by the Administrator for that user. In the Management Dashboard, Venue Operators can view and monitor information on the Management Dashboard with read-only access to the venues for which permissions are granted. They also have access to Device Management (CCM).

Note: Venue Administrators and Venue Operators are the only roles that have venue-specific permissions. For more information, see [Configuring Cisco Vision Dynamic Signage Director for Multiple Venue Support](#) in the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

Access Summary By Role

Table 3 on page 36 provides a summary of the areas of access in the Cisco Vision Director software by each user role.

Table 3 Role Access Summary by Functional Area in Cisco Vision Director

Functional Area	Admin	Concessionaire	Content Manager	Event Operator	Facility Operator	Help Desk	Support	Venue Admin	Venue Operator
Control Panel - Setup Screen									
Channels	Yes	—	Yes	—	—	—	—	Read Only	—
Data Integration	Yes	—	Yes	—	—	—	—	—	—
Devices	Yes	—	—	—	—	—	—	Limited ¹	—
Menus	Yes	—	Yes	—	—	—	—	—	—
My Profile	—	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Proof of Play	Yes	—	—	—	—	—	—	—	—
Stores	Yes	—	—	—	—	—	—	—	—
Suites	Yes	—	—	—	—	—	Limited ²	Read Only	—
Templates	Yes	—	Yes	—	—	—	—	—	—

Understanding User Roles

Triggers	Yes	-	-	-	-	-	-	-	-
Users	Yes	-	-	-	-	-	-	-	-
Venues	Yes	-	-	-	-	-	-	-	-
Zones & Groups	Yes	-	Yes	Yes	-	-	-	Read Only	-
Control Panel - Other Screens									
Content	Yes	-	Yes	-	-	-	-	Limited ³	-
Control	Yes	-	-	Yes	-	-	-	Limited ⁴	Limited ⁴
Control/Staging	Yes	-	-	Yes	-	-	-	Yes	-
Schedule	Yes	-	Yes	-	-	-	-	Yes	-
Ticker (legacy)	Yes	-	Yes	Yes	-	-	-	-	-
Widgets	Yes	-	Yes	-	-	-	-	-	-
Other Applications									
Command Center Monitoring	Yes	-	-	-	-	-	Read Only	Read Only	Read Only
Dynamic Menu Boards	Yes	Yes	Yes	-	-	-	-	-	-
Management Dashboard	Yes	-	-	-	-	-	Limited ⁵	Yes ⁶	Limited ⁷ Limited ⁸
Scheduler	Yes	-	-	Yes	-	-	-	-	-
Software Manager	Yes	-	-	-	-	-	-	-	-
System State Report	Yes	-	-	-	-	-	-	-	-
Turn TVs Off	Yes	-	-	Yes	Yes	-	-	-	-

1. Venue Administrators can only edit the Display Specifications panel.
2. Support users can set up TV control PINs and channel guides for suites.
3. Venue Administrators can delete content associated (tagged) to the venues for which that venue admin is authorized. External content, channels, and Dynamic Menu Board (DMB) content items are global to all venues. Therefore, these global content items also can be deleted by the venue admin.
4. Venue Administrators and Venue Operators have script control only, and only for venues authorized by the Administrator for that user.
5. Help Desk users can view and monitor information on the Management Dashboard with read-only access. They also can run Get Status, Ping, Display IP, and Ping Test commands for DMPs in the Management Dashboard.
6. Support users can run Get Status, Ping, Display IP, Ping Test, TV On/Off, Set Display Input, Set Display Banner, Set Closed Captions, Set Video Channel, Cabling Test using TDR, and Show TDR Test Results commands.
7. Venue Administrators can view and monitor information on the Management Dashboard with read-only access to the venues for which permissions are granted. They also can run Get Status, Ping, Display IP, and Ping Test commands in the Management Dashboard for the DMPs in the venues at which that Venue Administrator is authorized.
8. Venue Operators can view and monitor information on the Management Dashboard with read-only access to the venues for which permissions are granted. They also can run Get Status, Ping, Display IP, and Query Syslog commands in the Management Dashboard for the DMPs in the venues at which that Venue Operator is authorized.



Working with TV Displays

User Role: Administrator, Venue Administrator

This module provides information about setting up TV displays in Cisco Vision Director.

User TV Control

Support for all methods of user TV control is enabled by default in Cisco Vision Director for all media player types. This includes control of TV displays using local control devices and applications, IP phones, touch screens and infrared remote (IR) control.

Some venues have a need to disable user TV control for certain events or suites, or to limit the TV to display a particular channel or control its volume.

TV Display Specification

Cisco Vision Director requires that you configure certain commands and attributes for the TVs used in the venue to ensure proper communication between the media player and the TV. This configuration is defined in what is called a *display specification*.

By default, Cisco Vision Director includes display specifications for several common TV display models. If your TV display model is not included in the default specifications, add and configure it.

A different display specification is required for each unique TV type, based on which commands are used to control the TVs. In some cases, all TVs from a certain manufacturer can use the same display specifications. In other cases, different TV models from the same company might require different display specifications.

Note: As a best practice, configure your TV display specifications before configuring Locations in Cisco Vision Director. You must select the “Display Spec” for the type of TV (brand/model) that is physically installed when you configure a Location.

Closed Captioning

The standard for closed captioning (CC) in North America, which all digital TV broadcasters typically follow, is the Consumer Electronics Association (CEA)-608 and CEA-708 closed captioning standard. [Figure 1 on page 40](#) shows US CC standards.

IMPORTANT: Closed Captioning will not work in Europe or anywhere outside of North America.

Figure 1 Closed Captioning Support in Cisco Vision Dynamic Signage Director



This standard is generally supported on all broadcast channels from service providers. Cisco Vision Director is automatically configured to enable closed captioning CC1-CC4 support on the Cisco SV-4K devices.

Content Orientation

The default orientation for all content in Cisco Vision Director is landscape mode.

In Release 4.1 and earlier releases, you can manually create content in vertical format (*static graphics* only) and rotate it. Release 5.0 and later supports auto-rotation of content in portrait mode set in the TV display specification.

Guidelines for Portrait Mode Auto-Rotation

- Supported in Release 5.0 and later releases.
- Allows DMPs to automatically rotate content for proper orientation on vertically-positioned displays.
- Supported for all content sources for a *single* TV display.
- Scaling of content across multiple display screens in portrait mode is only supported for multicast streaming video.
- Enabled using the "dmp.portrait=true" display parameter when configuring TV display specifications in the Control Panel.

Note: DMP portrait mode is not available for 4K videos.

Flexible DMP Content Rotation

You can rotate content 90 degrees and -90 degrees (or +270 degrees). This works for all content like videos, static images, widgets, local and multicast video, and external URLs. Rotate content for situations where the display monitor has already been installed in a portrait position and to show your content in the proper orientation.

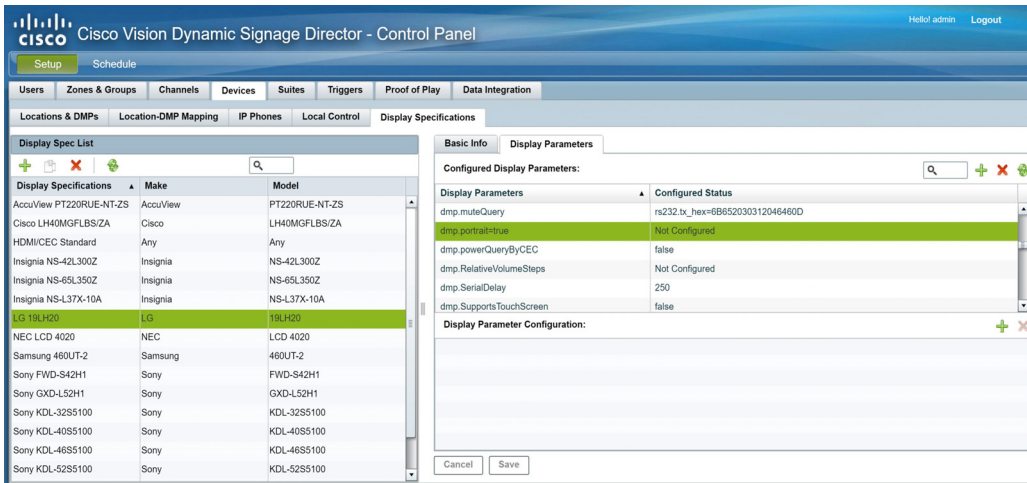
To rotate content to portrait mode:

1. Go to **Tools > Control Panel > Setup > Devices > Display Specifications**.
2. Choose the specific display from the list on the left panel and click the **Display Parameters** tab in the right panel.
3. Add a Display Parameter called `dmp.portrait` or `dmp.portrait.clockwise` and set it to **"true"** to achieve the proper rotation value you need.

By default, if you use dmp.portrait and set “true” to your content, it rotates the content 90 degree. If you set dmp.portrait.clockwise to “false,” it will rotate the content 270 degrees (or -90 degrees).

Note: Reboot the DMPs to set this parameter. Go to: **Tools > Management Dashboard > DMP and TV Controls > DMP Commands > Reboot Device.**

Figure 2 Adding Content Rotation Specifics to Display Parameters



Below is a figure displaying rotated content 90 and -90 degrees. Use clockwise and counterclockwise.

Clockwise



Counter clockwise



Note: DMP portrait mode is not available for 4K videos.

HDMI-CEC

Support for HDMI Consumer Electronics Control (CEC) allows you to control the following three TV functions:

- Power On
- Standby (Power Off)
- Power Status

When HDMI CEC TV control is enabled, HDMI CEC is used instead of RS-232 for TV control functions. To control TVs, you can run the TV On and TV Off from the **DMP and TV Controls > TV Commands** menu in the Management Dashboard.

You can configure a TV display for HDMI-CEC TV control using one of two methods:

- Apply the HDMI/CEC Standard display specification for new TVs, where the HDMI-CEC display parameters are automatically enabled and set to default values.
- Modify an existing display specification to set the HDMI-CEC display parameters manually.

The following commands are used HDMI/CEC TV control:

- **dmp.powerQueryByCEC**—(New in Release 5.0) Enables powerQuery to get TV Power status using HDMI/CEC instead of RS-232.
- **dmp.TVControlbyCEC**—(New in Release 5.0) Enables TV control using HDMI/CEC instead of RS-232.
- **dmp.monitorAPIDelay**—Frequency of power query command sent by Dynamic Signage Director over HDMI CEC to the TV. The default is 120000 ms (2 minutes). This command is also supported when using TV control with RS-232.
- **dmp.monitorPower**—Enables Dynamic Signage Director to run a power query to the TV using the Get Status command from the Management Dashboard. This command is also supported when using TV control with RS-232.

TV Qualification for HDMI-CEC Support

Note: Not all TVs support the standard HDMI-CEC commands. Test the TV models that you plan to install for support of HDMI CEC. Turn on HDMI-CEC. TV manufacturers refer to CEC by different trade names. For example, Anynet+ (Samsung), BRAVIA Link (Sony), EasyLink (Phillips), and SimpLink (LG).

Note: HDMI-CEC does not support the same command set as RS-232 due to proprietary links.

For more information about the successfully tested TV for HDMI CEC, see the [Cisco Vision Dynamic Signage Director Release Notes for Release 6.1](#).

Serial Commands for RS-232 Communication

RS-232 commands can be used to control TV functions such as On/Off, mute, volume and external input. In more specialized scenarios they might also be used to configure TV tile matrix capabilities.

RS-232 responses are used to retrieve the current status of a TV. Currently Cisco Vision Director uses responses only when querying a TV for its current power on/off status.

For situations where a TV cannot be controlled via RS-232 or otherwise, volume and mute can be controlled by the media player instead. This behavior is indicated by configuring volume and mute commands that start with sigma=.

Serial Commands for RS-232 TV Control

[Table 1 on page 43](#) shows a summary of the display parameters and RS-232 commands for the DMPs with their default values. The table shows command names and values for an LG 19LH20 TV display only.

Note: Different TV display models may support only certain RS-232 commands.

Table 1 DMP Serial Commands

Command Name	Value
dmp.AVInputQuery	rs232.tx_hex=6B622030312046460D
dmp.displayPwrOnResponse	61203031204f4b303178
dmp.displayPwrQuery	rs232.tx_hex=6B612030312046460D
dmp.hdmiStreamingDelay	5000
dmp.Input1response	62203031204F4B303878
dmp.Input2response	62203031204F4B303278
dmp.Input3response	62203031204F4B303478
dmp.Input4response	62203031204F4B303078
dmp.monitorAPIDelay	120000
dmp.monitorAVInput	true
dmp.monitorMute	true
dmp.monitorPower	true
dmp.monitorVolume	true
dmp.muteOnResponse	65203031204F4B303078
dmp.muteQuery	rs232.tx_hex=6B652030312046460D
dmp.portrait=true	true
dmp.powerQueryByCEC	false
dmp.SerialDelay	250
dmp.SupportsTouchScreen	false
dmp.TVControlByCEC	false
dmp.volumeQuery	rs232.tx_hex=6B662030312046460D
dmp.volumeResponseFormat	66203031204F4B5F5F78
Input1	rs232.tx_hex=6B622030312030390D
Input1Name	HDMI
Input2	rs232.tx_hex=6B622030312030320D
Input2Name	Composite
Input3	rs232.tx_hex=6B622030312030340D
Input3Name	Component
Input4	rs232.tx_hex=6B622030312030300D
Input4Name	TV
Mute	rs232.tx_hex=6B652030312030300D
Off	rs232.tx_hex=6B612030312030300D
On	rs232.tx_hex=6B652030312030310D

Unmute	s232.tx_hex=6B652030312030300D
Volume1	rs232.tx_hex=6B662030312030350D
Volume10	rs232.tx_hex=6B662030312035300D
Volume11	rs232.tx_hex=6B662030312035350D
Volume12	rs232.tx_hex=6B662030312036300D
Volume2	rs232.tx_hex=6B662030312031300D
Volume3	rs232.tx_hex=6B662030312031350D
Volume4	rs232.tx_hex=6B662030312032300D
Volume5	rs232.tx_hex=6B662030312032350D
Volume6	rs232.tx_hex=6B662030312033300D
Volume7	rs232.tx_hex=6B662030312033350D
Volume8	rs232.tx_hex=6B662030312034300D
Volume9	rs232.tx_hex=6B662030312034350D
VolumeCount	12

¹The commands in this table are supported by the LG 19LH20 TV display.

Volume Control

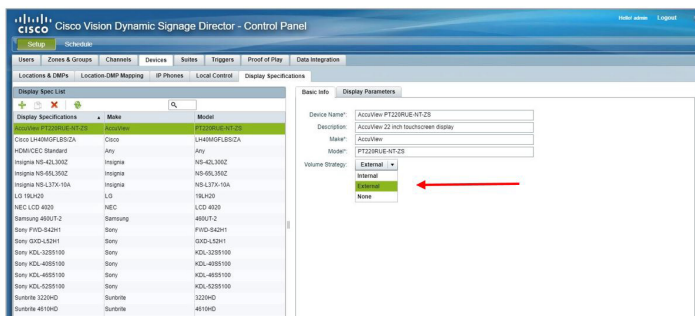
When properly configured in Cisco Vision Director, volume changes can be made from methods such as the IP phone, IR remote, Management Dashboard, or event script state change.

Volume changes for the primary video audio can be controlled for the SPDIF (on the SV-4K and CV-UHD only), analog audio, and HDMI out ports only when the TV display specification volume strategy is set to *internal*.

Volume Strategy Option

Cisco Vision Director supports three Volume Strategy settings, see [Figure 3 on page 44](#).

Figure 3 Control Panel Display Specifications–Volume Strategy Option



Internal—The audio feed volume level is controlled by telling the DMP how loud to send the signal. Internal allows volume change control of the audio feed by Cisco Vision Director (such as by the IP phone, IR remote, Management Dashboard, or event script state).

External—Using External, the level sent by the DMP remains the same and the DMP sends commands to change the volume level on the attached TV, via RS-232.

Note: We recommend external volume strategy because most TVs have better audio range than the DMP and many TVs show a visual indicator of the volume as it changes. This strategy also avoids problems if someone changes the volume using the TV panel buttons or the TV remote.

None—The volume cannot be adjusted. This is useful for TVs that are used for video only where audio (if any) is provided separately (such as in a bar where an overhead system provides the audio).

How to Configure TV Display Specifications

This section includes the following topics:

- [Guidelines for RS-232 Command Configuration, page 45](#)
- [Configuring Basic Information for TV Display Specifications, on page 45](#)
- [Configuring Portrait Mode in TV Display Specifications, page 47](#)
- [Configuring Touchscreen Support, page 48](#)

Guidelines for RS-232 Command Configuration

Consider the following guidelines when configuring RS-232 commands in TV display specifications:

- Cisco Vision Director supports only one RS-232 command per event state.
- All RS-232 commands configured in Cisco Vision Director must use the prefix `rs232.tx_hex=`.
- RS-232 responses are used to retrieve the current status of a TV.
- RS-232 responses are always configured without a prefix.
- Cisco Vision Director uses responses only when querying a TV for its current power on/off status.
- For situations where a TV cannot be controlled via RS-232 or otherwise, volume and mute can be controlled by the media player instead.

Configuring Basic Information for TV Display Specifications

User Role: Administrator

To configure basic information for TV display specifications:

1. Go to **Tools > Control Panel > Setup > Devices > Display Specifications**.
2. Do one of the following:
 - Select an existing display specification.
 - Click the + icon to add a new display specification.
3. Refer to [Table 2 on page 46](#) to specify the options in the Basic Info panel.

Table 2 Basic TV Display Specification Options

Option	Description
Name	Name that appears in the Display Spec drop-down list when you are adding TV Types to Locations. TIP: Be sure that this name is unique and easily identifies the type of TV that it defines.
Description	Any text string to describe the TV display specification.
Make	TV manufacturer/brand name.
Model	Model(s) of the brand to which this display specification applies. This can be a single module type, a group of models, or "All" to specify that all TVs of this brand use the same display specification.
Volume Strategy	Specifies how the TV volume is controlled. The possible values are: Internal—Volume is controlled using IP phone, IR remote, and so on. External—Volume is controlled by sending serial commands from the media player to the TV using RS-232. None—Fixes the volume so that it cannot be adjusted. For more information, see Volume Control, page 44 .

4. Click Save.

5. Apply configuration to the DMPs:

- Series 2 and Series 3 DMPs—Reboot the DMP(s).

Configuring HDMI-CEC TV Control in TV Display Specifications

User Role: Administrator, Venue Administrator

You can apply the HDMI/CEC Standard display specification for new TVs, or you can modify an existing display specification to add the display parameters commands independently.

If you use the HDMI/CEC Standard display specification, the four related HDMI-CEC commands for TV control are enabled and set to any corresponding default value.

To configure HDMI-CEC display parameters:

1. Go to **Tools > Control Panel > Setup > Devices > Display Specifications**
2. Select an existing display specification or add a new one.
3. Click **Display Parameters**.
4. Find and set the following parameters:

Display Parameter	Value
dmp.powerQueryByCEC	<p>True– Enables powerQuery to get TV power status using HDMI-CEC instead of RS-232.</p> <p>False–Disables powerQuery using HDMI-CEC.</p> <p>Note: This command is not supported by all TV models.</p>
dmp.TVControlbyCEC	<p>True–Enables TV control using HDMI-CEC instead of RS-232.</p> <p>False–Disables HDMI-CEC TV control.</p>
dmp.monitorAPIDelay	<p>Number (in ms) for the frequency of power query command to be sent by Dynamic Signage Director. The default in HDMI/CEC Standard display specification is 12000 ms (or 2 minutes).</p>
dmp.monitorPower	<p>True–Enables Dynamic Signage Director to run a power query to the TV using the Get Status command from the Management Dashboard.</p> <p>False–Disables the option.</p>

Note: You can run the **Get Status** command from the Management Dashboard to get the latest TV health status known to the DMP. This information can be up to two minutes old, or a few seconds depending on when the power query last ran.

If the “dmp.monitorPower” parameter is set to false then you will not get the correct TV health status.

5. Click Save.
6. Reboot the DMPs.

Configuring Portrait Mode in TV Display Specifications

User Role: Administrator, Venue Administrator

Portrait rendering mode allows the DMPs to automatically rotate content for proper orientation on vertically-positioned displays.

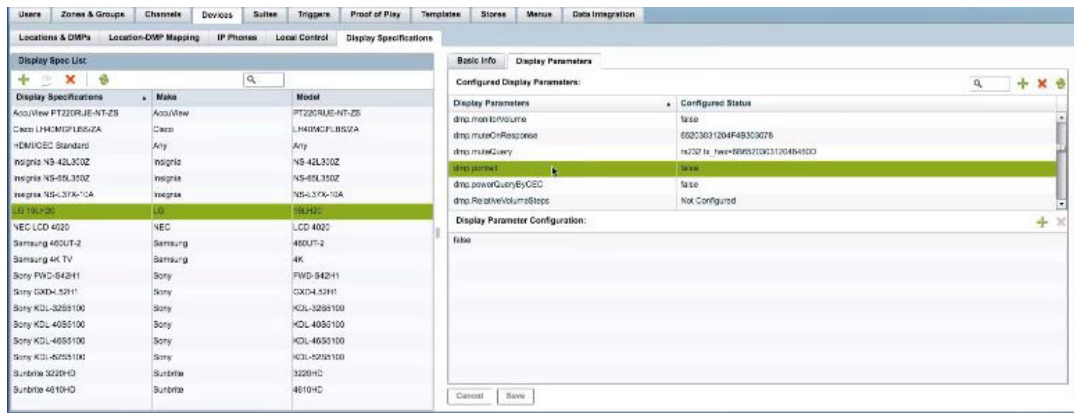
Note: DMP portrait mode is not available for 4K videos.

To configure the portrait mode display parameter:

1. Go to: **Tools > Control Panel > Setup > Devices > Display Specifications**
2. Select an existing display specification or add a new one.
3. Click **Display Parameters**.
4. Click the + icon to add a new display parameter.

How to Configure TV Display Specifications

5. Enter a new command, type **dmp.portrait** in the box.
6. In the Configured Status box, type **true**. See [Figure 4 on page 48](#).

Figure 4 Setting Portrait Display Parameter

7. Click **Save**.
8. Reboot the DMPs. Go to: **Tools > Management Dashboard > DMP and TV Controls > DMP Commands > Reboot Device**.

Configuring Touchscreen Support

For proper touchscreen operation with HTML5 pages, be sure that your touchscreen devices are human interface device (HID)-compliant and are using standard HID drivers.

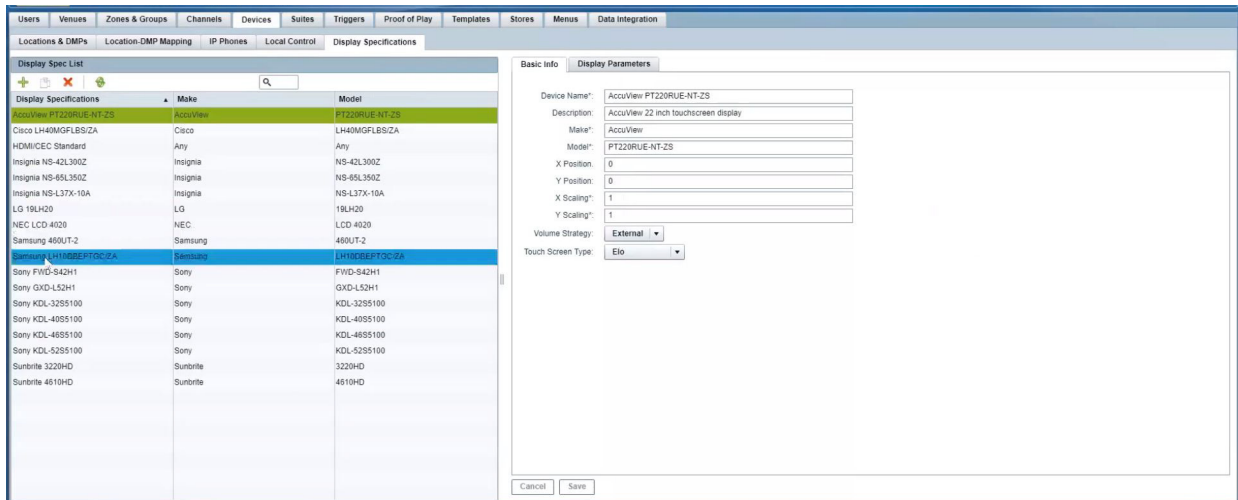
Note: Some manufacturers claim support for HID while using custom drivers. Verify that standard HID drivers are used.

By default the display parameter is set to **false** for Cisco Vision Director. To enable touchscreen capability between your device and the DMP, you must change that.

To enable touchscreen capabilities for your specific device:

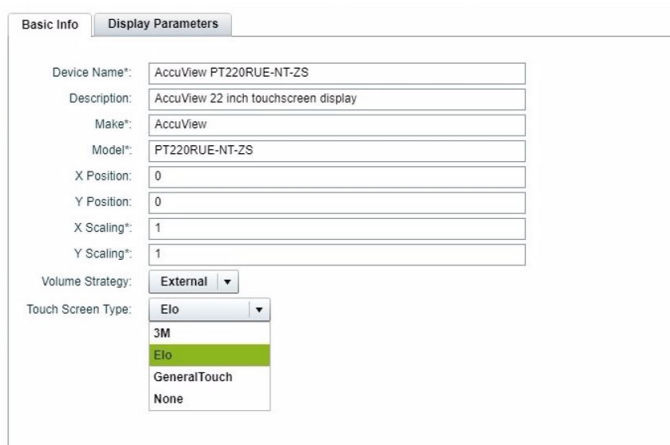
1. In Cisco Vision Director, go to **Tools > Control Panel > Setup > Devices > Display Specifications** ([Figure 5 on page 49](#)).

Figure 5 Setting Display Specifications

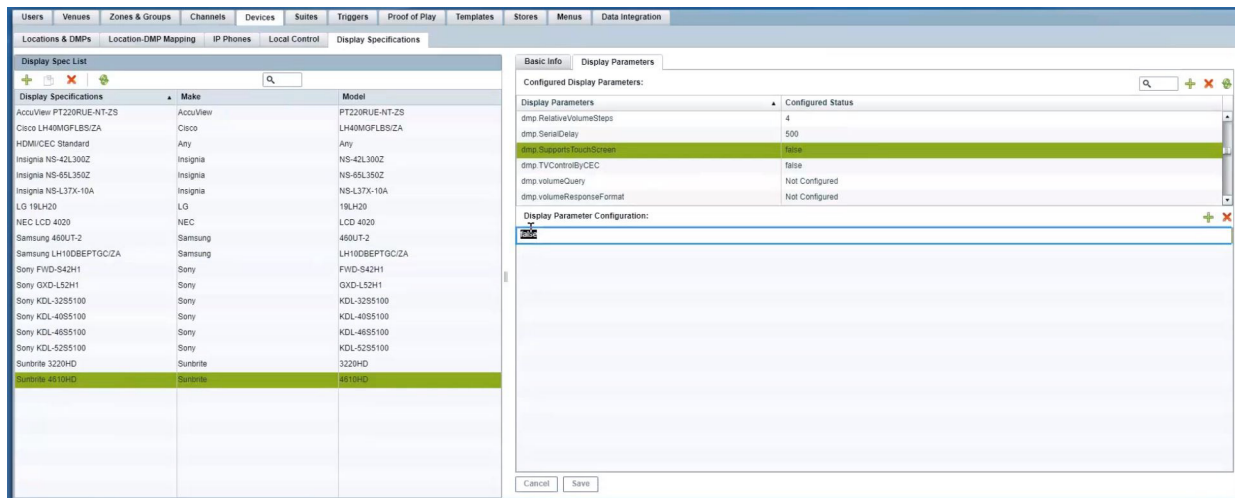


2. Create a display specification for your device screen. See the device specifications for this information. Use the green plus icon to create a new spec.
3. Choose Elo for **Touch Screen Type** from the **Basic Info** tab (Figure 6 on page 49).

Figure 6 Touch Screen Type



4. Or, scroll down the list of devices. Find your Make and Model and select it.
5. Click the **Display Parameters** tab.
6. Scroll down to **dmp.SupportsTouchScreen** and select it (Figure 7 on page 50).

Figure 7 Setting .DMPSupportsTouchScreen Parameter

7. In the Display Parameter Configuration box, change false to “true” for your device (Figure 7 on page 50).

8. Click **Save**.

By enabling this feature, you are giving touch screen support to a state or a channel to your content (generally an HTML page).

To connect the DMP to your device, use a USB A to B-type cable that connects from the DMP USB port to your device.

Configuring Serial Commands for External Volume Support

User Role: Administrator

When using the external volume strategy, configure RS-232 commands to send to the TV to change the volume.

Note: When using internal volume strategy, volume commands do not need to be configured.

Cisco Vision Director allows you to configure two types of volume controls:

- **Relative**—Depends on the volume increments set in the TV, which vary from model to model.
- **Absolute**—Preferred method. Defines a number of increments that are used to control the volume between the minimum and maximum volume levels.
 - For the SV-4K—Absolute volume is configured only by the series of `Volume n` commands only.

Table 3 on page 51 provides information about the serial commands used to configure the Relative and Absolute types of external volume control.

Table 3 Serial Commands for External Volume Support

Serial Command	Volume Type	Description
Volumen	Absolute	<p>Specifies the volume increment level, where n is a number from 1 to the total number of volume levels supported.</p> <p>Configure multiple Volumen commands for the number of increments being supported.</p> <p>Specify whole numbers for "n." For example specify "1" –not 01.</p> <p>TIP: The best practice is to set Volume1 to a value greater than zero. A zero volume level is treated as a mute command, and when the user adjusts the volume up, some displays show the status bar as if their volume is turned up, but the display remains muted.</p>
VolumeUp	Relative	Specifies an incremental volume setting determined by internal settings in the TV.
VolumeDown	Relative	Specifies an incremental volume setting determined by internal settings in the TV.
For some TVs, the increase/decrease in volume is very slight requiring multiple VolumeUp or VolumeDown commands to achieve the desired effect. For these TVs, use the dmp.RelativeVolumeSteps" serial command.		
dmp.RelativeVolumeSteps	Relative	<p>Specifies the number of times the RS-232 command for VolumeUp or VolumeDown is repeated each time that you press up or down on the IR remote (or on the phone). The default is 1.</p> <p>For example, if the value is set to 8, then a VolumeUp or VolumeDown command sends 8 copies of the RS-232 string.</p>
dmp.SerialDelay	Relative	<p>Specifies the delay between sending repeated serial commands from the media player. The default is 5000 ms.</p> <p>This command can be used for certain TV displays that discard repeated serial commands that are sent too close together.</p>

Table 4 on page 52 shows an example of RS-232 command strings defined for Absolute volume control using 12 increments.

Table 4 Volume Count Command Example for an LG TV Display

Serial Command	String
Volume1	rs232.tx_hex=6B662030312030350D
Volume2	rs232.tx_hex=6B662030312031300D
Volume3	rs232.tx_hex=6B662030312031350D
Volume4	rs232.tx_hex=6B662030312032300D
Volume5	rs232.tx_hex=6B662030312032350D
Volume6	rs232.tx_hex=6B662030312033300D
Volume7	rs232.tx_hex=6B662030312033350D
Volume8	rs232.tx_hex=6B662030312034300D
Volume9	rs232.tx_hex=6B662030312034350D
Volume10	rs232.tx_hex=6B662030312035300D
Volume11	rs232.tx_hex=6B662030312035350D
Volume12	rs232.tx_hex=6B662030312036300D

How to Configure the TV Display Banner

This section includes the following topics:

- [Modifying the TV Banner Duration, page 52](#)
- [Disabling the TV Display Banner, page 53](#)

Modifying the TV Banner Duration

The TV display banner is a graphical banner that temporarily appears at the top of the display to provide information about the TV that received a TV command ([Figure 8 on page 53](#)). The display banner is enabled by default with a duration of 5 seconds.

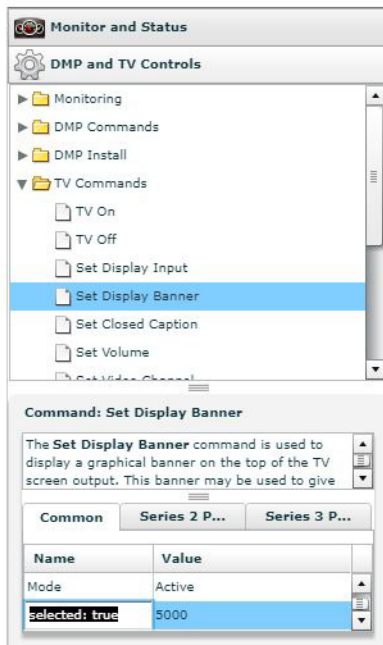
Figure 8 TV Display Banner and Screen Identification



To configure the TV display banner:

1. Go to **Tools > Management Dashboard > DMP and TV Controls > TV Commands > Set Display Banner**.
2. In the Duration box, set the duration in milliseconds.
3. Select the devices to which you want to apply the command.
4. Click the play button to run the command on those devices.

Figure 9 Set Display Banner—Common Panel



Disabling the TV Display Banner

User Roles: Administrator

How to Configure the TV Display Banner

For a better visual experience for video wall displays, disable the TV display banner. The TV display banner is enabled by default for all TV displays.

To disable the TV display banner globally:

1. Go to **Tools > Management Dashboard > Tools drawer > Advanced > Registry**
2. In the Registry Data box, click **Add Row**.
3. In the key field, type **localControl.banner.disable**.
4. In the value field, type **true**.
5. Click **Apply**.



Working with Zones, Groups, and Locations

User Roles: Administrator, Content Manager

This module provides an overview of the Cisco Vision Director hierarchy of zones, groups, and locations to manage content delivery in a venue.

Information About Zones, Groups, and Locations

Cisco Vision Director supports reliable delivery of content to thousands of endpoints, providing venues the flexibility to place numerous TVs throughout the concourses, in locations such as:

- Bars and restaurants
- Luxury suites
- Locker rooms
- Concession areas
- Restrooms
- Back offices

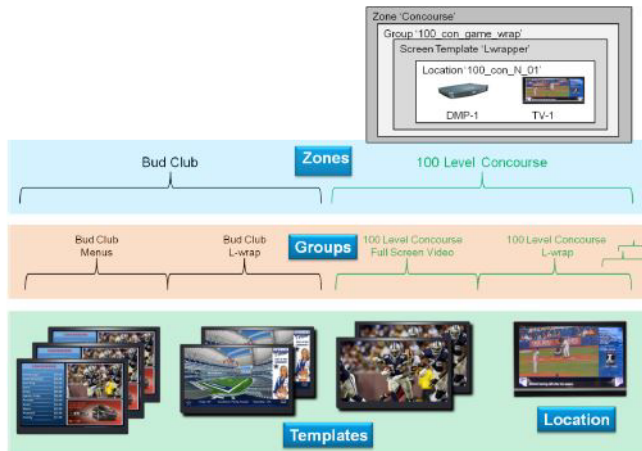
Digital content, in the form of still or animated graphics and video ad insertions, can be targeted and delivered—with accompanying event video in HD or separately—to any display or group of displays throughout the venue.

When you have hundreds or thousands of TVs on which you want to display different video signage, sponsored content, TV channels, and menus, you need a way to automate the configuration and manage the endpoint locations.

Cisco Vision Dynamic Signage Director defines a hierarchical architecture that allows you to easily identify the location of the displays and manage the content that they are playing.

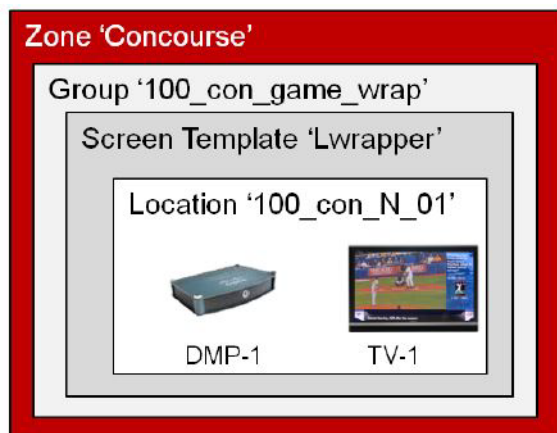
To provide a logical way of organizing the hundreds to thousands of endpoints in a venue, Cisco Vision Director implements a hierarchy of the following entities shown in [Figure 1, on page 56](#):

- Zones
- Groups
- Locations

Figure 1 Zones, Groups, Templates, and Locations Hierarchy

Zones

A *zone* is typically a physical area in the venue. Examples of zones include concourses, clubs, and team stores. [Figure 2, on page 56](#) shows the nested hierarchy with a zone named 'Concourse' at the top level.

Figure 2 Nested Hierarchy with Zone at Top Level

Groups

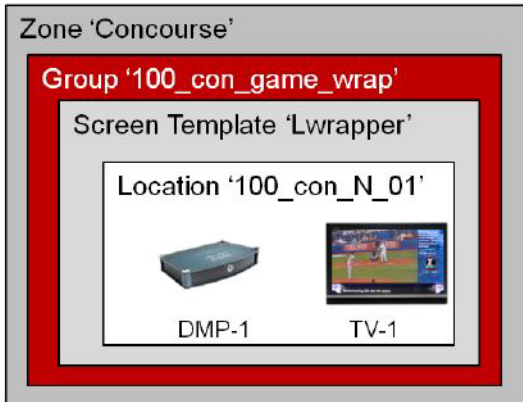
Groups are the second level in the hierarchy. You can think of groups as “children” or subsets of a zone. A *group* defines a collection of devices (DMPs/TVs) that all display the same content, using the same template. Groups consist of a set of *locations* in the hierarchy.

Example

Consider the case of TVs in a concourse area on which you want to show a game feed with sponsored advertising. Rather than configure each individual TV to show this content, you can configure them as a group and change all of the TVs with a single action. You can then associate the group to a zone to identify the area of the stadium where they are located.

[Figure 3, on page 57](#) shows a group named "100_con_game_wrap" that is part of the "Concourse" zone. As indicated by the name of the group, this is for all of the TV displays using the game wrap format (from a screen template) in Concourse 100 of the venue.

Figure 3 Group within a Zone



Locations

Locations are the lowest level in the Cisco Vision Director hierarchy. A *location* defines a specific place in the venue where a TV and DMP reside.

Figure 4, on page 57 shows a location named "100_con_N_01" which indicates that the TV-1 and DMP-1 are located on the North Concourse 100 level.

Figure 4 Location Example



Locations help you keep track of exactly where a TV and DMP is physically located in the stadium. For example, if someone tells you that a TV in a restroom at the concourse 100 level is not working, you can refer to the location information to quickly find the TV and fix it.

Note: Be careful NOT to confuse the *civic location* on Cisco Catalyst switches with the DMP Location in Cisco Vision Dynamic Signage Director.

Default Zones from Legacy Cisco Vision Dynamic Signage Director Releases

Note: In older Cisco Vision Director Releases, the following default zones were provided:

- Delay_zone
- Emergency_zone

- Non-event_zone

These zones will only appear in your system if you have upgraded from a release where they were introduced, and if they were used.

Consider the following guidelines for these default zones:

- Assign a group to each of the default zones.
- Default zones cannot be renamed.
- To assign all media players to one of these zones, create a new group, add all media players to that group, and then add that group to the zone.
- Any media players that do not have an action in the emergency/delay state will have Proof of Play disrupted in the emergency/delay state.
- All TVs assigned to the emergency_zone will display the configured Emergency message when the Emergency ad hoc state is started by the Event Operator.

DMP and Location Relationships

Under **Devices** in the **Control Panel**, Cisco Vision Director identifies three object types for DMPs and Locations.

- DMP
- Location
- DMP+Location

After DMPs are deployed, they must be linked to **Locations** to change their state to **Ready** and to be able to stage content to them.

These object types can be created manually using the Cisco Vision Director web interface or uploaded using the Bulk Administration Tool (BAT). For more information about BAT, see the [Cisco Vision Director Bulk Administration Tool](#) document.

For information about adding Locations, see [Adding Locations Manually in Control Panel Setup, page 62](#)

DMP Type

The DMP object type specifies the following information about the media player. This object can be manually added or automatically created by the device auto-registration process.

- Name—If you auto-register the device, then the name is automatically created from the MAC address (e.g., AUTO-00-0f-44-01- a5-ec).
- Unassigned—When a Location+DMP object is unlinked, the DMP object has name " Unassigned-xx-xx..." .
- Description—(Optional) Any additional information about the media player.
- IP Address—IP address of the media player.
- MAC Address—MAC address of the media player.
- Location ID
- Disabled—Device status. A value of " Yes" disables the device.
- DMP Model—Type of media player model.
- Wifi Enabled—Yes or No enables the wifi capability on the device.

- Proxy—Yes or No

Location Type

The Location object type defines the physical location where the digital media player is installed in the venue, with the following information:

- Name—Location of the media player in the venue.
Note: Best practice: use a naming convention that allows an operator to easily identify where the TV is physically located in the venue.
- Description—(Optional) Any additional information about the location.
- Location ID—(Optional) Identifier for the location. This field is typically not used.
- Display Spec—Type of TV display at the location.

DMP+Location Type

DMPs must be linked to **Locations** to establish this object type and to put the digital media player in **Ready** state. For more information, see [Linking DMPs to Locations or Ready State, page 63](#).

Zones and Groups Screen

From the Zones & Groups screen you can:

- Add, remove, and edit groups and zones.
- Add and remove multiple locations to / from groups and zones.
- View and manage zone, group, and location associations.
- View and search on the Location Name, IP Address, MAC Address, TV Details and TV Description, and number of groups to which the Location is assigned.
- Traverse the zones/groups and locations hierarchy. For example, you can view information top ↓down (from zones to groups to locations) and bottom ↑ up (from locations to groups to zones).
- Move multiple locations between groups (“re-grouping”) and move multiple groups between zones (“re-zoning”).
- View overlaps such as groups that share the same location or zones that share the same group.
- Find the group and zone to which a TV Location belongs.

The Zones & Groups screen contains navigation tabs at the top of the screen, operations controls below the navigation tabs, and a details area in the middle of the screen ([Figure 5, on page 60](#)).

The Zones & Groups screen has a dividing bar so that you can display more information on the screen at once without having to jump back and forth between separate screens. Any items with a blue underline are a hyperlink ([Figure 5, on page 60](#).)

Figure 5 Zones and Groups Screen

Group Name	Description	#Locations	#Zones	Name	IP Address	MAC Address	Model Name	Display Spec	#Groups
Test Group 1		1	1	Test DMP 1	12.12.12.12		CV-UHD	Insignia-NS-42...	1
Test Group 2		1	1						
Test Group 3		1	1						
Test Group 4		1	1						

Search and Show Selected Functions

Each panel in the Zones & Groups screen includes a search feature to help you find, filter and narrow the information displayed on the screen. You can search by:

- Location, zone, or group name
- IP address
- MAC address
- TV details
- TV description

Type the search criteria (text strings or numbers) in the search box and click the magnifying glass. For example, if you type 'bar' in the search box on the Locations screen, all the locations with the word 'bar' in their name will display. Narrow the list and display only selected entries using the CTRL-click and SHIFT-click keyboard functions. Select the entries and then enable the checkbox next to **Show only selected** (Figure 6, on page 60).

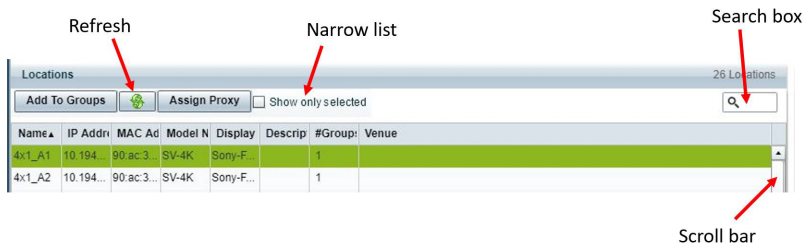
Figure 6 Search and Show Functions

Name	IP Addr	MAC / Model	Displa	Descr	#Grou	Venue
4x1...	10.1...	90 ac...SV-4K	Sony...		1	
4x1...	10.1...	90 ac...SV-4K	Sony...		1	
4x1...	10.1...	90 ac...SV-4K	Sony...		1	
4x1...	10.1...	90 ac...SV-4K	Sony...		1	
A1 2...	10.1...	90 ac...SV-4K	Sony...		1	
A1 3...	10.1...	90 ac...SV-4K	Somb...		1	
A2 2...	10.1...	90 ac...SV-4K	Sony...		1	
A2 3...	10.1...	90 ac...SV-4K	Sony...		1	
A3 3...	10.1...	90 ac...SV-4K	Sony...		1	
B1 2...	10.1...	90 ac...SV-4K	Sony...		1	
B1 3...	10.1...	90 ac...SV-4K	Sony...		1	

You can also sort a list by clicking on the column headings.

To clear the search criteria and display all items on the screen, uncheck the **Show only selected** option. To refresh the list, click the **Refresh** icon.

Figure 7 Selecting Detail



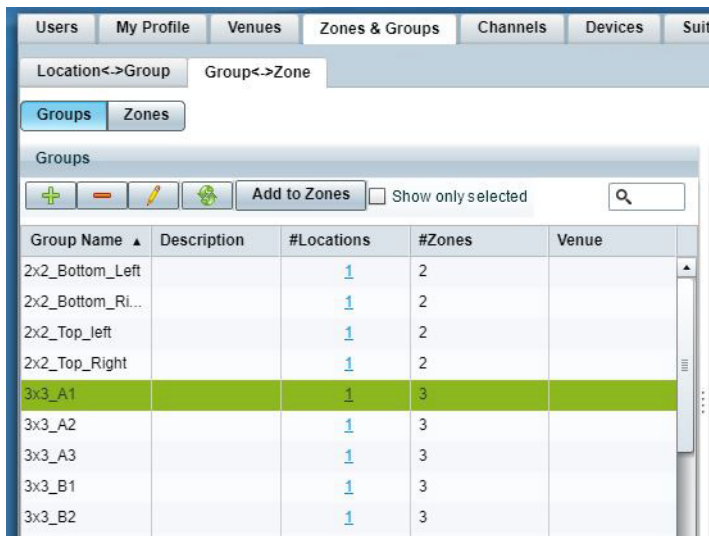
There are a number of ways to switch the view on the Zones & Groups screen. Click the **Switch View** option to flip the right and left panels on the screen. Depending on the information you are looking for or the operation you are performing, this can make it easier to transcend the hierarchy and find the different relationships between a location, a group, and a zone.

Figure 8 Switch View–Zones & Groups



Another way to switch the view on the screen is to click the number links in the #Groups, #Locations, #Zones columns. For example, you can select a Location Name and then click the numbered link under #Location to show all the locations for a selected Group. Only the numbers with an underline are active links.

Figure 9 Switching the View on the Zones & Groups Page



Showing Overlaps

You can easily see whether a zone, group, or location contains the same DMPs by selecting multiple entries and clicking the **Show Overlap** checkbox. This is useful to identify and resolve conflicts that occur when actions are being assigned to DMPs that are in the same location, group, or zone. For example, in the following screen, there is no overlap between these three devices.

Figure 10 Showing Overlaps

Group Name	Description	#Locations	#Zones
Test Group 1		1	1
Test Group 2		1	1
Test Group 3		1	1
Test Group 4		1	1

Name	IP Address	MAC Add	Model Na	Display S	#Groups

How to Configure Locations

This section includes the following topics:

- [Guidelines for Naming Locations, page 62](#)
- [Adding Locations Manually in Control Panel Setup, page 62](#)
- [Linking DMPs to Locations or Ready State, page 63](#)

Guidelines for Naming Locations

The optimal naming convention will vary from venue to venue, depending on size and layout. However, some recommendations can be provided for how to best create a systematic naming convention.

"100-NE-020" is an example of a good Location Name for the 20th display in the North East corner of Concourse 100.

Consider the following guidelines to create a systematic Location naming convention:

- Names should only use "A-Z" "a-z," "0-9," space (), underscore (_), and dash (-).

IMPORTANT: Do not use % * , : ? = / \ " ' { } () +

- Include floor or concourse levels.
- Include directional references such as (N) North, (S) South, (E) East and (W) West.
- Use a numeric suffix to differentiate between otherwise identical locations.
- Use generic names that are unlikely to change over time.

TIP: Use the Location Description if you want to refer to sponsor and room names. You can modify the description at any time without affecting the Location-to-Group mappings.

- Attach labels with Location Name to each TV in the venue. This simplifies identifying a problem TV and searching for it in the Cisco Vision Dynamic Signage Director Management Dashboard.

TIP: Print the Location Name on the label as both text and in bar code so the label can be scanned during installation.

Adding Locations Manually in Control Panel Setup

User Roles: Administrator, Content Manager, Event Operator

TIP: As a time saver, use the Bulk Administration Tool (BAT) to manage multiple configuration changes at once. For more information, see the [Cisco Vision Director Bulk Administrator](#) Tool document.

To add Locations manually in Control Panel Setup:

1. Go to **Tools > Control Panel> Setup > Devices**.
2. Click **Locations & DMPs**.
3. Click **+Add**.
4. In the Create New dialog box, complete the following fields:
 - a. Type—Select **Location**.
 - b. Name—Naming convention for the location of the media player in the venue.

IMPORTANT: Do not use % * , : ? = / \ “ ‘ { } () +

For more information, see [Guidelines for Naming Locations, page 62](#).

- c. Description—(Optional) Any additional information about the location, or more readable form of the naming convention used in the Name field.
 - d. Location Id—(Optional) Identifier for the location. This field must be unique per location.
 - e. Display Spec—Select the type of TV display at the location.
5. Click **OK**. The added groups or locations are displayed in the adjoining panel view.

Linking DMPs to Locations or Ready State

User Role: Administrator, Content Manager, Event Operator

Linking or mapping a DMP with a Location is the final step in preparing a DMP to be able to stage content. Once a DMP is linked, it goes to “Read” state. Then, when content is staged it changes to “In Production” state.

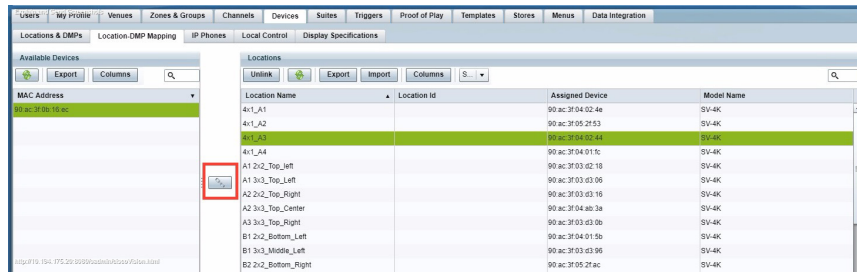
This task describes how to manually link media players to locations. A faster method when you have multiple media player/location updates is to use the Bulk Administration Tool (BAT). For more information about BAT, see the [Cisco Vision Director Bulk Administration Tool](#) document.

Note: Mapping an AUTO DMP to a Location that already has a DMP mapped will overwrite the existing mapped DMP/Location assignment with the new DMP/Location assignment. The former mapped DMP will then return to the pool of AUTO/unassigned DMPs.

To manually link DMPs to Locations:

1. Go to **Tools > Control Panel > Setup > Devices**.
2. Click **Location-DMP Mapping**.
3. In the Available Devices list, select the MAC address of the DMP that you need to link.
4. In the Locations list, select the Location Name that you want to link to the selected DMP.
5. Click the Link device button (between the Available Devices and Locations Panels).

Figure 11 Linking Devices



Unlinking DMPs from Locations

User Role: Administrator, Content Manager, Event Operator

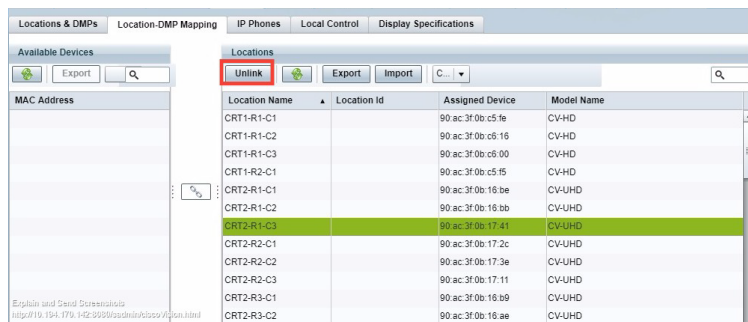
Unlinking DMPs from their assigned locations is required when you need to replace a failed device. For details about how to replace a failed device during an event, see [Replacing a Failed Media Player While an Event Script is Running](#), page 248.

This task describes how to manually unlink media players to locations. A faster method when you have multiple media player/location updates is to use the Bulk Administration Tool (BAT). For more information about BAT, see the [Cisco Vision Director Bulk Administration Tool](#) document.

To manually unlink DMPs from Locations:

1. Go to **Tools > Control Panel > Setup > Devices**.
2. Click **Location-DMP Mapping**.
3. In the Locations list, select the Location Name from which you want to unlink an associated DMP.
4. Click **Unlink**.

Figure 12 Unlinking Devices from Locations



Associating Venues to Locations for Multiple Venue Support

Locations can be associated with venues in a multi-venue environment.

For details about configuring multiple venue support in Cisco Vision Director, including associating locations to venues, see the Configuring Cisco Vision Director for Multiple Venue Support module of the [Cisco Vision Director Server Administration Guide](#).

How to Configure Zones and Groups

You can create a zone and group hierarchy and event script before you have added a single device in Cisco Vision Director. The Locations and templates can be associated later. This can be useful as usually you will know where devices will be before they are actually installed, allowing you to organize your TV Locations in parallel with installation.

This section includes the following topics:

- [Best Practices for Zones and Groups, page 65](#)
- [Guidelines for Zones and Groups, page 66](#)
- [Guidelines for Naming Zones and Groups, page 67](#)
- [Limits for Deploying Zones and Groups, page 69](#)
- [Accessing the Zones and Groups Screen, page 69](#)
- [Adding Zones, page 70](#)
- [Adding Groups, page 70](#)
- [Adding Groups to Zones, page 71](#)
- [Removing Groups from Zones, page 71](#)
- [Adding Locations to Groups, page 72](#)

Best Practices for Zones and Groups

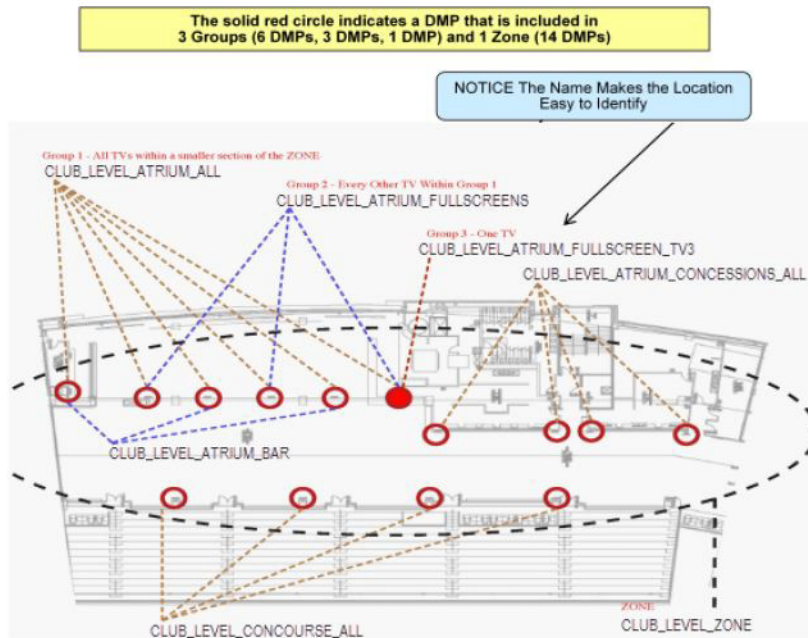
Here are some helpful tips:

- The more groups and zones you have, the more complicated the deployment becomes.
- Do some careful planning to make your organization both simple and useful.
- Create groups of media players of the same model type. For example, the group contains all Cisco DMP 2Ks or all SV-4Ks.
- Create zones of like-model groups for best results. Applying the same state across multiple groups of different media player types can be problematic due to the differences in content support among different media player models.

Note: If you must mix model groups in a zone, be sure the content reflects the lowest common denominator of support for the devices that you are mixing. Test your content for expected behavior. Consider many things such as dual video, SWF, and video walls.

[Figure 13, on page 66](#) shows an example of how a DMP (indicated by the solid red circle) can fit into three different groups within one zone.

Note: Use careful judgment when creating single-DMP groups to reduce any extra processing for Cisco Vision Dynamic Signage Director. Good cases for single-DMP groups are video walls or suites where you need to control the content on individual TV displays.

Figure 13 Group and Zone Diagram Example

- Maintain easy-to-read naming conventions for groups using a logical and systematic naming convention.

Example: CLUB_LEVEL_ATRIUM_ALL = Group containing all of the DMPs in the Pucket Atrium of the Club Level. For more details, see [Guidelines for Naming Zones and Groups, page 67](#) or the guide that corresponds to your release on Cisco.com.

- Improve your DMP names whenever you come across one that is not clear.
- Keep the number of unique advertising areas, exit directions, and welcome screens to a minimum.
- Limit the number of screen templates for a given zone.
While it is possible for a zone to have different screen templates throughout the course of an event, the more screen templates you use, the more complex the deployment and administration becomes.

Guidelines for Zones and Groups

Consider the following guidelines when creating zones and groups:

- A DMP can be in different zones during each event.
- A DMP that is in multiple zones and groups cannot have more than one action assigned to it for a given event state.
- A DMP can be in only one group at a given state. However, a DMP can switch groups when in a different event state.
- Only one DMP type should be used in any zone and in the groups belonging to any zone. This ensures all media assigned to that zone or its groups has the same media playback capabilities.
- The maximum number of groups supported in a venue is 500.
- The maximum number of groups that is supported for a zone is 20; however, typically you'll have three or four groups for a given zone.
- The maximum number of zones supported in a venue is 100; however, 20 zones is typical for a given venue.
- The background for an RSS ticker can change per group/zone.

- All zone and group names must be unique.

Guidelines for Naming Zones and Groups

With thousands of displays and hundreds of zones and groups, naming is especially important.

A good way to keep your zones and groups organized is to use a text-based convention and then assign prefixes so that you can sort by similar groups and zones in the Control Panel. This makes it easy to find devices by geographical or logical groupings.

Group Name

Make the group name the same as the DMP name so you have a ratio of 1:1 of DMPs to Groups.

Zone Name

These are truncated versions of the location names that make up the zone.

Level_Type_Name_Sec/Suite_Size (7SW_VW_CoorsBar_732_2x2 or 4NE_Con_HubBar_3x1_Menu)

Description Naming

Site specific, usually an IT naming structure or construction naming structure.

- Using long form names can complicate dashboard searches.
- An alphanumeric structure can be used here to add a second option when searching in Dashboard. (This is site specific and often used with new builds that have in depth blueprint plans.)

Playlist Naming

Each descriptor should only be used when appropriate to reduce playlist name length. (i.e., a playlist that runs all game doesn't require a "TIME" descriptor.)

- General
 - Script - Type Area **Size Screen** Time (VENUE - FS Concourse Pregame)
- Video Wall
 - Script - Type Area Size Screen **Time** (VENUE - VW HelixBar 3x3 A1)

Content Naming

Source_Type_Name_Subname.filename (SPON_Lwrap_COMPANYmp4 or CON_FS_HubBar_Menu.png)

- This is the basic structure for naming content. Some venues like to include dates, expiry dates, etc.
- Keeping names of content consistent and generic to the brand can assist in content replacement via upload. For example, a new piece of content for COMPANY can be uploaded to replace all running "old" content if the names are the same.

Template/Region Naming

Concession templates start with CON_ (CON_Menu_FS or CON_Menu_Right)

- Layer names are descriptors related to what content or playlist will be assigned to that layer in the script (background or widget).

VW templates can start with VW_ or just the size_ (3x3_B1).

- Layer names are the same as template names.
- Template names should include the venue in a multi-venue environment.

Examples:

100_Club_A_zone

100_Club_A _menus_group

100_Club_A _bar_group

100_Club_B_zone

100_Club_B _menus_group

100_Club_B _bar_group

If you have a very large club with hundreds of DMPs, you might have a zone called “Club A Menus” and then have individual groups with each group showing a different menu.

Consider the following guidelines to create a systematic Location naming convention:

- All group and zone names must be unique.
- Assign names to zones and groups that reflect the area where the display is located and the screen template or advertising playlist you will be using for that display.
- Names should only use “A-Z” “a-z,” “0-9,” space (), underscore (_), and dash (-).

IMPORTANT: Do not use % * , : ? = / \ “ ‘ { } () +

- When naming zones, consider adding a prefix for the concourse level at the venue.

For example, add ‘100’ to all clubs on the 100 level. This makes it easy to find and manage these clubs in Cisco Vision Director as they are sorted alphabetically.

- When naming groups, consider adding a suffix to identify where or what content will be displayed in the group.
- Add abbreviations to the group name to identify which screen template is being played by a given group.

This allows you to quickly identify what type of content is supposed to play on each group of TVs in the suite or other location in the stadium. [Figure 14, on page 69](#) shows abbreviations for identifying the different types of screen templates.

Figure 14 Abbreviation Examples for Identifying Templates in Groups



Limits for Deploying Zones and Groups

Table 1, on page 69 defines the limits for deploying zones and groups.

Table 1 Limits for Deploying Groups and Zones

Specification	Limit
Maximum number of zones.	100
Maximum number of groups.	500
Maximum number of groups per zones to be supported.	20
Maximum number of event states.	50
Maximum number of templates you can have in different groups and zones for a single event state.	50
Maximum number of luxury suites.	500
Maximum number of all media player devices in the system.	5000 ¹
Maximum number of items per playlist.	1200

1. The maximum of 5000 total media players was qualified on a Platform 3 Server.

Accessing the Zones and Groups Screen

User Roles: Administrator, Content Manager, Event Operator

The Zones & Groups screen is accessible from the Cisco Vision Director Control Panel.

To access the zones & groups screen:

1. Go to **Tools > Control Panel > Setup**.
2. Click **Zones & Groups**. The Zones & Groups screen displays.

Adding Zones

User Roles: Administrator, Content Manager, Event Operator

To add a zone:

1. Go to **Tools > Control Panel > Setup > Zones & Groups**.
2. Click the **Group<->Zone** tab.
3. Click **Zones**.
4. Click the green "plus" + icon. The New Zone dialog box appears ([Figure 15, on page 70](#)).

Figure 15 Creating a New Zone

5. In the New Zone dialog box, do the following:

- a. Type a name for the group.
- b. Type a description of the group.

TIP: You can leave the description for the group blank and add it later.

- c. (SV-4K only) To configure zone-based video wall synchronization, select the **Use as Video Wall** checkbox.

For more information, see [How to Configure Video Walls with the Digital Media Players, page 168](#).

6. Click **OK**. The new zone appears in the Zone Name list.

Adding Groups

User Roles: Administrator, Content Manager, Event Operator

To add a group:

1. Go to **Tools > Control Panel > Setup > Zones & Groups**.
2. Go to either the **Location<->Group** or **Group<->Zone** tab.
3. Click **Groups**.
4. Click the green "plus" + icon.
5. In the New Group dialog box, type a name and description for the group and click **OK**. The new group appears in the Group Name List.

TIP: Do not use spaces in group names.



Adding Groups to Zones

User Roles: Administrator, Content Manager, Event Operator

To add groups to zones:

1. Go to **Tools > Control Panel > Setup > Zones & Groups**.
2. Click **Group<->Zone**.
3. Do one of the following:
 - a. To select by group(s) and add zones to those groups, click **Groups**.
 - b. To select by zone(s) and add groups to those zones, click **Zones**.
4. Select the group(s) or zone(s) depending on the panel view that you are using.

TIP:

- To narrow the display listing, use the search function.
 - To select multiple items in the list, use Ctrl-click or Shift-click keyboard/mouse sequence.
5. Do one of the following:
 - a. If using Groups view, click **Add to Zones**.
 - b. If using Zones view, click **Add Groups**.
 6. Do one of the following:
 - a. In the **Select Zones** dialog box, select the zones to which the selected group(s) are added.
 - b. In the **Select Groups** dialog box, select the groups to be added to the selected zone(s).
 7. Click **OK**. The added zones or groups are displayed in the adjoining panel view.

Removing Groups from Zones

User Roles: Administrator, Content Manager, Event Operator

To remove groups from zones:

1. Go to **Tools > Control Panel > Setup > Zones & Groups**.
2. Click **Groups**.

Note: Remove groups from zones by clicking **Zones** and selecting the zone and corresponding groups to be removed from that zone. Click **Remove from Zones**.

3. In the Groups panel, select the group.
4. In the Zones panel, select the zone to be removed from the group.
5. Click **Remove**.
6. In the confirmation dialog box, click **Yes**.

Adding Locations to Groups

User Roles: Administrator, Content Manager, Event Operator

IMPORTANT:

- Before you can add locations to groups and zones, you must add the device location in **Tools > Control Panel > Setup > Devices**.
- If you are migrating deployed devices from a single venue to a multi-venue system, follow the required steps for proper location association in the [Configuring Cisco Vision Dynamic Signage Director for Multiple Venue Support](#), page 35 of the [Cisco Vision Administration Guide: Dynamic Signage Director](#), 6.1.

To add locations to groups:

1. Go to **Tools > Control Panel > Setup > Zones & Groups**.
2. Click **Location<->Group**.
3. Do one of the following:
 - a. To select by location(s) and add groups to those locations, click **Locations**.
 - b. To select by group(s) and add locations to those groups, click **Groups**.
4. Select the location(s) or group(s) depending on the panel view that you are using.

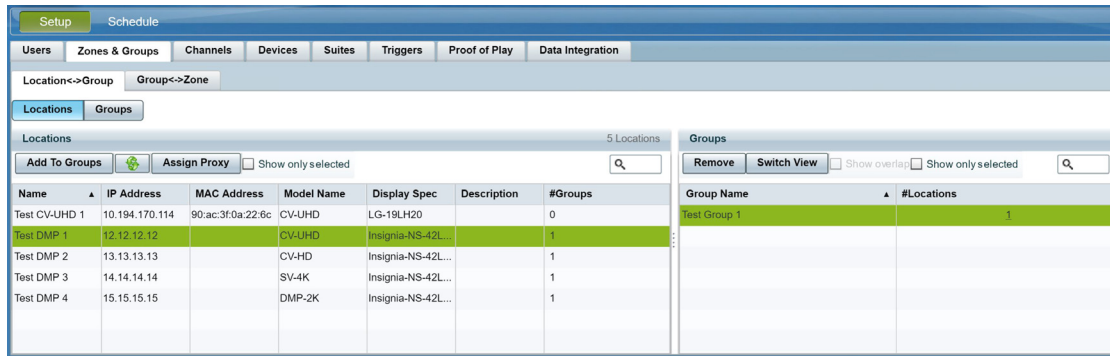
TIP:

- To narrow the display listing, use the search function.
 - To select multiple items in the list, use Ctrl-click or Shift-click keyboard/mouse sequence.
5. Do one of the following:
 - a. If using Locations view, click **Add to Groups**.
 - b. If using Groups view, click **Add Locations**.
 6. Do one of the following:
 - a. In the **Select Groups** dialog box, select the groups to which the selected location(s) are added.
 - b. In the **Select Locations** dialog box, select the locations to be added to the selected group(s).
 7. Click **OK**. The added groups or locations are displayed in the adjoining panel view.

Managing Zones, Groups, and Locations

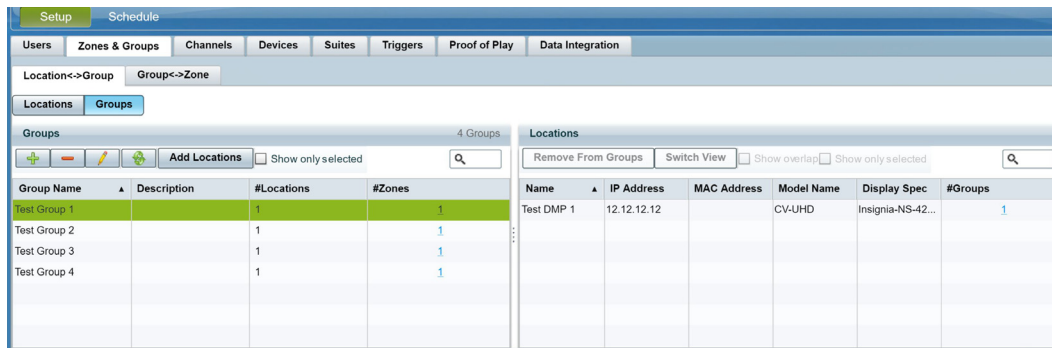
Once you have added zones, groups, and locations in Cisco Vision Director, you can use the Zones & Groups screen to display, manage, and edit information on the selected zone, group, or location as described in this section.

Figure 17 Finding the Group and Zone for a TV



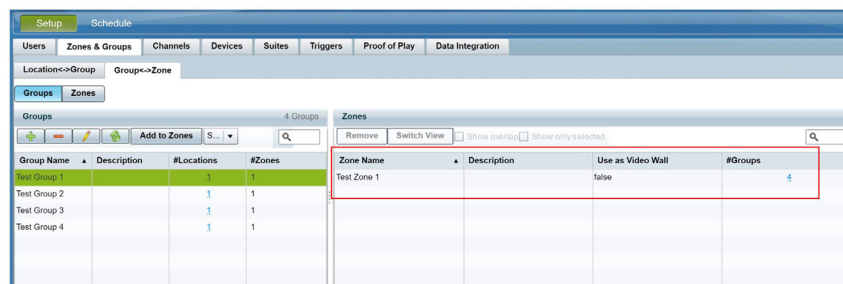
4. Select a group from the Groups panel and click **Switch View**. The number of zones for the selected group displays (Figure 18, on page 74) under #Zones (in this example, there is 1 zone).

Figure 18 Number of Zones



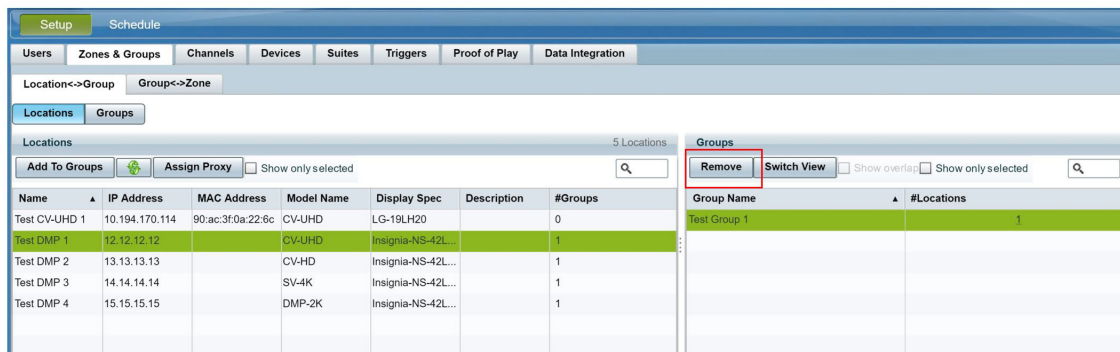
5. With the Group name selected, click on the number link in the #Zones column to show the zones (Figure 19, on page 74) to which the selected group belongs (in this example, Test Zone 1 belongs to 1 zone).

Figure 19 Zones a Selected Group Belongs

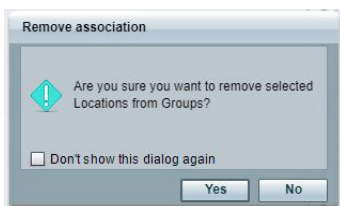


6. Open the **Location<->Group** tab and click the **Locations** button.

7. Select the locations from the left column and the groups from the right column and click **Remove**.



A conformation dialog box appears for you to confirm or cancel the operation.

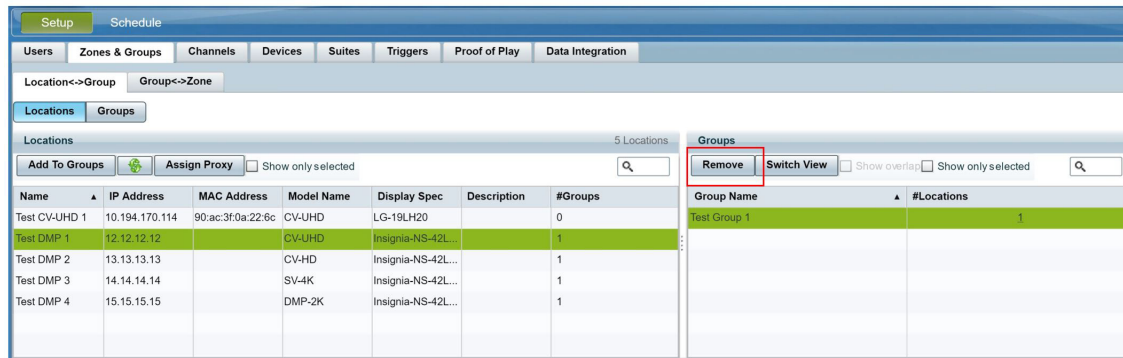


Click **Yes** to remove the locations from the selected groups. Once removed, they will no longer show in the groups list for those locations.

Regrouping and Rezoning Locations

Once you have added and assigned locations to groups, you can regroup them by removing all the locations from the selected groups and then re-assigning the locations to other groups as described here.

1. Go to **Tools > Control Panel > Setup > Zones & Groups**.
2. Select the **Location<->Group** tab and click the **Locations** button.
3. Select the locations that you want to re-group. The Groups panel on the right will display the groups assigned to the selected DMPs.
4. Select the groups from the Groups panel. You can use the shift click keyboard function to select a block of groups. The selected groups and locations are highlighted in green on both the Locations and the Groups panels.
5. Click **Remove** to remove all the locations from the selected groups. A warning dialog displays for you to confirm or cancel the operation.



6. Click **Yes**. The selected groups will be removed from the Groups panel.

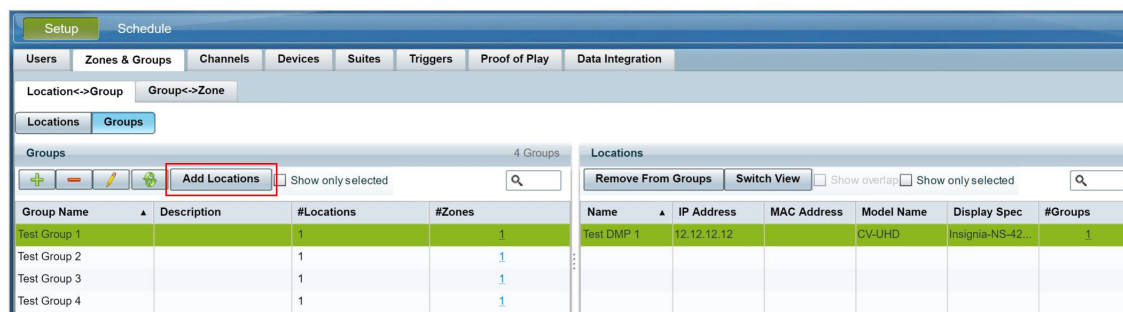


7. Select the **Location<Group>** tab and click **Groups**. Optional: click the switch view button so you can see the groups on the left and the locations on the right.

8. Select a group. You can use the search function to quickly find the group you are looking for.

9. Select the locations you want to add to the selected group from the Locations panel.

10. Click **Add Locations**.



11. Select the locations you want to add from the Select Locations screen and click **OK**. The locations are added to the list of locations for the selected group(s). The #Locations column indicates how many locations are now in the selected group.

Name	IP Address	MAC Address	Model Name	Display Spec	Description	#Groups
Test CV-UH...	10.194.170...	90.ac:3f0a...	CV-UHD	LG-19LH20		0
Test DMP 1	12.12.12.12		CV-UHD	Insignia-NS...		1
Test DMP 2	13.13.13.13		CV-HD	Insignia-NS...		1
Test DMP 3	14.14.14.14		SV-4K	Insignia-NS...		1
Test DMP 4	15.15.15.15		DMP-2K	Insignia-NS...		1

How to Migrate Deployed Devices From a Single Venue to a Multiple Venue System

There are very specific requirements when you migrate devices that have already been deployed in a venue to a multiple venue configuration in Cisco Vision Director.

For more information, see [Configuring Cisco Vision Dynamic Signage Director for Multiple Venue Support, page 35](#) in the [Cisco Vision Director Administration Guide: Dynamic Signage Director, 6.1](#).



Working with Content Deployment

Cisco Vision Director provides both basic and more advanced methods of content ingestion to achieve high levels of visual impact at your venue. This module provides a high-level introduction to the content types and data sources supported in Cisco Vision Director.

Before you begin to deploy content at your venue, it is important that you understand all of the requirements for the types and methods of content that you want to deploy.

There are limitations and specifications for the content size and formats supported by Cisco Vision. These vary depending upon a number of factors including the TV display resolution, the media player used in the venue, the screen template region layout, and the TV proximity to the fans.

Note: For a full range of content planning and design services available by Cisco Systems, contact the Cisco **Creative Services** team.

Understanding Content and TV Resolution

There are several factors that determine the final resolution of your content on a TV display, including the model of media player deployed.

Physical and Signal Resolution

Physical resolution is the actual number of pixels supported by the TV display. **Signal** resolution is the resolution communicated between the media player and the TV display. These signal resolutions are negotiated between the media player and the display.

The physical resolution of the TV display and the negotiated signal resolution do not necessarily have to match. However, the signal resolution from the display and the media player must match for successful communication under almost all circumstances.

TVs smaller than 1920x1080 in physical resolution also can support a signal resolution of 1920x1080.

For TV-based tile-matrix video walls, the physical resolution is defined as the combined resolution of all of the displays. However, the signal resolution is likely to be different. For example, in a 2x2 video wall with TV displays of 1920x1080 resolution, the physical resolution of the video wall is 3840x2160, but the signal resolution would be 1920x1080.

For the digital media players, you can override the negotiated signal resolution by configuring a requested signal resolution in the Cisco Vision Director Control Panel. See the [Configuring Resolution Under Control Panel Display Specifications on page 81](#).

Canvas and Template Resolution

Canvas resolution is the area on which the web browser draws, which ultimately determines what area can be shown on the display.

The canvas resolution is represented by the configurable **template** resolution in Cisco Vision Director. To be visible on the display, the template resolution must be able to fit within the canvas resolution.

Cisco Vision Director Template Resolution

Cisco Vision Director supports the same template resolution on all media players: 1920x1080

Canvas and Template Resolution Behavior on the SV-4K

For the SV-4K, the canvas resolution is mapped to signal resolution for resolutions below 1920x1200. For more information about signal resolution, see [Physical and Signal Resolution, page 79](#).

For example, with content resolution of 1280x720, the SV-4K canvas and signal resolution also will be 1280x720.

Any content greater than this resolution (for example, anything at pixel 1281 and beyond) will not be displayed. Higher resolution content will **not** shrink to fit the canvas.

If you are using a 1920x1080 template for a TV that has a signal resolution of 720p, the SV-4K template canvas will be cropped, **not** shrunk. **Therefore, you must specify the correct template to match your signal resolution and your content must match the template.**

Guidelines for TV and Content Resolution with the Digital Media Players

The DMPs are set to run in full high-definition (HD) 1920x1080 mode by the runtime software.

IMPORTANT: It is highly recommended that your TV supports a minimum of 1080p HD resolution. Lower resolution displays might need some additional configuration of the TV Display Specification configuration in Cisco Vision Director to attempt to optimize the display. In some cases these TVs might cut off an area of the screen.

The quality and expected resolution for video and graphics display for the DMPs can be affected by several things:

- The resolution of the TV display and its ability to negotiate to 1080p.
- The configuration of the `sv4k.videoMode` serial command in the Display Specifications area of the Cisco Vision Director Control Panel.
- When set to a resolution, this value specifies the signal resolution of the DMPs.
- If the resolution is set to auto-detection, then the TV negotiates the signal resolution with the DMPs as long as the TV supports negotiation.

IMPORTANT: If you are using a 4K display, you must configure a fixed resolution value of 3840x2160x60p in the `sv4k.videoMode` serial command in the TV display specification

- The template region size.
- The size of the original graphic and whether any scaling needs to happen.

Note: For more information about content and template guidelines, see the [Cisco Vision Content Planning and Spcification Guide: Dynamic Signage Director, Release 6.1](#).

Restrictions for Control Panel TV Display Specifications with the DMPs Media Player

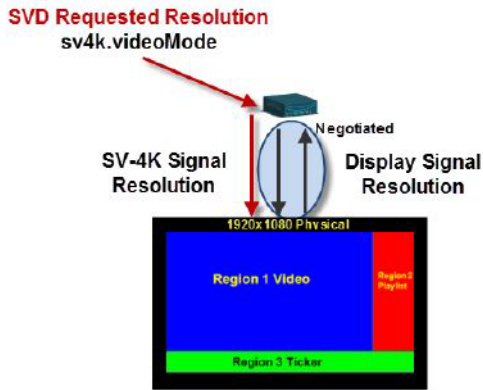
Before you configure TV display specifications for use with the DMPs media player, consider the following restrictions: The following Basic Info options are not supported:

- X Position / Y Position
- X Scaling / Y Scaling

Configuring Resolution Under Control Panel Display Specifications

The Display Specification for a TV can either be configured for auto-detection of resolution by the TV, or set to a fixed resolution in the Cisco Vision Director Control Panel (see [Figure 20 on page 81](#)).

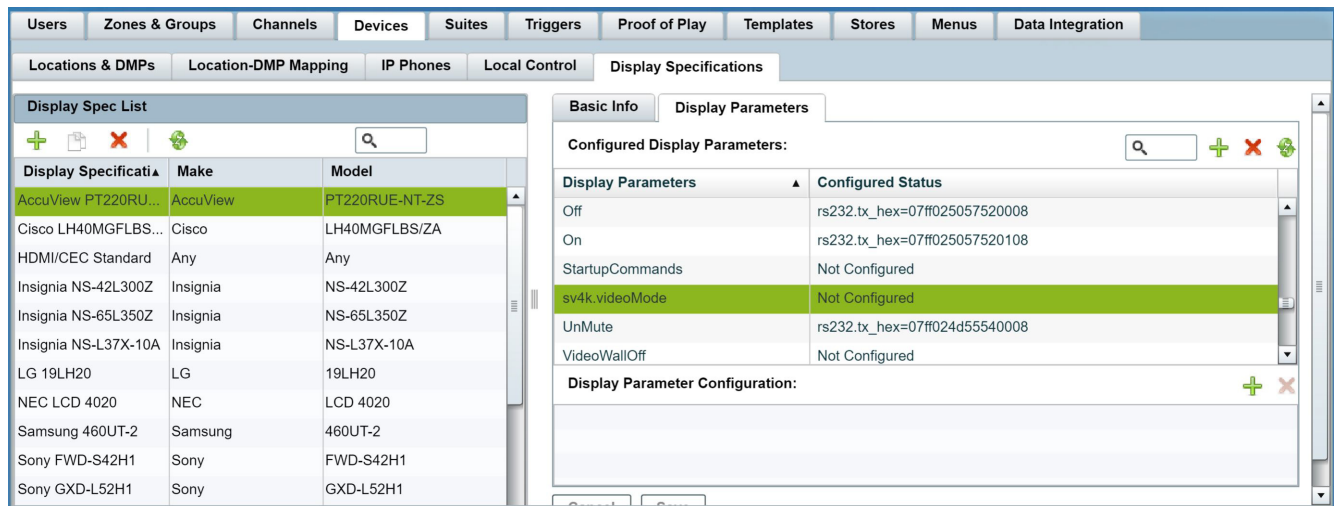
Figure 20 SV-4K and Display Signal Resolution



- If the resolution is set to auto-detection, then the TV and the SV-4K negotiate the signal resolution, as long as the TV supports auto-negotiation ([Figure 20 on page 81](#)).
- If a resolution is specified in the Control Panel, then the content is resized according to that setting. This is the requested SV-4K signal resolution shown in red in [Figure 20 on page 81](#).
- If the signal resolution of the SV-4K is set below 1920x1080 for any reason, video content will be resized according to the template in use.
- The template in use and the corresponding content must match the signal resolution.

To set the resolution for a display:

12. Go to **Tools > Control Panel > Setup > Devices > Display Specifications**.
13. Select the TV that you want to configure.
14. Click **Serial Commands**.
15. Find the sv4k.videoMode command ([Figure 21 on page 82](#)).

Figure 21 SV-4K Resolution Setting in Display Specifications

16. Specify one of the values in [Table 2 on page 82](#) according to the desired resolution behavior.

Table 2 SV-4K Resolution Values

sv4k.videoMode Value	Resolution
3840x2160x60p ¹	Fixed at 2160p
1920x1080x60p	Fixed at 1080p
1280x720x60p	Fixed at 720p
Not Configured	Auto-detected
Auto	Auto-detected

1. This specification is required for 4K TV displays in Release 4.1.

17. Click **Save**.

18. Reboot the SV-4K device.

Understanding Content Types and Sources in Cisco Vision Director

Content is defined as any digital media that is presented on a TV display using a digital media player in Cisco Vision Director. Cisco Vision Director supports a variety of content types and data sources to create an impressive presentation of digital content at your venue.

External and Internal Data Sources

This section summarizes the external and internal data sources that are available using the Data Integration interface to bring additional content into Cisco Vision Director.

For more information, see the [Cisco Vision Director Data Integration Guide](#).

Data Feeds

- Atom Feed
- RSS Feed (RSS 2.0)

Generic Data Sources

Cisco Vision Director also can support Generic Data Sources from the following source types:

- Database
- Supports automatic translation of MySQL and SQLServer database formats to XML data in Cisco Vision Director.
- FTP
- HTTP/HTTPS
- JSON
- TCP
- UDP

NFL Data

- National Football League (NFL) Game Statistics and Information System (GSIS) Cumulative Statistics
- NFL GSIS Game Clock

Other Data Sources

- Table Lookup (internal or external data source)
- The Table Lookup feature for data integration allows users to create multiple tables, each having multiple key-value mappings. Users can upload tables from a TSV file or create tables and mappings from the Cisco Vision Director UI.
- Once tables are created, a custom XPath function can be defined to look up values from these tables for specified keys.
- The Table Lookup feature for data integration supports the following primary use cases:
- Custom Suite Welcome Messages
- Translation of Point-of-Sale (POS) codes to names for menu boards.
- System (internal data source)

POS Data Sources

- Generic PoS
- Internal Database PoS (internal data source)
- Menu Theme (internal data source)

Scoreboard Controllers

- Daktronics All Sport 5000 Scoreboard Controller (basketball, NFL™ football, and hockey only)
- OES ISC9000 Intelligent Scoreboard Controller (basketball and hockey only)

HTML Pass-Through Content

Cisco Vision Director allows you to render simple HTML browser content (with some restrictions) on the Cisco DMPs by including an external URL in a playlist and scheduling it in a script.

The content is not actually stored in the Cisco Vision Director content repository (CMS), and any changes to the content on the external site page are dynamically updated on the DMP when the script restarts.

Menu Board Content

IMPORTANT: The DMP does not support deployment of menu board data using the DMB gadget archive (GAR--now obsolete) or for in-suite ordering. However, stores data and DMB menu theme data can be deployed on the DMP using data integration and widgets.

Cisco Vision Director supports three overall methods of Point of Sale (POS) integration for menu board implementation:

- Hybrid DMB and Data Integration–POS Integration (NCR/Quest and Micros) using internal DMB data integration and widgets.
- Data Integration Only–Third-party POS vendor integration using the POS API and data integration and widgets.

For More Information

- [Cisco StadiumVision Director Dynamic Menu Board and Store Configuration Guide](#)–Describes how to work with stores, menu themes, and create menu boards in the DMB application.
- [Cisco Vision Director Data Integration Guide](#)–Describes the differences between the DMB application and using POS data sources for menu board creation, deployment guidelines and configuration tasks, and widgets tool information and examples.

RSS Ticker Feeds

A ticker is a region that displays content received from an RSS feed (news, weather, or other dynamic information) over a customizable background. RSS feeds can come from external or internal sources. Venue operators can use RSS feeds to publish their own in-house promotions or other proprietary messaging.

Data Integration Method

IMPORTANT: This is the only method supported by the SV-4K media player.

The Data Integration method was introduced in Cisco StadiumVision Director Release 3.1 (now Cisco Vision Director) to add RSS data sources and modify their layout using the Widgets tool.

For more information, see the [Cisco Vision Director Data Integration Guide](#).

Static Graphic Sources

Static graphics are images used for advertisements or informational messages that do not require motion.

Add static graphics to Cisco Vision Director using the Library screen.

Video Sources

Cisco Vision supports the basic sources of video content:

- Video from the headend (in-house, terrestrial TV, satellite and cable providers feeds, typically multicast).
- Video locally stored and played through a video playlist or a mixed media playlist (beginning in Release 3.1).
- Video streamed from a laptop or other supported device connected to the HDMI-In port.

Video Content Sourced Using HDMI-In

Cisco Vision Director supports two ways to source local video content using the HDMI-In port on the digital media player:

- Encoding streamed video as a channel in Cisco Vision Director.

Encoded HDMI-In video on the DMP can be started and stopped using multiple local control methods, as well as within Cisco Vision Director:

- IP phone
- IR remote
- Management Dashboard
- Script states
- User Control API

- Configuring Local HDMI-In as a video source in a region that is controlled using script states only.

IMPORTANT: The HDMI-In port on the digital media player can only be supported either as a source to video region or source to encoder as a channel, but not both.

Therefore, you cannot have a script in a state which tunes to the HDMI-In as video source in a region, and then transition to the next state where you are streaming video from HDMI-In.

Workflow Summary to Deploy Content in Cisco Vision Director

Table 3 on page 85 provides a summary of the tasks and related information to deploy content in Cisco Vision Director.

Table 3 Content Deployment Task Summary

Content Deployment Task	For more information see:
Plan the type of content that you want to create.	Understanding Content Types and Sources in Cisco Vision Director, page 82
Plan where it will be deployed.	Working with Zones, Groups, and Locations, page 55
Understand the content guidelines and best practices.	<p>Cisco Vision Content Planning and Specification Guide: Dynamic Signage Director, Release 6.1</p> <p>Also refer to the related content-specific guides for the content types that you plan to support, including:</p> <p>Cisco StadiumVision Director Dynamic Menu Board and Stores Configuration Guide</p> <p>Cisco Vision Director Data Integration Guide</p>
Plan and create the screen template and region sizes for your content.	Working with Screen Templates in Cisco Vision Director, page 87

Content Deployment Task	For more information see:
Create your content and get it into Cisco Vision Director.	Getting Content Into Cisco Vision Director, page 136
Create a playlist for your content.	Working with Playlists in Cisco Vision Director, page 143
Create a script to define when your content is displayed.	Working with Event Scripts, page 173



Working with Screen Templates in Cisco Vision Director

User Role: Administrator / Content Manager

This module provides information about how to set up the layout of content on a TV display by defining regions for the screen using predefined or custom templates.

Information About Screen Templates

Screen templates define the video and non-video regions and layout of a display. Screen templates are used to create various layouts for the presentation of different types of content. Screen templates are assigned to zones or groups and apply to all locations within them.

Figure 22 on page 87 shows three basic templates. The “L-wrap” template divides the screen into three sections where you have video in the top left of the screen, advertising along the side, and a ticker across the bottom that might be showing scores and a news feed.

Figure 22 Three Basic Templates



Cisco Vision Director allows you to create the following types of screen templates:

- Custom template—Specifies the size and arrangement of regions on the screen.
- Overlay template—Specifies a video region that overlaps a secondary video region (SV-4K only), or non-video region that overlaps a video region in the template.




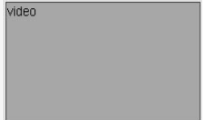
Default Screen Template Dimensions

The dimensions for the default screen templates are fixed and cannot be changed.

Alternatively, you can create custom screen templates (where you specify different sizes for the screen template regions) and overlay screen templates (where you have a non-video or video region overlapping a video or mixed media region).

Table 4 on page 88 defines the default screen templates that are included with Cisco Vision Director **4.0 and later**. **Installing a full ISO image would remove previously available templates.**

Table 4 Default Screen Templates

Template Name	Content Type	Dimensions	Region Layout
Full Screen Video	Displays full-screen video.	Video: 1920x1080	
Full Screen Graphic	Displays full-screen graphic.	Graphic: 1920x1080	
3-Region L-wrapper	Displays live video footage or video replay in Region 1, a playlist of advertisements in Region 2, and a ticker with scores or news in Region 3. Also referred to as an “L-wrapper.”	Video: 1624x914 Ads: 296x914 Ticker: 1920x166	
Full Screen Dual Video	Displays a full screen video in each video region (video 1 and video 2). Using luma keying on video region 2, you can enable select areas of video region 1 content to be visible through video region 2. For video content with 4K resolution on the SV-4K media player, luma key cannot be applied. Luma keying is only supported for dual video when an HD video in the secondary region uses a luma key over a 4K video in the primary region. The Full Screen Dual Video template is only available to use on the DMPs media players.	Video 1: 1920x1080 Video 2: 1920x1080	

Note: Obsolete templates (such as 3-Region, Welcome, Exit, Emergency, Outside Emergency, 3-Region, 3-Region double) might still appear in your system if you have upgraded from earlier releases.

Full Screen Default Templates

The full screen templates that come with the Cisco Vision Director software are used to display full-screen video (or mixed media) or full-screen graphics. [Figure 23 on page 89](#) shows an example of a video (or mixed media) in the full screen template. [Figure 24 on page 89](#) shows an example of a graphic in the full screen template. Both are fixed screen templates and cannot be customized. [Table 5 on page 89](#) and [Table 6 on page 90](#) show the template dimensions.

Figure 23 Full Screen Video (or Mixed Media) Template Example



Table 5 Full Screen Video or Mixed Media Template Dimensions

Content Type	Dimensions
Region 1: Video or Mixed Media	Region 1: 1920x1080
Full Screen Video	1920x1080

Figure 24 Full Screen Graphic Template Example

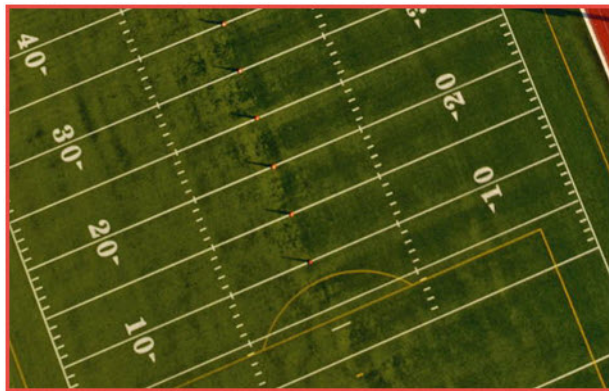


Table 6 Full Screen Graphic Template Dimensions

Content Type	Dimensions
Region 1: Graphic	Region 1: 1920x1080
Full Screen Graphic	1920x1080

3-Region LWrap with Bug Template

Figure 25 on page 90 shows an example of the content for the 3-Region Lwrap with Bug template that comes standard with Cisco Vision Director. This is a fixed screen template and cannot be customized. Table 7 on page 91 shows the template dimensions.

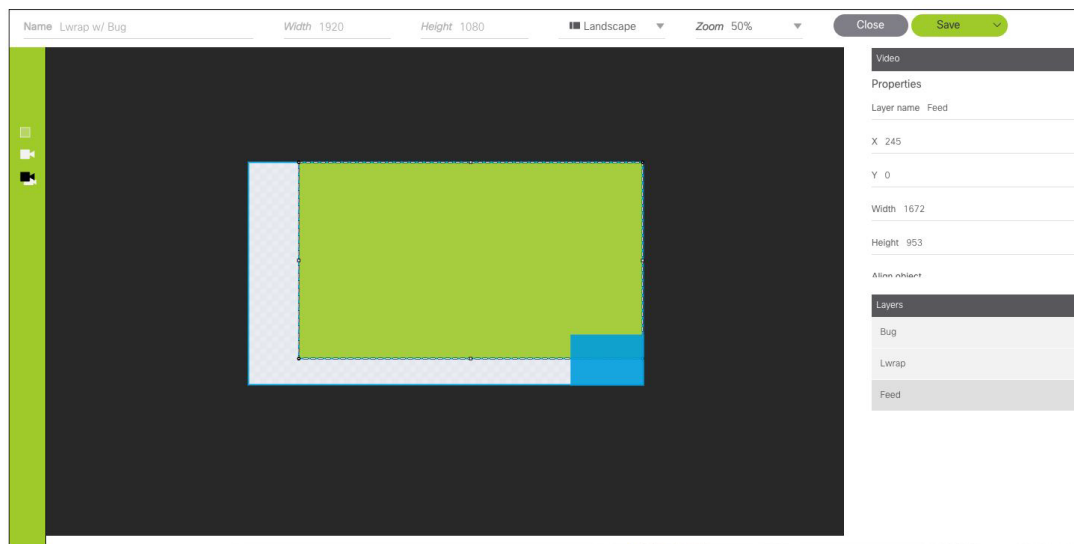
Figure 25 3-Region Lwrap with Bug Template, Feed Layer

Figure 26 3-Region Lwrap with Bug Template, Lwrap Layer

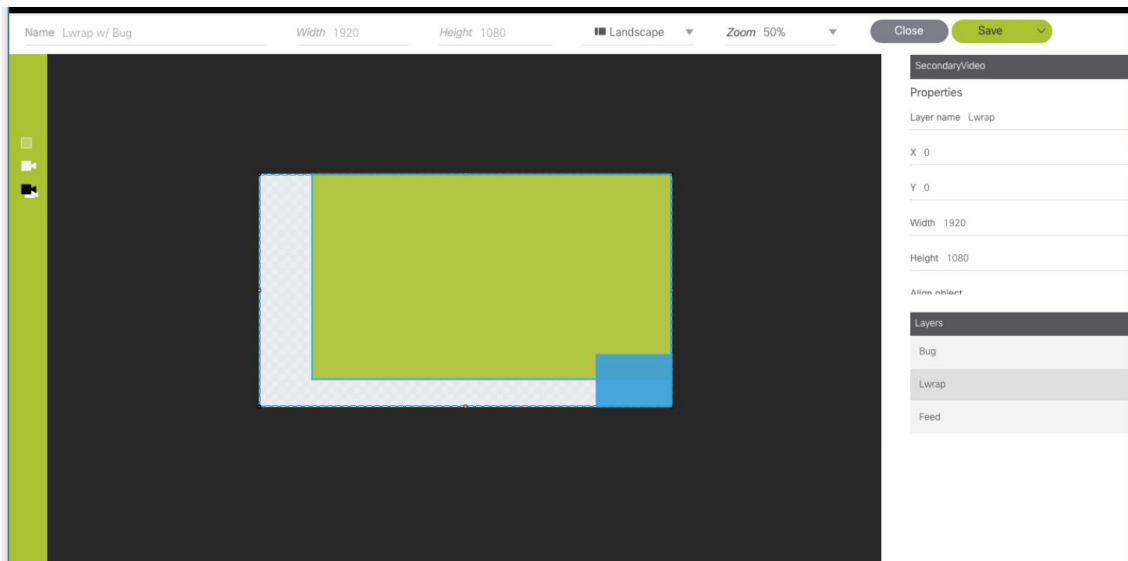


Figure 27 3-Region Lwrap with Bug Template, Bug Layer

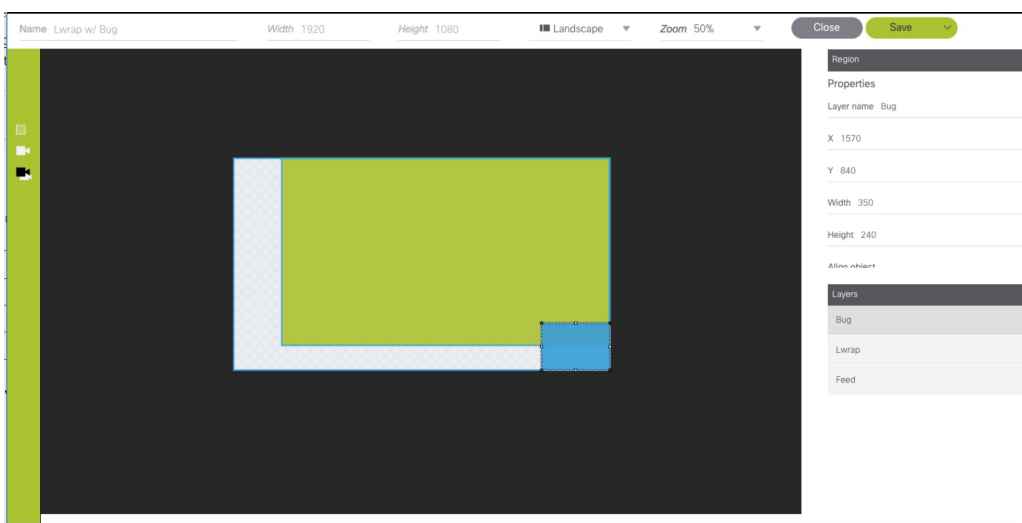


Table 7 Standard Lwrap with Bug Template Dimensions

Lwrap w/Bug	x	y	width	height
Bug	1570	840	350	240
Lwrap (video)	0	0	1920	1080
Feed (video)	245	0	1672	953

3-Region L-Wrapper Default Template

Figure 28 on page 92 shows an example of the content for the 3-Region L-wrapper template that comes standard with Cisco Vision Director. This is a fixed screen template and cannot be customized. Table 8 on page 92 shows the template dimensions.

Figure 28 3-Region L-Wrapper Template



Table 8 3-Region L-wrapper Region Template Dimensions

Content Type	Dimensions
Region 1: video or mixed media	Region 1: 1624x914
Region 2: non-video	Region 2: 296x914
Region 3: non-video	Region 3: 1920x166

Table 9 on page 93 lists the characteristics of the 3-Region L-wrapper screen template.

Table 9 3-Region L-wrapper screen template characteristics

Region	Description
Region 1	<ul style="list-style-type: none"> ■ 16:9 aspect ratio. ■ Supports live video broadcasts or video replay. For more details on video formats, refer to the Cisco StadiumVision Director Video Headend Design and Implementation Guide for your release (available to qualified Cisco Vision partners).
Region 2	<ul style="list-style-type: none"> ■ Supports playlists of advertisements. ■ Due to the small dimensions of region 2, use graphic-intensive ads rather than ads that have a lot of small text in this region.
Region 3	<ul style="list-style-type: none"> ■ Designed for displaying a graphic and/or information in the form of a ticker. ■ The ticker content can be from a compatible RSS feed approved by the venue. ■ The ticker region can be customized with the venue logo (with the ticker content playing in the remaining space).

Full Screen Dual Video Default Template for All DMPs

A full screen dual video default template is available for the DMPs media player. Dual video regions allow you to overlay two video regions; a secondary local or multicast video region and a primary video region.

The dual video template provides the following capabilities:

- Show two video feeds at the same time.
- Place video-based advertisements.
- Promote a moment of exclusivity during an event.
- Apply luminance (luma) keying to the secondary video region.

Note: The dual video template is only supported on the DMPs media players.

For video content with 4K resolution on the SV-4K and CV-UHD media players, a luma key cannot be applied. Luma keying is only supported for dual video when an HD video in the secondary region uses a luma key over a 4K video in the primary region.

[Table 10 on page 94](#) lists the specifications of the dual video regions.

Table 10 Full Screen Dual Video Template Specifications

Region	Specification
Video 1	<ul style="list-style-type: none"> ■ Can be controlled using an infrared remote (IR) remote or local control. ■ In the template, video region 1 appears as the bottom or primary layer. ■ Supports audio. ■ Source: Local or multicast video.
Video 2	<ul style="list-style-type: none"> ■ Cannot be controlled through an IR remote or local control. ■ In the template, video region 2 fully overlaps video region 1. ■ Luminance (luma) keying is applied to second video region (it cannot be disabled or changed in the template). ■ Does not play audio. ■ Source: Local or multicast video.

Note: The luma key default is set to #ff2000. To enable luma keying, click the checkbox.

To change the global luma key value:

1. Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Global DMP Settings > Audio/Video/Closed Caption.**

Custom Screen Templates

Custom screen templates allow you to change the size and arrangement of content regions on the screen to fit your sponsor and venue needs. [Figure 29 on page 94](#) shows an example of some custom screen templates.

Figure 29 Custom Screen Template Example

Custom Overlay Screen Templates

Overlay screen templates are custom templates that allow a non-video region (graphics) to overlap a video (or mixed media) region on the media players.

TIP: On the DMPs media player, you can also create a custom template that allows for dual video regions or you can use default full screen dual video template. See [Full Screen Dual Video Default Template for All DMPs, page 93](#).

This overlay feature can be assigned to any region. Using the overlay feature you can display:

- A full-screen video (or mixed media) region with a full-screen non-video (graphics) content region overlaid on top.
- A brand/graphic overlaid in a small region of the screen.
- A ghosted brand/graphic such as a transparent logo where some of the colors in the logo are transparent and others are not.

Note: When creating an overlay screen template on the DMPs media player that has a primary video and a non-video region on top, be sure the image is designed to fit on the canvas. If the image is placed off the canvas, only part of the image will appear

The recommended file format for graphics when using an overlay template is 8-bit or 24-bit PNG (transparent pixels supported). When you create the PNG file, you must make the pixels transparent for the full-size video region. JPG files are not recommended because they do not preserve transparency.

How to Configure Screen Templates

This section includes the following topics:

- [General Guidelines for All Screen Templates, page 95](#)
- [Guidelines for Custom Screen Templates, page 96](#)
- [Understanding the Templates Screen, page 97](#)
- [The left panel has Non-Video Region, Primary Video Region, and Secondary Video Region., page 97](#)
- [Naming Screen Templates, page 98](#)
- [Setting the Size and Position of a Region on the Template Canvas, page 98](#)

General Guidelines for All Screen Templates

When creating screen templates and populating content, consider the following:

- Templates are ordered by name.
- For Proof of Play, you can have more than one region with an ad playlist.
- Regions are listed from top-to-bottom layer order, where the top layer appears at the top of the list.
- Layers are numbered, if a screen template contains a non video region and a video or mixed media region, the video or mixed media region always appears at the bottom of the list.

Note: You can manually drag a video region to be on top of other regions; however, the rendering of the regions below the video region will not be predictable, and can be completely invisible.

- A plus sign icon adds a non-video region.
- A film icon adds a video or mixed media region.
- Switching a non-video region to a video region might produce a warning if there is already an existing video region.

- Saving an existing template with regions removed will produce a force dialog for confirmation. In addition, when a template that is used in an event script is edited (including when one is adding a region) a force dialog appears for confirmation. You should also edit the scripts that use the changed template to verify that the added or removed regions contain the appropriate content and changes occur as expected.

Note: Cisco StadiumVision Director Release 4.1 supports HD/SD and video content with 4K resolution (local and streaming video) on the SV-4K media player. Graphics with 4K resolution are not supported. The DMP-2K media players only support HD/SD content.

Guidelines for Custom Screen Templates

Consider the following guidelines when creating custom screen templates:

- Regions can contain non-video content (static graphics), video, or a combination of both (in a mixed media region).
- The number of allowable regions will vary based on the media player.
- Up to 5 regions are supported for each screen template, more than 5 may cause degradation. Results may vary depending on what type of non-video content is used. For example, a very simple widget may not cause degradation but a very complex widget could.

Table 11 on page 96 provides the number of content regions that you can have when creating custom templates.

Table 11 Number of Allowed Content Regions When Creating Custom Templates

Region Type	DMPs
Non-Video (Graphics)	Zero or more
Video Region 1 or Mixed Media	Up to one
Video Region 2 or Mixed Media	Up to one

- A custom template designed for DMPs media players can contain up to two video regions.

Note: The SV-4K media player does not support dual 4K video regions.

- Using luma keying on video region 2, you can enable select areas of video region 1 content to be visible through video region 2.
- You can change the order of the video regions by changing their relative layer order in the template.

- When layering regions, the non-video content (graphics, widgets, etc.) will always appear above the video content.

IMPORTANT: When layering two video/mixed media regions on the DMPs, if the playlist for the first video/mixed media region includes both video and non-video content, then the non-video content in the first region will always appear on top of the video in the second video region. Name the layers with “top” or “bottom” so that “Layer1Bottom” will be covered by “Layer2Top.”

If you must include non-video content in region 1, then a workaround is to create a local video of the static content and use that in the playlist so that it remains in the primary region.

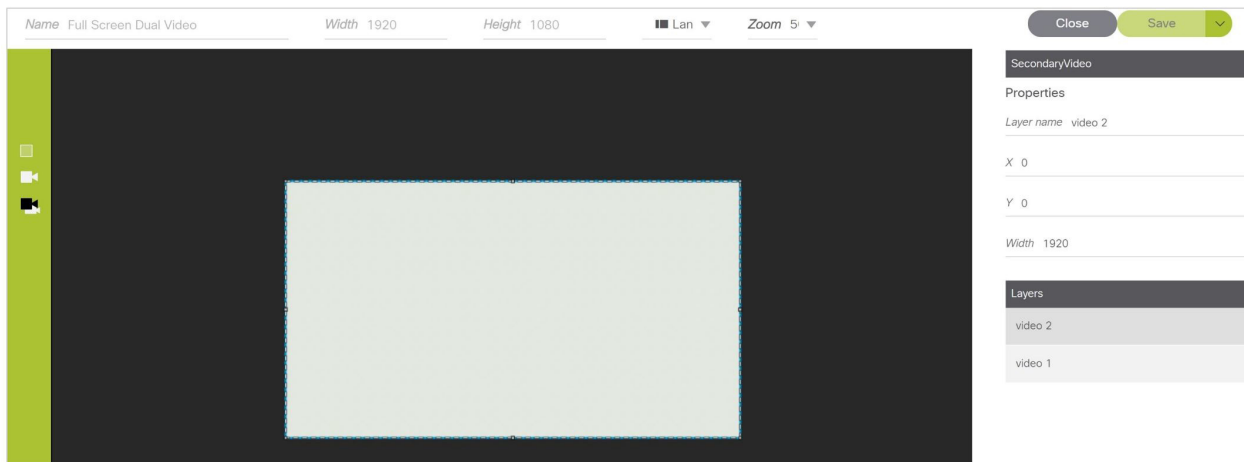
- To optimize performance, the video and graphic aspect ratio sizes should match the aspect ratio of the region. Multi-screen template stretching is not currently supported on DMPs media players.
- All regions must fit within the 1920x1080 dimensions. If you are using an overlay, then you can have two regions that are both 1920x1080.

Note: DMPs media players support negotiation to many resolutions, however when the negotiated resolution is less than 1920x1080, the template will be cropped to that lower resolution

Understanding the Templates Screen

Figure 30 on page 97 shows the Full Screen Dual Video Template, one of the four default templates.

Figure 30 Templates Screen Navigation



The left panel has Non-Video Region, Primary Video Region, and Secondary Video Region.

Choose Landscape or Portrait orientation for your content.

Choose a zoom percent from the drop down.

Click Layer name and set the X, Y, and Width metadata. Type in a layer name.

When finished, click Save As.

Creating Custom Screen Templates

User Role: Administrator / Content Manager

There are two ways that you can create new custom screen templates in Cisco Vision Director:

- Adding a brand new template for which you define all properties and regions.
- Copying from the default standard templates or another existing template to leverage the same properties and regions.

Default templates (indicated by a lock icon to the left of the template name) can be copied but not modified.

Adding a New Template

The default view is Listview for templates. Select a template and right-click for action boxes.

To add a new template:

1. Go to **Library > Designer > Templates**.
2. Click New Template “+” icon. A new template appears.

How to Configure Screen Templates

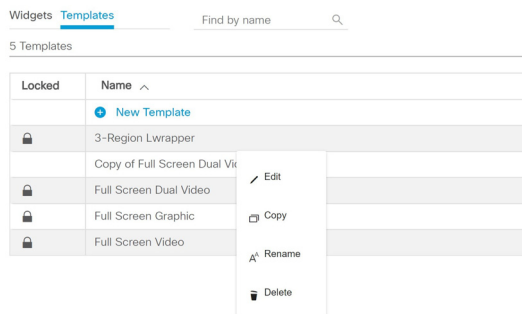
3. Type a new name. For suggestions on naming conventions, see the [Naming Screen Templates, page 98](#).
4. Add one or more regions (up to 5).
5. Specify the region properties, orientation, and zoom percent.
6. Save the template.

Copying From an Existing Template

An alternative way to create a new template is to copy an existing template that you have already customized, or copy from one of the default system templates. This method saves you time and includes all of the properties from the copied template.

To copy an existing template:

1. Go to **Library > Designer > Templates**.
2. Select the template and **right-click > Copy**. “Copy of...” the template you chose appears.
3. Right-click the template name and click **Rename** from the action box. The Rename dialog box appears.
4. Type a new name. Click **OK**. For suggestions on naming conventions, see the [Naming Screen Templates, page 98](#).
5. (As required) Modify the region properties and layers.
6. Save the template.



Naming Screen Templates

When naming screen templates, use meaningful abbreviations within the name to help you identify it. For example:

- Use “FV” in the name to indicate the screen template is for full-screen video
- Use “LW” to indicate the screen template is for an L-wrapper.

Additionally, you can include other pertinent information such as “beer” for a playlist that only has beer advertisements in it or “BrandY” for a playlist that only has BrandY products in it.

Setting the Size and Position of a Region on the Template Canvas

User Role: Administrator / Content Manager

There are several ways that you can modify the size and position of a region on the template canvas.

Resizing a Region

IMPORTANT: For the DMPs, the Width and Height of the template canvas must match the signal resolution. For more information, see [Canvas and Template Resolution, page 79](#).

To resize a region, you can:

- Select a handle of the region box and drag it to enlarge or shrink that dimension of the region.
- For a more precise result, type the actual pixel value in the Width and Height properties.
- If you specify a region size that overlaps with another region or is outside the allowable area, an error message displays to the right of the region screen.

Repositioning a Region

TIP: X and Y values should be 0, 0 when creating fullscreen template regions. The upper left corner (0,0) position is the starting point for all templates.

To reposition a region, you can:

- Select a region (layer) and drag it on the canvas to change its position (offset).
- For a specific position, type the actual pixel offset values:
 - X–(Horizontal offset) Number of pixels to indent the content from the left side of the canvas.
 - Y–(Vertical offset) Number of pixels to indent the content from the top of the canvas.
- To change the layer order of a region on the canvas, go to the Regions list box and drag and drop the region up or down to change its order.

IMPORTANT: A multicast video layer should always be the bottom layer (Layer 1).

How to Use Luma Keying for Dual Video Templates

Note: Dual video luminance keying is not supported by the CV-HD media player.

This section includes the following topics:

- [Understanding How the Luma Key Works, page 99](#)
- [Modifying the Default Luma Key Value, page 100](#)

Understanding How the Luma Key Works

Luminance keying is used to filter the brightness level of content. Based on the key value, a range of brighter and darker pixels are filtered out and made transparent.

Luma Key Examples

Luma keys are useful when you want to overlay a moving graphic or other content over the multicast stream of a live event using dual video regions.

[Figure 31 on page 100](#) shows an example of overlaying “GOAL” to highlight a moment of exclusivity during a game.

Figure 31 Goal Overlaying Game Stream



Figure 32 on page 100 shows an example of a hockey puck moving over the game stream to highlight a goal during the game.

Figure 32 Flying Hockey Puck Overlaying Game Stream After Goal



Modifying the Default Luma Key Value

User Role: Administrator

The Luma key property is set globally for all DMPs media players in the system. It can be enabled or disabled per dual video template from the Control Panel Templates screen.

TIP: Contact the Cisco Creative Services team for guidance on how to effectively use and set the luma key value for your content needs.

The Luma key property is a 6-digit hexadecimal value that is set to #ff2000 by default. Table 12 on page 101 shows the format of the hexadecimal key and how the bits are interpreted.

Table 12 Luma Key Format

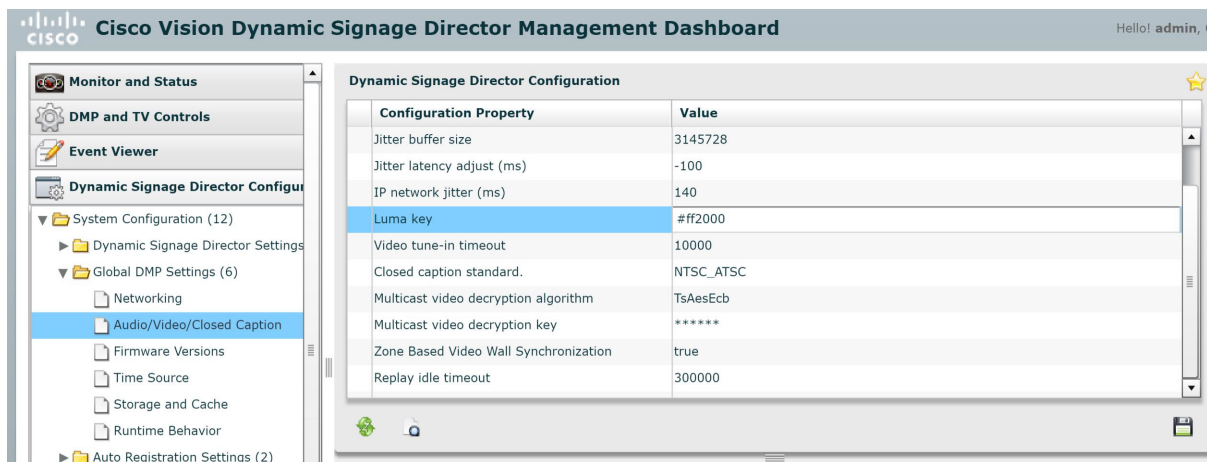
8-Bit Mask	8-Bit High Range	8-Bit Low Range
0xff	0x20	0x00

With the default value, content with the luma of 0xff is masked (left unchanged), and content with luma values in the range of 0x00 to 0x20 (the darker pixels) are filtered from the content and made transparent.

To disable the luma key property globally for all DMPs, leave the value blank (no spaces). If the Luma key property is blank, then no masking will be applied even if the option is set on the template.

To modify the default luma key value:

1. Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Global DMP Settings > Audio/Video/Closed Caption**.
2. In the Configuration Property box, find the **Luma key** property.



3. In the value box, type the 6-digit hexadecimal value beginning with the # sign.
4. Click the disk icon to save your changes.

TIP: You do not need to reset the media player to apply the new value. Whenever a script starts, the digital media player retrieves the global settings.



Working with Content in Cisco Vision Director

User Role: Administrator / Content Manager

This module provides information about how to use the Content screen to manage your content and an overview of the different content ingestion methods available in Cisco Vision Director.

This section includes the following topics:

- [Configuring the Default Video Channel, page 103](#)
- [Tuning Selected Media Players to a Multicast URL, page 104](#)
- [Defining Channels and Channel Guides, page 104](#)

Configuring the Default Video Channel

Specifying a default video channel allows you to quickly verify that video transmission is working after provisioning a media player without running an event script.

If the default video channel is not configured properly, or if a video channel is not available, then media players not running an event script will display a black screen. This is not necessarily a problem, but it does delay verification of proper multicast operation to the DMP.

To configure the default video channel:

1. Log into Cisco Vision Director as an administrator.
2. Go to **Tools > Management Dashboard**.
3. Go to **Dynamic Signage Director Configuration > System Configuration > Dynamic Signage Director Settings**.
4. In the **Configuration Property**, find the **Default landscape content url** and the **Default portrait content url**.
5. Type the URL for the video stream ([Figure 33 on page 104](#)).
6. Save the changes (click disk icon in bottom right of panel).
7. Reload the media players.

Figure 33 Configuring the Default Video Channel

The screenshot shows the Cisco Vision Dynamic Signage Director Management Dashboard. On the left is a navigation menu with categories like 'Monitor and Status', 'DMP and TV Controls', 'Event Viewer', and 'Dynamic Signage Director Configuration'. The 'Dynamic Signage Director Configuration' section is expanded to show 'System Configuration (12)', 'Dynamic Signage Director Settings (1)', and 'Global DMP Settings (6)'. The 'Dynamic Signage Director Settings (1)' is selected, displaying a table of configuration properties.

Configuration Property	Value
Default landscape content URL	udp://239.194.0.204:4000
Default portrait content URL	udp://239.194.0.204:4000
Delay Channel	24
IP Address of Director Server	10.194.170.141:8080
Dynamic Signage Director Server locale	English (United States)
Allow Duplicate url for Channels	false

Tuning Selected Media Players to a Multicast URL

User Role: Administrator

You can tune one or more media players to a specific multicast URL in the Management Dashboard. This configuration will not remain after reboot of the devices but can be used as temporary workaround to a content issue at the venue.

To tune selected media players to a multicast URL:

1. Go to **Tools > Management Dashboard**.
2. Go to **DMP and TV Controls > TV Commands > Set Video Channel**.
3. In the **Command** panel, **Common** tab, specify the URL for the multicast group (address and port) of the video channel that you want to display on the selected media players.
4. In the **Select Devices** panel, select the media players whose TV displays should display this default channel.
5. Click the **Play** button (bottom left) to send the command to the selected DMP.

Defining Channels and Channel Guides

User Role: Administrator / Content Manager

Cisco Vision Director allows you to distribute in-house video and re-distribute external channels including over the air (OTA) local channels, satellite, and cable TV. Video can be in either high definition (HD) or standard definition (SD). There is no limit to how many channels you can offer. The channels you select will be available for viewing anywhere you have TVs connected to DMPs: in bars and restaurants, the back office, and in luxury suites. Users can change channels from the IP Phone or using the IR remote.

Figure 34 Channel Guide Lineup on TV and IP Phone

Channel Lineup Designation at the Headend

A combination of external and internal channels make up the “channel lineup” that is available throughout the venue.

Although the concept of a channel number doesn’t really exist in the IP world, channel numbers are typically assigned to each channel at the headend. These numbers are arbitrary, but can be numbered correspond to the top 15 channels that will show up on the IP phone control in the Luxury suites.

To enable channel selection at the endpoints:

- On the Cisco DCM, each (in-house or external) channel received is mapped to its unique multicast group address and UDP port number.
- In Cisco Vision Director, each unique multicast group/UDP port number pair is assigned a Vision channel number and a channel name.
- Cisco Vision Director uses this mapping to direct DMPs to specific channels and populate an electronic program guide which lists the available channels.

Note: For information about how to configure the channel lineup at the headend, see the [Cisco StadiumVision Video Headend Design and Implementation Guide](#) available to qualified Cisco Vision partners.

Defining the Master Channel List

Once channels have been defined at the headend, define a master channel list. Go to **Tools > Control Panel > Channels**.

Consider the following before you configure the master channel list:

- Channels to be offered: Decide how many in-house live video feeds you will have and which external channels you will offer.
- Channel Numbering Scheme: You may want in-house channels at the top of your numbering scheme. You may want your numbering scheme to match the area satellite or cable numbering scheme. You may choose to hide some of the channels you have in house.
- Channel Guide Appearance: Decide the channel guide descriptions that appear on the TVs in your luxury suites, bars, and restaurants and whether you want a team logo to appear on the screen.
- For each channel that should appear in the channel lineup accessed by a Cisco IP Phone or IR remote, set the “Visible in IP Phone Guide” field on the Channels panel to **Yes**.

- For each channel that is to appear in the channel lineup accessed by a third-party touch panel, set the “Visible in 3rd Party Guide” field on the Channels panel to **Yes**.

Adding Channels to the Master Channel List

User Role: Administrator / Content Manager

To add channels to the master channel list:

1. Open the Control Panel and select the **Setup > Channels**. The Master Channel List displays in the Master Channel List tab.
2. Click “+” at the top of the Master Channel List.
3. On the **Basic Info** tab, define the information listed in [Table 13 on page 106](#). The description and source ID are optional.

Note: The Channel name configured in Cisco Vision Director should be limited to 12 characters or less. Due to the space allotted for channel names on the IP Phone interface, more than 12 characters may have undesirable results.

Table 13 Adding a Channel to the Master Channel List

Field	Description
Channel Name	The name of the channel as you would like it to appear on the channel guide that appears on your video displays. A maximum of 12 characters are supported.
Description	Description of what is playing on the channel (optional). This shows up on the TV only.
Multicast Address	The multicast IP address of this channel designated at the Cisco Vision headend.
Port	The multicast port used to communicate with this channel as designated at the Cisco Vision headend.
Channel Number	The number you want to assign to this channel. This channel number will appear in the channel guides on the TVs and IP Phones.
Source ID	Placeholder for future program guide integration. Not required.
Allow Ad Wrapping	Ad wrapping refers to displaying this channel in an L-wrapper or similar screen template where advertisements play alongside the video stream.
Favorite	Specify “yes” if you want the channel to be listed as a favorite in the channel guide controlled by a 3 rd party touch panel.
Favorite Order	Enter a number (between 1 and 10) indicating the ordinal placement of this channel in the listing,

4. When you have filled in all the required fields, click **Save**. As soon as you save this channel, it will appear in the Master Channel List.

Note: You must **Save** before you add or modify another channel. As soon as you move from one channel to another without doing a save, all of your input is lost.

5. Repeat steps 3 and 4 to add all the channels you want to display in Cisco Vision Director.

Using “Favorites” (Third-Party Touch Panels Only)

In addition to the channel lineup, a maximum of 10 channels can be identified as favorites, which appear on the initial video control page of the third-party touch panels.

For each channel that should be listed as a favorite:

- In the **Favorite field**, select **Yes**.
- In the **Favorite Order field**, enter a number (between 1 and 10) indicating the ordinal placement of this channel in the listing.

Work with the third-party device integrator to determine how the favorites list should be displayed on the third-party touch panels. All installations should move to access channels directly versus indirectly through the favorites mechanism.

Sorting the Master Channel List

Click the Master Channel List column headings (Name or #) to sort the channel names alphabetically in ascending or descending order or by channel number. You can also use the filter box to see only the subset of channels that have the characters you specify in the filter. The filter is not case sensitive. For example, if you type “e” in the filter box the following channels will appear: ESPN, ESPN2, Universal, HD Theater, HDNet, HDNet Movies, and E.

Creating and Assigning Channel Guides

Once you have added channels to the Master Channel List, you can create “per-area channel guides” to display a custom channel guide in different areas of the venue. For example, you can have a different set of channels available in each of the suites, concourses, clubs, the owners suite, back offices, locker rooms, concessions and ticket windows.

The per-area channel guides are a subset of the master channel list, meaning the channels numbers and descriptions are preserved. For example, a venue may have raw in-house channels that they want to make available only to the coaching staff and not to the general public. To do this, create two channel guides: one private and one public. The private channel guide is assigned to groups/zones of DMPs that control the TVs in the coaches office and locker rooms. The public channel guide is flagged as the default channel guide and is automatically assigned to all other DMPs.

Designate one channel guide as the default channel guide. Cisco Vision Director automatically assigns this channel guide to any DMP that is not associated with a luxury suite, bar, restaurant, or other area that supports local control, or any DMP that does not have a channel guide defined.

Note: If you make changes to a channel guide that is associated with an area serviced by a third-party touch panel, the third-party device must reload the latest channel guide information. Consult the third-party device integrator (AMX or Crestron) for reload options.

Creating a Channel Guide

User Role: Administrator / Content Manager

To create a channel guide:

1. Go to **Tools > Control Panel > Setup > Channels**. For more information, see [Table 13 on page 106](#).
2. Click the **Channel Guide** tab (next to the Master Channel List tab).
3. Click the **plus (+)** above the Channel Guide and type a name and description for the new channel guide.
4. (Optional) Enable “Default Channel Guide for All Suites” to make this the default channel guide.
5. Click **Save**.

Assigning Channels to a Channel Guide

User Role: Administrator / Content Manager

To assign channels to a channel guide:

1. Go to **Tools > Control Panel > Setup > Channels**. For more information, see [Creating a Channel Guide, page 107](#).
2. Open the **Channel Guide** tab and select the per area channel guide to which you want to assign channels.
3. Click **Assign Channel**. The Master Channel list displays.
4. Select the channels you want to add to the channel guide and click **Add**. The channels you add display in the Channel Guide window.

TIP: To select multiple channels, use the keyboard Shift-click and Ctrl-click.

5. Click **Save**.

Assigning a Channel Guide to a Luxury Suite/Local Control Area

User Role: Administrator / Content Manager

Do this task after the Master Channel List and per area channel guide is created.

To assign a channel guide to a luxury suite:

1. Go to **Tool > Control Panel > Setup > Channels > Channel Guide**.
2. Select the per-area channel guide.
3. Click **Assign** (under the “**Used in Suites**” list). The list of undefined luxury suites/local control areas displays.

Note: The term “Luxury Suite” is used to define not only Luxury Suites but also any local control area.

4. Select the luxury suites/local control area to which you want to assign the custom channel guide.

TIP: To select more than one suite/local control area, use the keyboard Shift-click and Ctrl-click.

5. Click **Assign**.

By default, when the channel guide is brought up on the IP Phone, it is also displayed on the selected TV(s). You can change this behavior by setting the “`tvguide.autolaunch`” parameter to 0 in the Cisco Vision Director Management Dashboard Registry. See [Controlling the Behavior of the Channel Guide, page 110](#).

Adding Icons to the IP Phone Channel Guide

You can associate channel icons that display in the IP Phone channel guide. Channel icons must be obtained locally (the venue must obtain permission from the network) and must be a 24 x 24 PNG file. The most common is a third-party channel icon file that is a 100 X 100 PNG. [Figure 35 on page 109](#) shows some examples.

Figure 35 IP Phone Icons

Uploading a Phone Channel Icon

You can upload and tag multiple icons for the same usage type at the same time.

To upload a phone channel icon:

1. Copy the icon graphic(s) to your local drive.
2. Select **Tools > Control Panel > Setup > Channels**.
3. On the **Channels** toolbar, click the **Icon** button. The icon list displays.
4. Click **Upload Icon** and browse to the png file you want to assign as a channel icon.
5. In the Import Content dialog box, enter the following information: Under “**Keyword Tags to Apply**” select where the channel icon will be used:
 - DMP (for TV banner)
 - Phone
 - 3rd Party Remote
6. Select an expiration setting.
7. Click **Upload**. The icon you uploaded will now appear in the icon list.

Assigning a Phone Channel Icon

User Role: Administrator / Content Manager

Once you have created a master channel list and uploaded phone channel icons, assign icons to the channels.

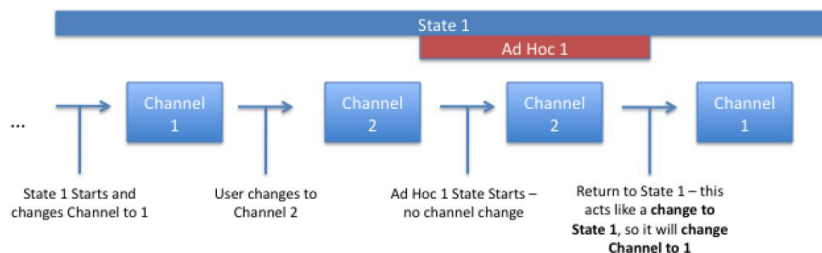
To assign a phone channel icon:

1. Select **Tools > Control Panel > Setup > Channels**.
2. On the **Channels** toolbar, click the **Icon** button. The icon list displays.
3. In the icon list, select the channel for which you want to assign an icon. The channel number displays in the Assigned Icons box.
4. Select the icon you want to assign to the channel.
5. Click **Assign Icon**.
6. Click **Save**. A message displays confirming the icon assignment was successful.

Channel Guide Behavior

- If a DMP is assigned to more than one Luxury Suite, it will use the Per-Area Channel Guide associated with the last Luxury Suite to which it was assigned. For example if a DMP is added to Suite 1 and then added to Suite 2, it will use the Channel Guide defined for Suite 2. For this reason, it is recommended that you do not assign a DMP to more than one Luxury Suite.
- If the user changes the channel via an IP phone, IR remote, or 3rd-Party remote, the channel chosen by the user will override the currently playing video playlist with the selected video.
- If the template is full screen video or 3-region video, the template will not change, but the video will change to the selected channel.
- If the template is full screen signage, the signage will be replaced with full screen video showing the selected channel.
- If the DMP is showing a playlist of video, the entire playlist will be replaced by the single video channel. For example, if the playlist contains three videos, all three videos will stop and be replaced by the selected channel.
- When the state changes on a DMP that is associated with a local control area (luxury suite, bar, restaurant, etc.), the script contents will override the user's local control.

Therefore, if you expect a DMP to be locally controlled, any states in use during that period should not change the template or channel. This is particularly important when using ad hoc states with locally controlled DMPs. Cisco Vision Director will treat the return from an ad hoc as a state change, so if the base state has a channel setting, the channel on all locally controlled DMPs will return to the base channel when the ad hoc state ends.



Controlling the Behavior of the Channel Guide

The appearance and behavior of the channel guide are controlled by parameters in the Cisco Vision Director registry. These settings control whether:

- A preview window is displayed when a channel is selected.
- The channel guide is automatically displayed on the TV when it is selected on the phone.
- The phone UI continues to display the channel guide after a channel has been selected.

For individual luxury suites, you can override the setting that controls the automatic display of the channel guide on the TV through the Control Panel.

Configuring Channel Guide Settings in the Registry

User Role: Administrator

To configure channel guide settings in the registry:

1. Go to **Tools > Management Dashboard**.

2. Go to the **Tools** drawer > **Advanced** > **Registry**. To be sure that you are displaying the current settings, click **Load**.
3. Scroll through the Registry Data list to the desired parameters.

Note: To change the phoneControl.stayOnChannelSelect parameter from its default (1), you must add the parameter using **Add Row**.

4. Click the Value field beside each parameter and enter the appropriate values.
5. Click **Apply**.

Defining a Delay Channel

User Role: Administrator / Content Manager

If you have assigned DMPs to a delay zone, then you can configure the channel you want to display on the TVs controlled by the DMPs in the delay zone during the delay event state.

If no channel is configured, the DMPs will display the default channel during the delay event state.

To define a delay channel:

1. Open the event script.
2. Click the green plus sign (+) above the Ad Hoc states panel.
3. Enable the Manual transition button (the default setting).
4. In the Ad Hoc State box, click Edit.
5. Select the delay group from the tree list.
6. Select the Set FULLSCREEN action source and drag it to the Assigned Actions list.
7. Click Region 1.
8. Select the channel you want to play during a delay from the Playlist Sources channels list.
9. Drag the channel to the Assigned Playlists.
10. Click **Apply**.
11. Click **Save**.

Defining a Non-Event Channel

User Role: Administrator / Content Manager

If you have assigned DMPs to non-event zone, you can configure the channel you want the TVs to play when no event script is running in that non-event zone.

If no channel is configured, the DMPs will display the default channel during the non-event state.

To define a non-event channel:

1. Open the event script.
2. Click the green plus sign (+) above the Ad Hoc states panel.
3. Enable the Manual transition button (the default setting).

4. In the Ad Hoc State box, click Edit.
5. Select your non-event group from the tree list.
6. Select the Set FULLSCREEN action source and drag it to the Assigned Actions list.
7. Click Region 1.
8. Select the channel you want to play when no event script is running from the Playlist Sources channels list.
9. Drag the channel to the Assigned Playlists.
10. Click **Apply**.
11. Click **Save**.

Setup: Channel Source Types

A new channel source type called **External URL** that allows you to specify an HTTP, HTTPS, or HTTP Live Streaming (HLS) source as a channel, including HTML page sources.

HLS sources are hardware-accelerated on the DMP. The content is specified as an External URL source type in the Channels setup. The system recognizes the content as an HLS source based on the Allowed HLS file formats designated in the Management Dashboard. The default extensions allowed are **m3u** and **m3u8**. See the [Cisco Vision Dynamic Signage Director Release Notes for Release 6.1](#).

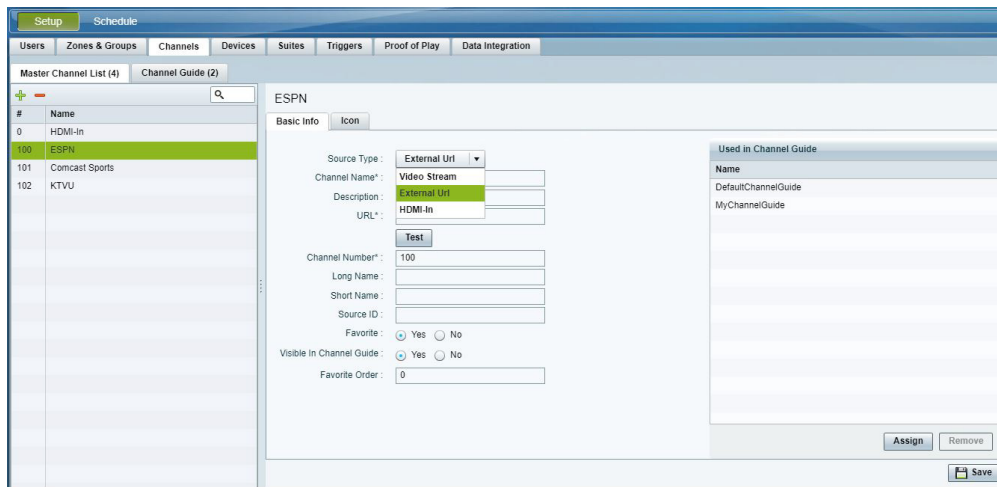
Note: This feature does not replace the existing HTML pass-through feature (**New External Content** button) from the Control Panel Content screen. HTML pass-through is recommended for content that might be considered for more temporary use in the system.

The Source Type field is available with Video Stream, External URL, and HDMI-In options ([Figure 36 on page 113](#)).

To choose a source type:

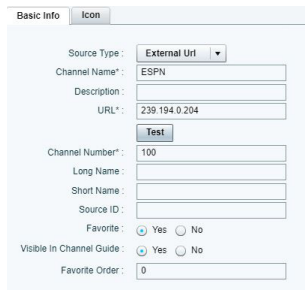
1. Go to **Tools > Control Panel > Setup > Channel**.
2. Click the **Basic Info** tab.
3. At **Source Type** pull-down, select **External URL** to choose an external url for your channel. The dialog box appears ([Figure 41 on page 114](#)).

Figure 36 Channel Source Types



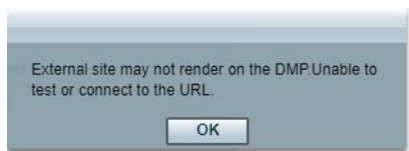
To test the external URL to see if it has X-Frame option, add the URL into the field and click **Test** (Figure 37 on page 113).

Figure 37 External URL Channel Configuration



If the URL will not render on the DMP, you may get an error message (Figure 38 on page 113). If it passes, click the Channel saved box in the upper right.

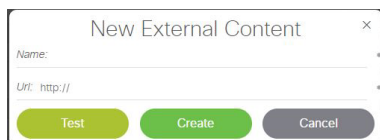
Figure 38 Testing the External URL, Error



To test a new External URL from the Library:

1. Right click **External Content > Create**. The New External Content dialog box appears (Figure 39 on page 113).

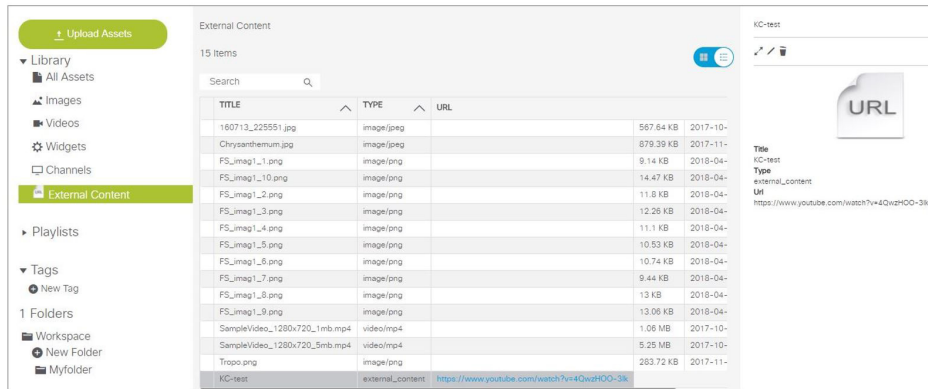
Figure 39 New External Content Dialog Box



2. Type in the Name and the URL.

3. Click **Test**. You may see an error message here if this external URL cannot render on the DMP.
4. If it passes, click **Create**. The URL will be stored and will push to the DMP (Figure 40 on page 114).

Figure 40 Test New External URL from Library



Use an external URL as a channel when you do not need synchronization of content, but you would like to be able to tune to that content from a script, User Control API, IP phone, or IR remote. External URL channels also can be streamed to a DMP-encoded multicast channel but do not support audio when streamed in that form.

Figure 41 External URL Dialog Box

Basic Info | Icon

Source Type: External Uri

Channel Name*: ESPN

Description:

URL*: 239.194.0.204

Test

Channel Number*: 100

Long Name:

Short Name:

Source ID:

Favorite: Yes No

Visible in Channel Guide: Yes No

Favorite Order: 0

The items with an asterisk (*) are required.

How to Configure HDMI-In Video Sources on the SV-4K and CV-UHD Media Players

This section includes the following topics:

- [Guidelines for Using HDMI-In on the SV-4K and CV-UHD, page 115](#)
- [Prerequisites for Using HDMI-In on the SV-4K and CV-UHD, page 115](#)
- [Restrictions for Using HDMI-In on the SV-4K and CV-UHD, page 115](#)
- [Configuring HDMI-In as a Video Source in a Region on the SV-4K and CV-UHD Media Players, page 116](#)
- [Configuring a DMP-Encoded Multicast Channel on the SV-4K and CV-UHD in Cisco Vision Director, page 118](#)
- [Starting and Stopping HDMI-In Streaming on the SV-4K and CV-UHD Media Players, page 120](#)
- [HDMI-In Streaming Versus Display Streaming, page 122](#)

- [HDMI-In Streaming, page 122](#)
- [Display Streaming, page 126](#)

Guidelines for Using HDMI-In on the SV-4K and CV-UHD

When using HDMI-In on the DMPs, consider the following guidelines:

- If using video with 4K resolution, be sure to observe the guidelines for 4K content in the [Cisco Vision Content Planning and Specification Guide](#) and use cables that are HDMI version 1.4 compliant.
- You can use different forms of local control only when using HDMI-In encoding to stream video as a multicast channel. Otherwise, use scripts to start/stop streaming.
- If you want to maintain privacy of channels, create a DMP-encoded channel per suite with a unique multicast address (from 239.193.20.0/24 range) and create a separate channel guide per suite.

For example, if you have 10 suites:

1. Create 10 separate DMP-encoded channels with unique multicast addresses.
2. Create 10 different channel guides for each DMP-encoded channel.
3. Assign each suite to a different channel guide.

Prerequisites for Using HDMI-In on the SV-4K and CV-UHD

Before you use HDMI-In on the DMPs, be sure that the following conditions are met:

- You have purchased a separate encoder software license. For more information, see the [Cisco Vision Dynamic Signage Director Release Notes for 6.1](#).
- Test the devices that you plan to connect to the DMP HDMI-In port to stream content for HDCP support.
- Most Mac OS and Windows laptops should work for HDMI-In video encoding for non-copy-protected content. It is up to the device manufacturer and OS whether or not this is supported.
- When using HDMI-In encoded video channels, be sure that you have configured the allowable multicast range 239.193.20.0/24 for this feature in the network requirements. See [Cisco Vision Dynamic Signage Solution Operation and Network Requirements](#).

Restrictions for Using HDMI-In on the SV-4K and CV-UHD

Before you use HDMI-In on the DMPs, consider the following restrictions:

IMPORTANT: The HDMI-In port on the SV-4K and CV-UHD media players can only be supported either as a source to video region or source to encoder as a channel, but not both. Therefore, you cannot have a script in a state which tunes to the HDMI-In as video source in a region, and then transition to the next state where you are streaming video from HDMI-In.

- Videos with 4K resolution are not supported for HDMI-In streaming.
- When using HDMI-In encoding to stream video content as a multicast channel:

How to Configure HDMI-In Video Sources on the SV-4K and CV-UHD Media Players

- The streaming state is synchronized only when streaming is started by script, IP phone, IR remote, or User Control API—not when started from the Management Dashboard.

This means that if you start streaming from the Management Dashboard, then the IR remote menu might not properly show which channel is streaming or not streaming.

- The DMPs playing HDMI-In encoded video stops streaming if the DMP is rebooted, even though the script is running. Start Streaming is a direct command, which is sent when the svd server changes state (like RS232 commands or tv on /off type commands). It is only executed when the state is changed, so it is not re-executed on reboot.

Configuring HDMI-In as a Video Source in a Region on the SV-4K and CV-UHD Media Players

User Role: Administrator / Content Manager

To configure HDMI-In as a video source in a region:

1. From the Cisco Vision Director **Main Menu**, go to: **Tools > Control Panel > Schedule** (Figure 42 on page 116).

Figure 42 Control Panel Schedule Screen

The screenshot displays the 'Control Panel Schedule' configuration interface. At the top, there are input fields for 'Name' (HDMI-In Test 1), 'Description', and 'Color'. There are also checkboxes for 'Legacy Video Wall Sync Mode' and 'Don't Enforce Asset Rules', both of which are checked. Below these are two main sections: 'Sequential States' and 'Adhoc States'. The 'Sequential States' section contains a table with columns 'Name', 'Transition', and 'Duration(s)'. It lists three states: 'Blank' (Manual transition), 'FS Multicast' (Manual transition), and 'HDMI-In' (Manual transition). The 'Adhoc States' section is currently empty. To the right, the 'State Details' section shows a table with columns 'Name', 'Actions', and 'Content'. The 'HDMI-In' state is listed with 'No actions configured' in the Actions column and an empty Content column.

2. Create a new script by typing a name (Figure 43 on page 117).
3. Add the state named HDMIIn_State.
4. Select the group/zone where the event script runs to assign actions and content to the HDMIIN_State (Figure 44 on page 117).

Figure 43 New State Name

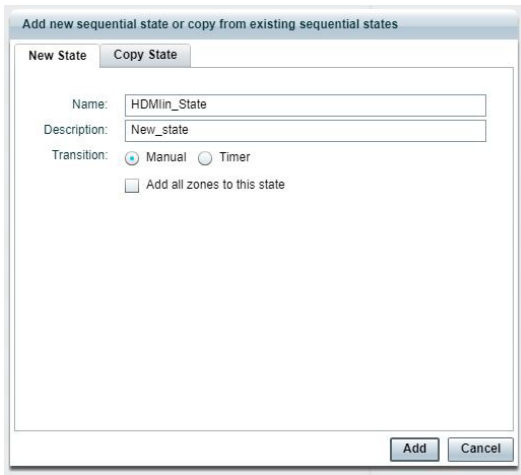
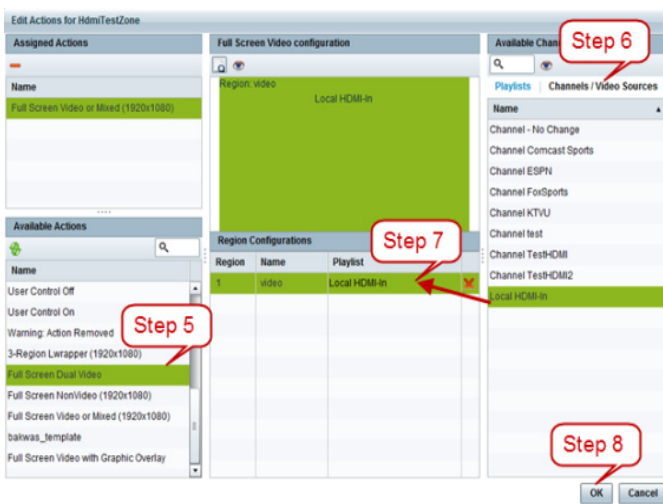


Figure 44 Script State



5. Select a video/mixed media template.
6. Click **Channels**.
7. Drag Local HDMI-In to a template region.
8. Click **OK** to save the script.

Verifying the Script Plays Local HDMI-In Content

To verify that the script plays the local HDMI-In content:

1. From the Cisco Vision Director **Main Menu**, go to **Tools > Control Panel**.
2. Double-click the Local HDMI-In script that you created (Figure 45 on page 118). The Start Script dialog box appears (Figure 46 on page 118).

Figure 45 Script Verification

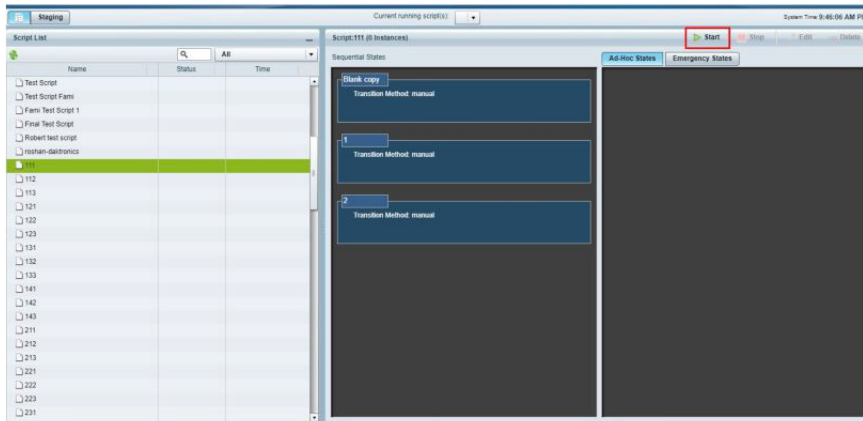
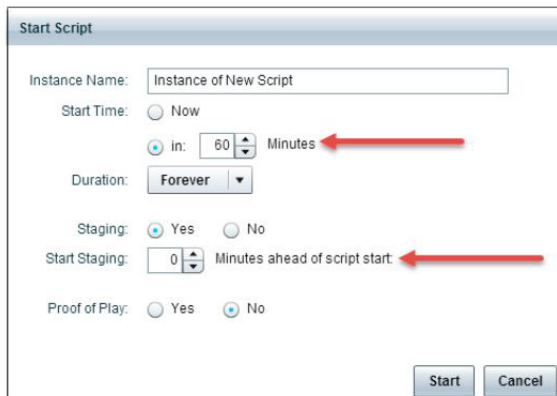


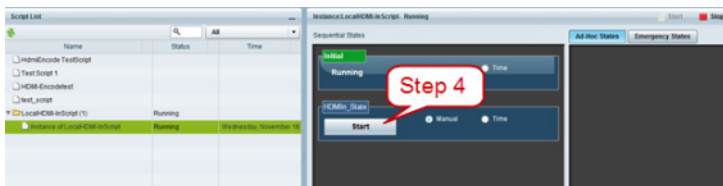
Figure 46 Start Script Dialog Box



3. Add in all the parameters.

4. Click **Start**.

Figure 47 HDMIIN_State Verification



5. Start the HDMIIn_State. Verify that the TV display for the target DMP is playing the expected HDMI-In content.

Configuring a DMP-Encoded Multicast Channel on the SV-4K and CV-UHD in Cisco Vision Director

User Role: Administrator / Content Manager

To configure a DMP-encoded multicast channel on the DMPs:

1. From the Cisco Vision Director, go to **Tools > Control Panel > Setup > Channel**.
2. Select or create a channel guide where you want to include the DMP-encoded channel.

TIP: If you want to maintain privacy of channels, create a DMP-encoded channel per suite with a unique multicast address (from 239.193.20.0/24 range) and create a separate channel guide per suite.

3. From the **Basic Info** tab, configure the options shown in [Figure 48 on page 119](#) and described in [Table 14 on page 120](#).

Figure 48 DMP-Encoded Multicast Channel Example

The screenshot shows the configuration page for a channel named 'TestHDMI2'. The 'Basic Info' tab is selected. The configuration includes:

- Channel Name*: TestHDMI2
- Description: (empty)
- DMP-Encoded:
- Maximum Bit Rate: 40000 Kbps
- Video Mode: 1080p60
- TTL: 10
- Display Encode Bitrate: 20000 Kbps
- Protocol: udp
- Multicast Address*: 239.193.20.100
- Port*: 4000
- Channel Number*: 888
- Long Name: (empty)
- Short Name: (empty)
- Source ID: (empty)
- Favorite: Yes No

Table 14 DMP-Encoded Multicast Channel Options

Option	Description
Channel Name	Simple name for the channel that will appear in local control devices.
DMP-Encoded	(Required) Select this checkbox to configure an encoded multicast channel on the SV-4K.
Maximum Bit Rate	Two times the encode bit rate.
Video Mode	Resolution that matches the configuration of the content and TV display.
TTL	Time-to-Live for the multicast packet.
Display Encode Bitrate	Value between 2000 to 25000 Kbps.
Protocol	UDP
Multicast Address	(Required) Multicast address from range 239.193.20.0/24 according to your Connected Stadium network configuration.
Port	(Required) Multicast port.
Channel Number	Number that appears in local control.

4. Click **Save**.

Starting and Stopping HDMI-In Streaming on the SV-4K and CV-UHD Media Players

[Table 15 on page 120](#) summarizes the methods of starting and stopping streaming for HDMI-In video sources on the DMPs.

Table 15 Methods for Starting and Stopping HDMI-In Streaming by Type of HDMI-In Content Source

Method	HDMI-In as Video Source	DMP-Encoded Multicast Channel
IP Phone	No	Yes
IR Remote	No	Yes
Management Dashboard	No	Yes
Script	Yes	Yes
User Control API	No	Yes

Note: When using the Management Dashboard to start/stop streaming for a DMP-encoded multicast channel, the channel parameters are configured directly in the Management Dashboard.

Starting and Stopping Streaming by IP Phone

A luxury suite user can use a configured IP phone to select HDMI-In Broadcast on the selected DMP-encoded player. The user can select the configured DMP encoded channels or Off to start streaming or stop streaming respectively.

For more information, see the phone guide [Using a Cisco Unified IP Phone with Cisco Vision: HDMI-In Broadcast](#).

Starting and Stopping Streaming by IR Remote

A luxury suite user can use an IR Remote to broadcast HDMI-In contents. On selection of the HDMI-In Broadcast menu, the list of DMP-encoded channels for streaming are listed for selection and “Off” to stop streaming.

Starting and Stopping Streaming by Script Action

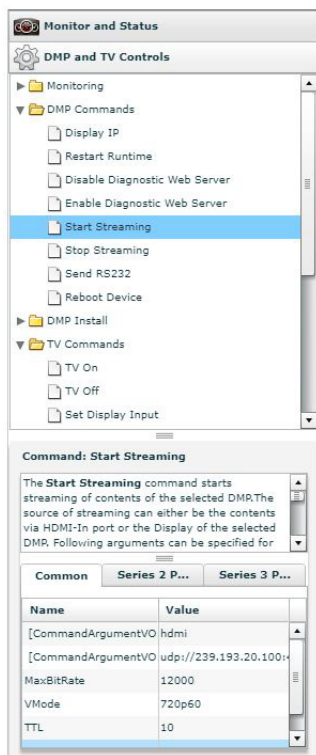
Two new actions of Start and Stop streaming can be defined as actions within a script. When the script starts running according to the defined state, either start streaming or stop streaming action will be executed.

Starting and Stopping Streaming by Management Dashboard Command

User Role: Administrator

To start and stop streaming in the Management Dashboard:

Figure 49 Start/Stop Streaming Commands in Management Dashboard



1. From the **Management Dashboard**, go to **DMP and TV Controls > DMP Commands > Start Streaming**.
2. Configure the DMP-encoded channel options in the SV-DMP Parameters.
3. Select the device where you want to start HDMI-In streaming.

4. Click the **Play** button to execute the command.
5. From the Management Dashboard Console, verify that the Start Streaming command is successful.

HDMI-In Streaming Versus Display Streaming

For HDMI-In streaming, what streams from the DMP is the audio/video from the HDMI-In port source ONLY ([Figure 50 on page 123](#)).

For Display Streaming, entire video composition (without audio) will be streamed from the DMP - i.e., an encoded rendition of what you see on the TV connected to the DMPs HDMI-out.

Display streaming can be used even when your video source is not HDMI-In, or in cases where you want to encode/stream not just HDMI-In but also other elements on the screen, or maybe an HTML5 page (you don't need a video source in display streaming). Display streaming parameters are set in channels where the DMP is the encoder (DMP encoded channels).

HDMI-In Streaming

Local HDMI-In (HDMI-In Pass-Through Supported by SV-4K and CV-UHD Players)

Script Configuration

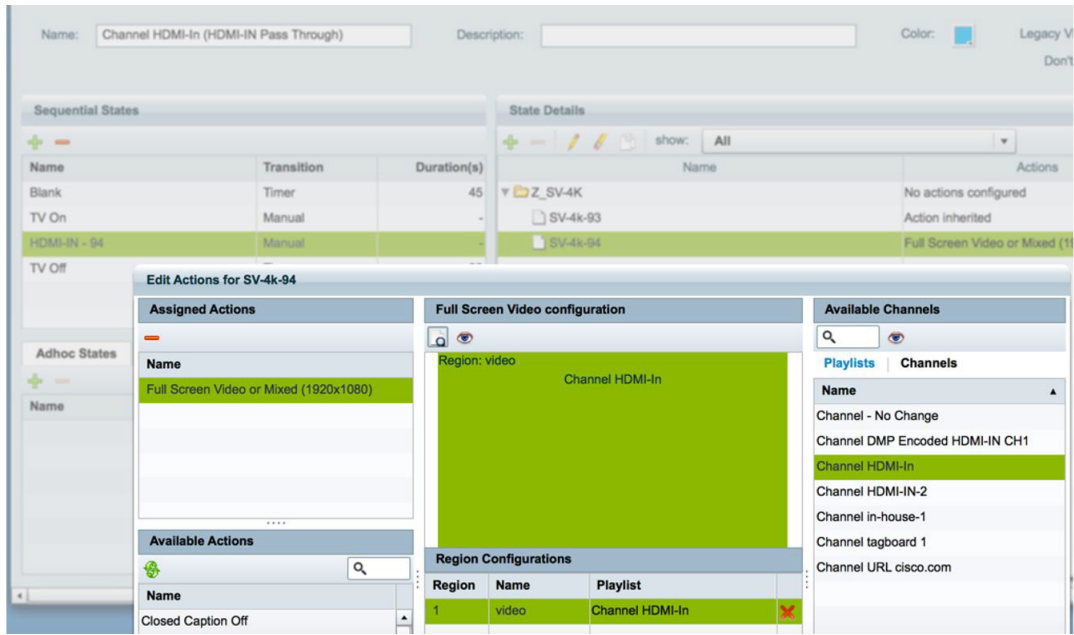
1. Assign for DMP .94 pre-defined Channel 0 "Channel HDMI-In" to action **Full Screen Mixed Video**.

When script runs, all input from HDMI-In will be streamed out to the Display via HDMI-OUT ([Figure 51 on page 123](#)).

Figure 50 HDMI Streaming



Figure 51 Full Screen Video Streaming



DMP HDMI-In Streaming

Script configuration

1. Create DMP-encoded CH1 configuration (Figure 52 on page 124).

Figure 52 Create DMP-Encoded Channel 1

Source Type: Video Stream

Channel Name*: DMP Encoded HDMI-IN CH1

Description:

DMP-Encoded:

Maximum Bit Rate: 40000 Kbps

Video Mode: 1080p50

TTL: 3

Display Encode Bitrate: 20000 Kbps

Protocol: udp

Multicast Address*: 239.192.0.200

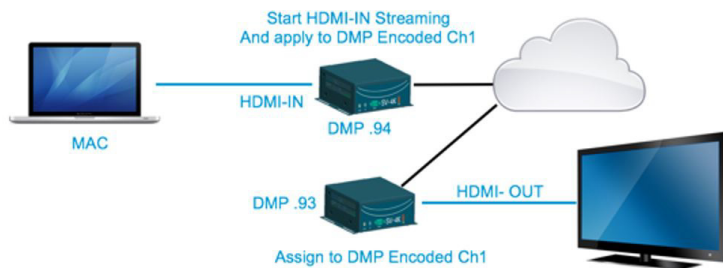
Port*: 50200

Channel Number*: 3

2. Attach video source to HDMI-IN.
3. For DMP .94 (Figure 53 on page 124): Script action Start HDMI-In Streaming and assign it to DMP encoded channel 1.
4. For DMP .93: Tune in on DMP Encoded channel 1 (Figure 54 on page 124).

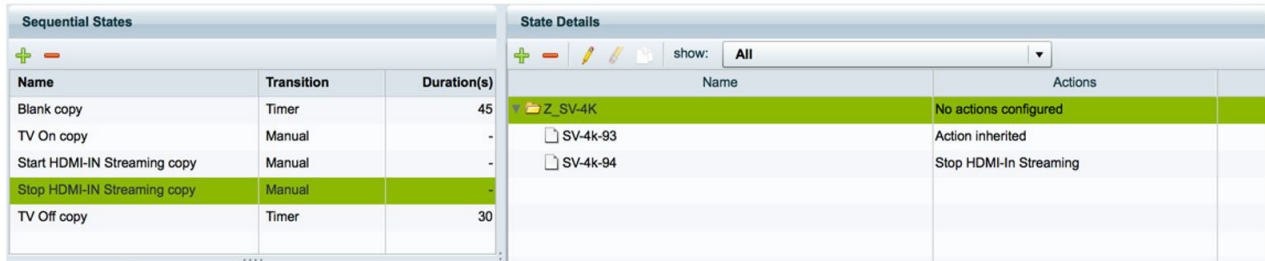
Figure 53 Start HDMI-In Streaming to DMP-Encoded Channel 1

Sequential States			State Details		
Name	Transition	Duration(s)	Name	Actions	Content
Blank copy	Timer	45	Z_SV-4K	No actions configured	
TV On copy	Manual	-	SV-4k-93	Full Screen Video or Mixed (1920x1080)	1-Channel DMP Encoded HDMI-IN CH1
Start HDMI-IN Streaming copy	Manual	-	SV-4k-94	Start HDMI-In Streaming	
Stop HDMI-IN Streaming copy	Manual	-			
TV Off copy	Timer	30			

Figure 54 DMP-Encoded Channel 1

5. On DMP .94: stop display streaming (Figure 55 on page 125).

Figure 55 Stop HDMI-In Streaming



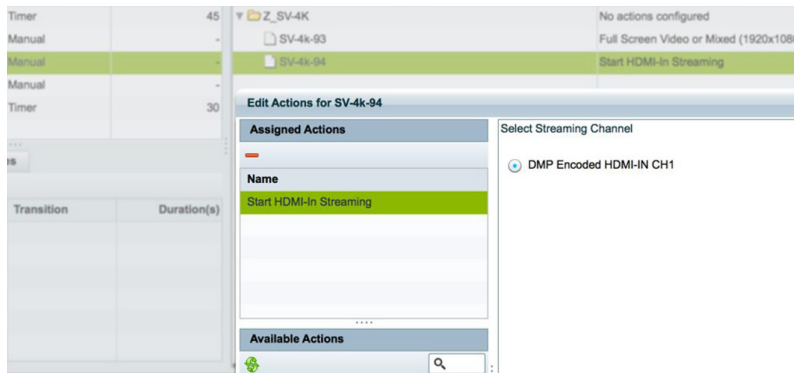
HDMI-In Streaming with External URL Source or Playlist

When you want to use the DMP HDMI-IN encoder to broadcast an External URL Script or a Playlist, there is an additional head-end DMP required (DMP .95).

Script Configuration

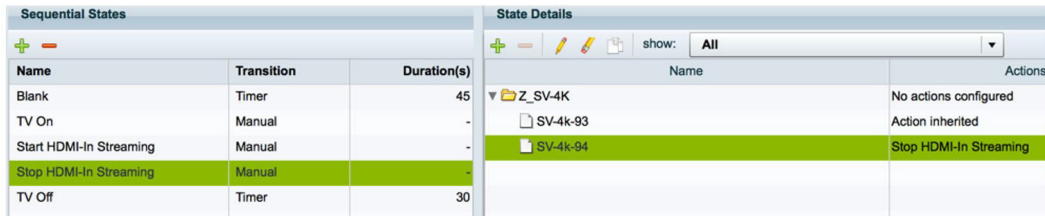
1. Create separate script and run Ex. Mixed playlist on DMP .95.
2. Connect the HDMI-OUT to the HDMI-IN of DMP .94 (Figure 56 on page 125).

Figure 56 Start HDMI-In Streaming and Assign to DMP-Encoded Channel

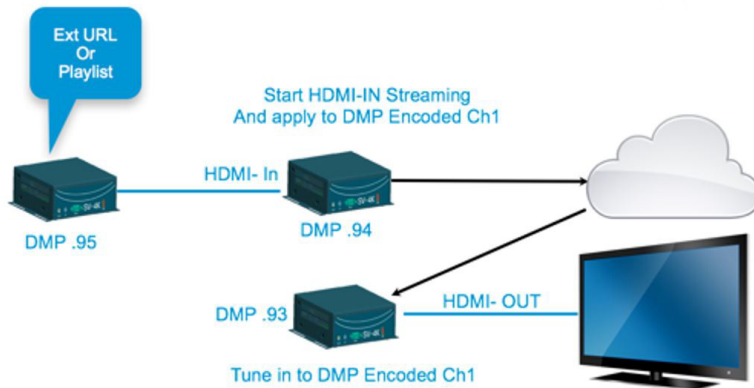


3. In DMP .94 Start HDMI-Streaming and assign to DMP encoded Channel.
4. DMP .93: Select DMP Encoded channel 1.
5. On DMP .94, stop display streaming (Figure 57 on page 125).

Figure 57 Stop HDMI-In Streaming on DMP 94



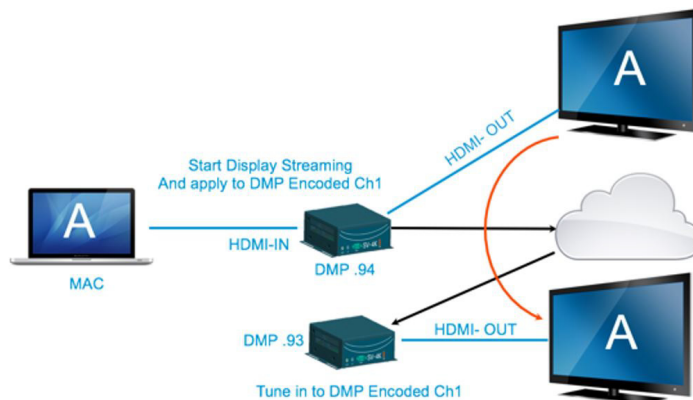
How to Configure HDMI-In Video Sources on the SV-4K and CV-UHD Media Players



Display Streaming

Display Streaming with Video Source Input on DMP HDMI-In

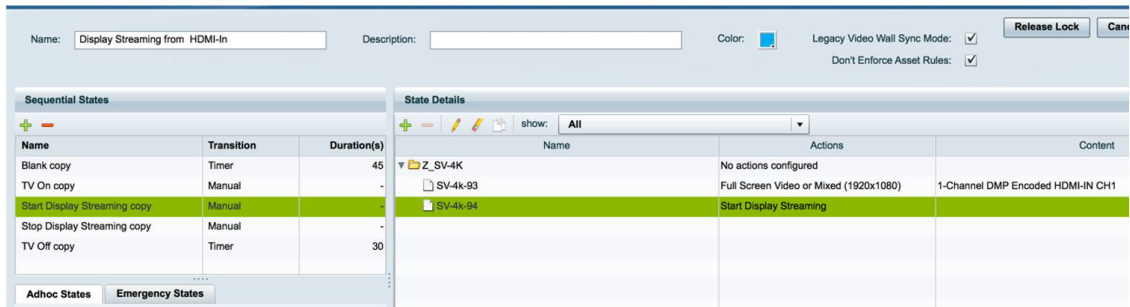
In this scenario, everything entering the HDMI-IN is displayed on the TV connected to the encoder DMP (DMP .94) and will be streamed out on DMP channel Encoded Ch1.



Script Configuration

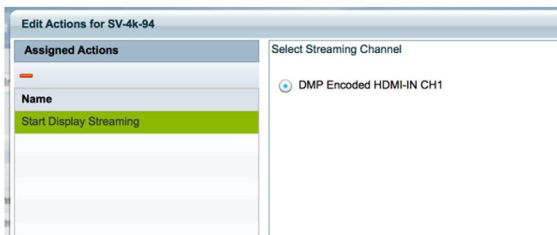
1. In DMP .94, start display streaming ([Figure 58 on page 127](#)) and assign to DMP encoded Channel 1 ([Figure 59 on page 127](#)).

Figure 58 Start Display Streaming on DMP .94



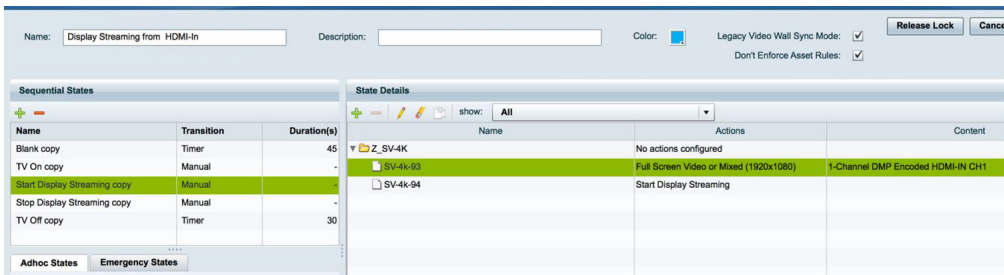
IMPORTANT: When content rules are in place, a DMP that reboots may not display the same content as other DMPs in the same group until the next state change.

Figure 59 Select Streaming Channel



- For DMP .93, tune to DMP-encoded Channel 1 (Figure 60 on page 127).

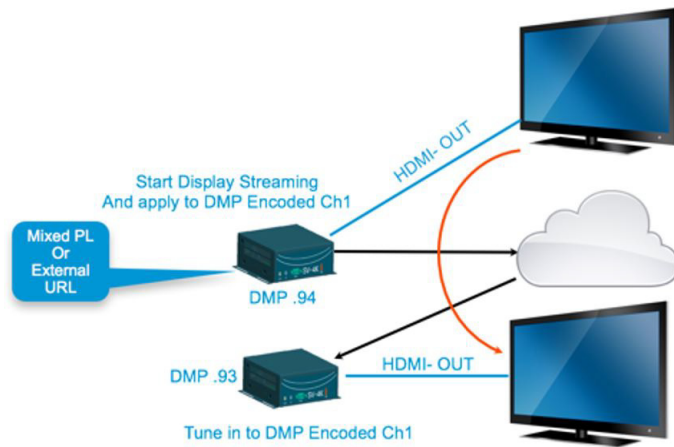
Figure 60 Start Display Streaming on DMP .93



Display Streaming with External URL or Mixed Media Playlist

In this scenario, no HDMI-IN of the DMP is used. A script in DMP 94 is setup and started. Once the script runs, “Start Display Streaming” will attach it to the DMP-encoded channel, functioning as a multicast channel.

How to Configure HDMI-In Video Sources on the SV-4K and CV-UHD Media Players



Script Configuration

1. Set up script.
2. Choose event state “Mixed PL.”
3. Assign “Full Screen Video or Mixed (1920X1080)” to DMP .94 (Figure 61 on page 128).

Figure 61 Assign DMP .94

Name: Display Streaming with source Mixed Playlist Description: Color: Legacy Video Wall Sync Mode: Release L
Don't Enforce Asset Rules:

Sequential States			State Details	
Name	Transition	Duration(s)	Name	Actions
TV On	Manual		Z_SV-4K	No actions configured
Mixed PL	Manual		SV-4k-93	Action inherited
Start Display Streaming	Manual		SV-4k-94	Full Screen Video or Mixed (1920x1080) 1-Test Mixed video
Stop Display Streaming	Manual			
TV Off	Timer	30		

4. For DMP .94, Start Display Streaming (Figure 62 on page 129) and assign it to DMP-encoded Channel 1 (Figure 63 on page 129).

Figure 62 Start Display Streaming on DMP .94

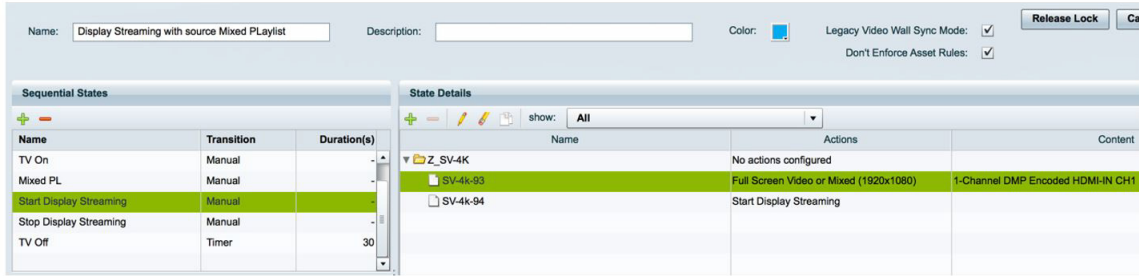
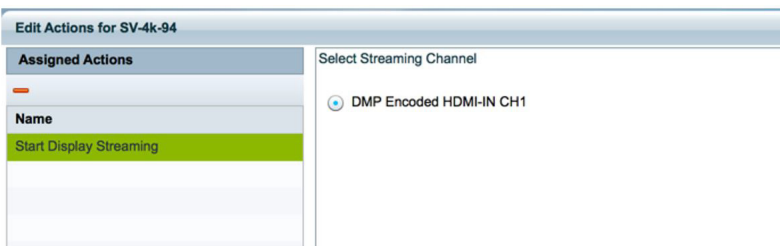
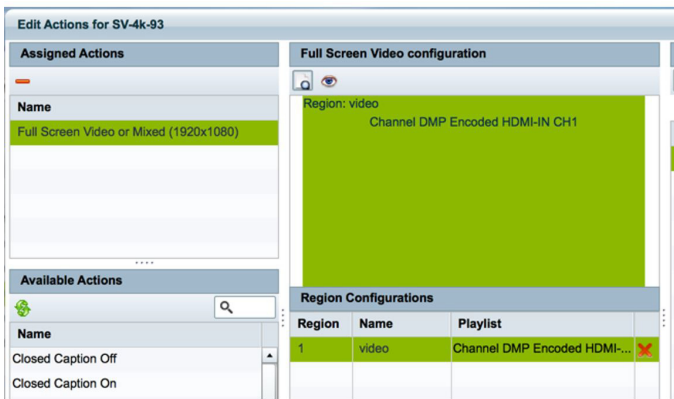


Figure 63 Select Streaming Channel



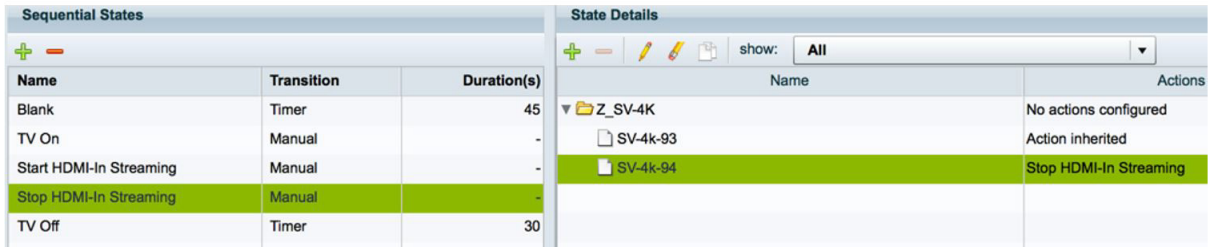
On DMP .93, choose the DMP-encoded channel 1 (Figure 64 on page 129).

Figure 64 Assign DMP .93 to Channel DMP Encoded HDMI-In Channel 1



On DMP .94, Stop HDMI-In Streaming (Figure 65 on page 129).

Figure 65 Stop HDMI-In Streaming on DMP .94



How to Manage Content (Assets)

This section includes the following topics:

- [Information About the Library \(Content\) Screen, page 130](#)
- [Library View, page 130](#)
- [Playlist View, page 131](#)
- [Asset Search Methods, page 133](#)
- [Guidelines for Asset Tags, page 134](#)
- [Getting Content Into Cisco Vision Director, page 136](#)
- [Staging Content to the Media Player, page 138](#)

Information About the Library (Content) Screen

The Library (Content) screen allows you to both manage content as well as create and modify playlists.

Use the Library menu to do the following tasks:

- Import static graphics or local video content.
- Import widgets, templates, channels, or external content.
- Add an HTML pass-through URL.
- Manage content:
 - Sort the content by name, type, URL, size, or expiration date.
 - Search for content.
 - Tag content.
 - Delete content.
 - Create folders for content.
- Create and manage playlists.

Content Screen Views

The Content screen has three views:

- [Library View, page 130](#) (default)
- [Playlist View, page 131](#)
- [Detail View](#) (content and playlist panels displayed)

The menu bar is organized based on the selected view.

Library View

[Figure 66 on page 131](#) identifies the content-related layout and task options available from the Library.

How to Manage Content (Assets)

Figure 66 Library List View

TITLE	TYPE	SIZE	LAST MODIFIED	DURATION	RESOLUTION
01 Script Manager@2x.png	image/png	587.46 KB	2018-02-04 16:00	0	4480x2600
02 Script Manager Menu@2x.png	image/png	572.82 KB	2018-02-04 16:00	0	4480x2600
03 RIGHT Horizontal.mp4	video/mp4	148.5 MB	2017-10-11 17:00	58	3840x2160
03 RIGHT Vertical.mp4	video/mp4	142.88 MB	2017-10-11 17:00	58	2160x3840
1082529-DNS-Heritage-Wall-Left.mp4	video/mp4	221.99 MB	2017-11-20 16:00	260	1920x1080
1082529-DNS-Heritage-Wall-Right.mp4	video/mp4	291.23 MB	2017-09-18 17:00	260	1920x1080
1082529-DNS-Heritage-Wall-Combined_H.265.mp4	video/mp4	565.43 MB	2017-09-18 17:00	260	3840x1080
1082529-DNS-Heritage-Wall-Right.mp4	video/mp4	291.23 MB	2017-11-07 16:00	260	1920x1080
1507815705604.png	image/png	50.56 KB	2017-11-29 16:00	0	800x500
180204 - Site Update Feb V2 SQUARE.mp4	video/mp4	21.93 KB	2018-03-18 17:00	55	1080x1080
196961-cool-oakland-raiders-wallpaper-1080x1920-for+...	image/jpeg	548.84 KB	2017-10-17 17:00	0	1900x1080
1x2_CombiMeal_Chargers_A2.mp4	video/mp4	46.51 MB	2018-03-12 17:00	30	1920x1080
1x3_MWC_SCI_A1.mp4	video/mp4	15.82 MB	2018-02-21 16:00	23	1920x1080
1x3_MWC_SCI_A2.mp4	video/mp4	26.07 MB	2018-02-21 16:00	23	1920x1080
1x3_MWC_SCI_A3.mp4	video/mp4	28.8 MB	2018-02-21 16:00	23	1920x1080
1x3_MWC_SCI_A1.mp4	video/mp4	48.9 MB	2018-02-21 16:00	61	1920x1080
1x3_MWC_SCI_A2.mp4	video/mp4	51.89 MB	2018-02-21 16:00	61	1920x1080

Asset Items Panel

Asset items display as a file list with details or as thumbnails. Use the slider in blue in the top right to change views.

By default, the Library Assets window shows List View of the following items stored in the Library:

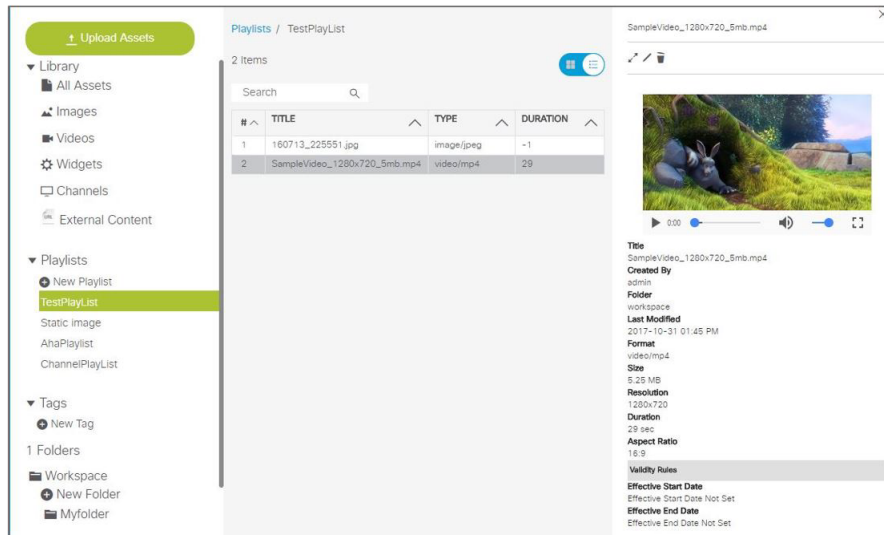
- Images (static graphics)
- Videos
- Widgets
- Channels
- External URLs
- Dynamic Menu Board gadgets (available in the **Tools** drop-down menu)

Playlist View

1. Click **Playlist** in the Library window to display your available playlists. The screen shows List View and gives the Title, Type, and Duration of your content.
2. Click any row to get the details of any content selected (Figure 67 on page 132).

How to Manage Content (Assets)

Figure 67 Playlist Detail



3. Use the pen icon to edit information for your content. The Validity Rules panel appears (Figure 68 on page 132).
4. Set the Effective Start and End Dates and Times. Click the calendar icon.
5. You can also choose **Restrict Playback** here. Set the days and times specifically as to when your content will not display.
6. Click the **Save** icon in the top of the panel.

Figure 68 Validity Rules Panel

Validity Rules

Effective Start Date

Effective Start Time

Effective End Date

Effective End Time

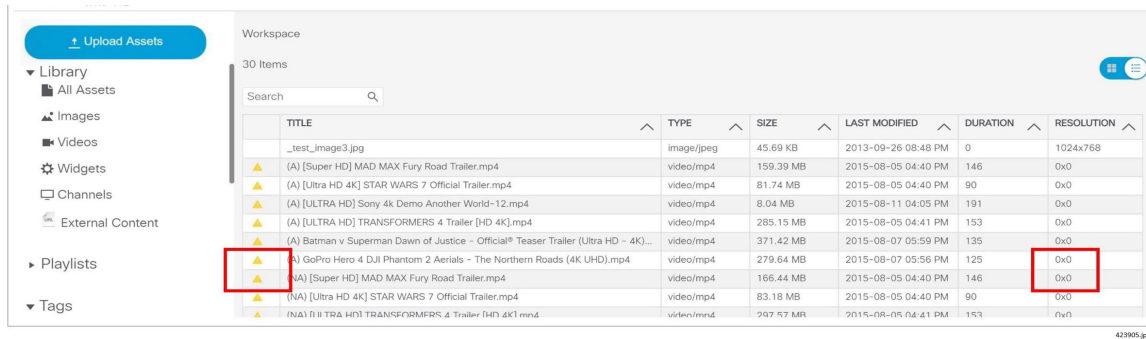
Restrict Playback

Asset (Content) Validation

If you upload a piece of content that is not supported by the DMP (Figure 69 on page 133), you get a warning message. The warning symbols means that the content may be distorted on the display. Best practice is to clear the validity of your content so it will appear as planned. Hover over the icon for information.

How to Manage Content (Assets)

Figure 69 Warning Symbol for Content Validity



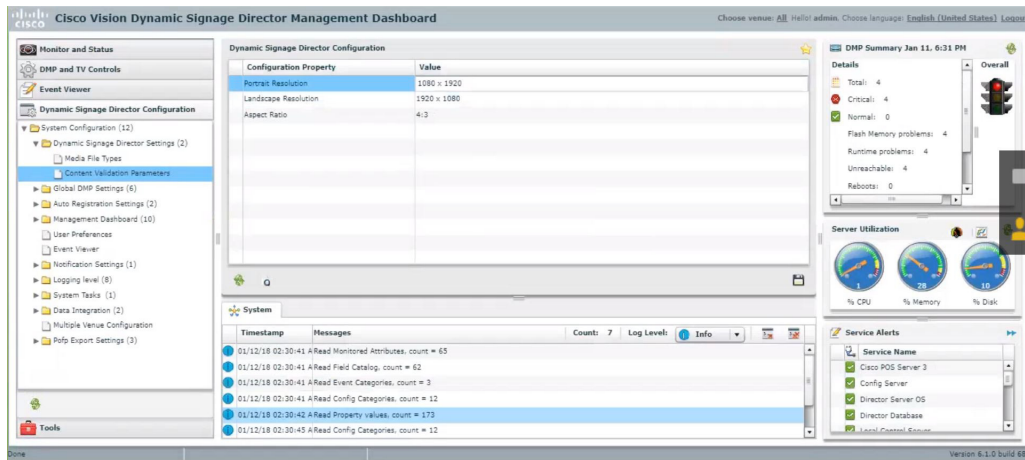
To check the validity of content:

1. Go to **Library > Tools > Management Dashboard > Dynamic Signage Configuration > System Configuration > Dynamic Signage Director Settings > Content Validation Parameters.**

Note: Since you can upload images, videos, channels and external content, each type has different issues involved in troubleshooting them. For images and videos, clear the warning here.

2. Check the resolution parameters of your assets to be certain they fall within the ranges allowed.

Figure 70 Management Dashboard Portrait Resolution Configuration Property



Asset Search Methods

Use the Playlist screen to find your asset items or playlists in multiple ways:

- Search for asset items assigned with a particular tag name by selecting the tag in the Library left pane.
- Search for asset items by name or file type using the Search box on the Playlist panel.

TIP: You can enter the first few letters of the content file name, or enter a file type such as ".jpg" in the search box.

- Search for playlists using the Search box on the Playlist panel, and by typing in the first few letters of the playlist name.

Guidelines for Asset Tags

Consider the following guidelines to create asset tags:

- Proof of Play processing requires the following naming convention:

- <tag name> **_PoP**

where <tag name> is the name for your proof of play label, and the “_PoP” suffix is required to designate the label for proof of play processing.

- The following characters are not supported in tag names: / ? < > \ : * | "
- Content in multiple playlists can use the same tag. The number of playlists that have content assigned to a tag displays under the # column in the Playlist Detail window next to the tag name.

Creating and Assigning Content Tags

User Role: Administrator / Content Manager

TIP: Consider assigning zone and group names as tags for the content files used in those areas. This allows you to type in a single search word or phrase and find all the content for a given zone or group, such as “Luxury Suite Delta” or “Concourse A.” You can also use tags that correspond to the type of content in the playlist, such as “menu.”

To create and assign content tags:

1. Click **Library > Tag** arrow. **New Tag** appears.
2. Click **New Tag**.
3. In the field, type a new name for the tag.
4. Hit **Return/Enter**. The tag name appears.

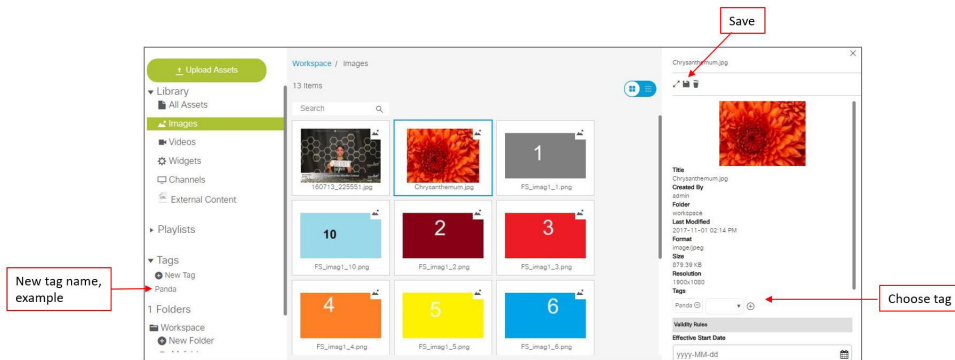
IMPORTANT: The following characters are not supported in tag names: / ? < > \ : * | " .

Note: If the tag name doesn't appear, click **Refresh**.

Be sure to include the required “_PoP” suffix in your tag name for proof of play records. For more information about Proof of Play, see the [Cisco Vision Director Proof of Play](#).

5. To assign a tag to content, select the content (asset) from the Grid or List view. The detail pane appears ([Figure 71 on page 135](#)).
6. Click the **Pen** icon to edit the metadata.
7. Select the tag name you want to attach to your content.
8. Click the **Save** icon.

Figure 71 Assigning a Tag to Content



TIP: Assign tags to content when you first upload content to the Library.

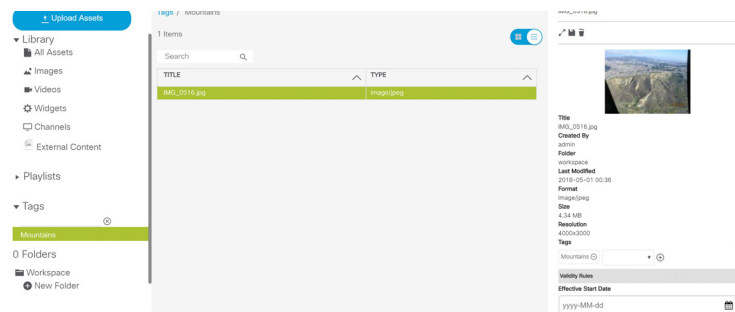
9. To verify that the content was assigned to the tag, click the tag name. The content assigned to the selected tag will display in the Content Items area.

Removing a Tag From Content

User Role: Administrator / Content Manager

When you remove a tag from content, the content will no longer be associated with that tag but the content itself remains in the Asset Library. [Figure 72 on page 135](#) summarizes the steps to remove a tag from selected content.

Figure 72 Workflow Summary to Remove a Tag From Content



To remove a tag from content:

1. In Library, select the tag name. The content items for that tag display in the Tags panel.
2. Click on the content item from which you want to remove the tag.

TIP: Use the keyboard Shift-Click function to select and untag multiple content items assigned to a tag.

3. Click the pen icon in the Detail Panel to “Edit” the tag metadata. The Tag information appears.
4. Click the tag name and the “-” symbol to remove the tag from the asset. There is no confirmation prompt. The tag is immediately removed from the content.

5. Click **Save** at the top of the Detail Panel.

Getting Content Into Cisco Vision Director

Cisco Vision Director supports a wide variety of content types and methods for ingesting content.

There are limitations and specifications for the content size and formats supported by Cisco Vision Director. These vary depending upon a number of factors including the TV display resolution, the media player used in the venue, the screen template region layout, and the TV proximity to the fans.

Before you deploy content to Cisco Vision Director, be sure that you refer to the [Cisco Vision Content Planning and Specification Guide, Dynamic Signage Director, Release 6.0](#) to be sure the content is in the correct format, is the appropriate size, and has the correct dimensions for where it will be displayed. If the content is not the correct size for the region into which it will be placed, the image will either be cropped or there will be blank space in the region.

[Table 16 on page 136](#) summarizes the different content types supported by Cisco Vision Director, the methods of how you ingest the content, and references to topics in this document and other external guides where you can find the details about how to work with that content type.

Table 16 Content Ingestion Methods by Type of Content

Type of Content	Method	For more information see:
Channel Guide	Control Panel > Setup > Channels	Configuring the Default Video Channel, page 103
Content Feeds (Atom, RSS)	Control Panel > Setup > Data Integration	Release 6.0: Cisco Vision Director Data Integration Guide
Database (MySQL or SQLServer)	Control Panel > Setup > Data Integration > Generic Data Source	Release 6.0: Cisco Vision Director Data Integration Guide
FTP Data	Control Panel > Setup > Data Integration > Generic Data Source	Release 6.0: Cisco Vision Director Data Integration Guide
HTML Pass-Through	Library > New External Content	Adding a URL for HTML Pass-Through Content, page 138
HTTP/HTTPS Data	Control Panel > Setup > Data Integration > Generic Data Source	Release 6.0: Cisco Vision Director Data Integration Guide
JSON Data	Control Panel > Setup > Data Integration > Generic Data Source	Release 6.0: Cisco Vision Director Data Integration Guide
Menu Boards Using DMB	Library > Tool> DMB Application	Cisco Vision Director Dynamic Menu Board and Store Configuration Guide
Menu Boards Using POS Data Sources	Control Panel > Setup > Data Integration	Release 6.0: Cisco Vision Director Data Integration Guide
NFL Data	Control Panel > Setup > Data Integration	Release 6.0: Cisco Vision Director Data Integration Guide
Scoreboard Controllers	Control Panel > Setup > Data Integration	Release 6.0: Cisco Vision Director Data Integration Guide
Static Graphics (Content screen)	Library > Import	Importing Local Video and Images to the Library, page 137

Type of Content	Method	For more information see:
Static Graphics (Direct upload to non-video playlist)	Library > Playlist view	Adding Static Graphics to a Non-Video Playlist by Direct Upload, page 150
TCP Data	Control Panel > Setup > Data Integration > Generic Data Source	Release 6.0: Cisco Vision Director Data Integration Guide
UDP Data	Control Panel > Setup > Data Integration > Generic Data Source	Release 6.0: Cisco Vision Director Data Integration Guide
Video (Headend)		Cisco StadiumVision Video Headend Design and Implementation Guide (Available to qualified Cisco Vision partners.)
Video (Local)	Library > Import	Importing Local Video and Images to the Library, page 137
XML	Library > Import	Release 6.0: Cisco Vision Director Data Integration Guide

Importing Local Video and Images to the Library

User Role: Administrator / Content Manager

To import local video and images from the Main Menu (Library):

1. Go to **Library > Upload Assets**.

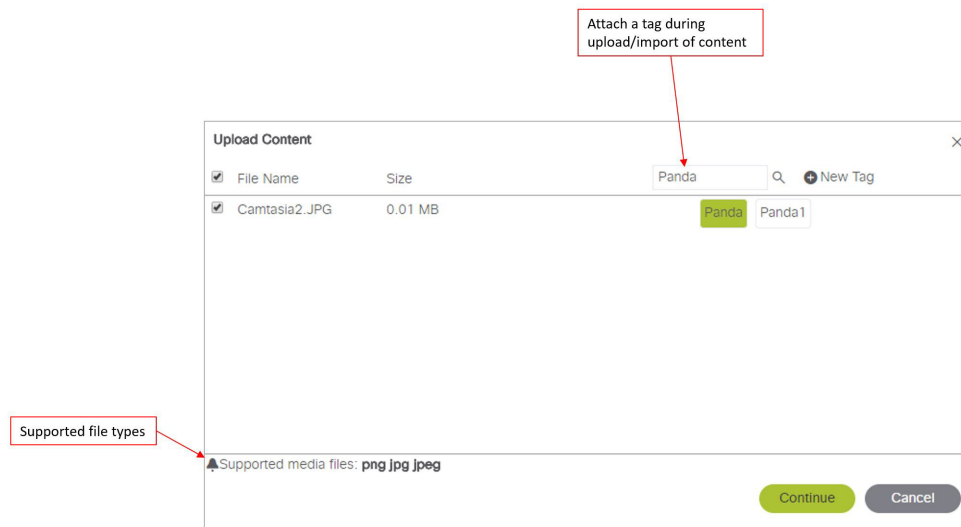
TIP: Use the keyboard Shift-Click function to select and untag multiple content items assigned to a tag.

2. Browse to the file that you want to upload.

TIP: Use the drop-down box by the File name to filter your selection by file type, including .zip files.

3. Click **Open**.

4. From the Upload Content dialog box, do the following ([Figure 73 on page 138](#)):

Figure 73 Upload Assets (Content)

- a. (Optional) Add or delete available tags.
 - b. (Optional) Select available tags to be assigned to the content that you are uploading.
5. Click **Continue**. The content uploads and appears in the Listview.

Adding a URL for HTML Pass-Through Content

User Role: Administrator / Content Manager

For HTML content guidelines, see the [Cisco Vision Content Planning and Specification Guide: Dynamic Signage Director, Release 6.1](#).

To add a URL for HTML pass-through content:

1. Go to **Tools > Control Panel > Setup > Channels > Basic Information** tab.
2. Type the name and URL for your content.
3. Click **Save**.

Staging Content to the Media Player

Once you have content uploaded to Cisco Vision Director, it must be pushed to the media player before it can be run by a script. This process of pushing content to the media player is called **content staging**.

Content staging needs to be done when:

- New custom fonts or language packs have been installed in the Software Manager.
- There have been changes to any content imported to the content Library (CMS). This includes local video and graphics files, and channels.

Note: Changes to widgets or data integration sources do not require content staging.

There are two ways that you can stage content from the Main Menu (Library):

How to Manage Content (Assets)

- Staging content manually

Manual content staging is performed outside the actual running of the script using the Staging button on the **Script Control > Staging** screen. With this method, you can stage content per script for all media players, or by selected media players.

Note: Only Administrator and Event Operator roles can stage content manually. Venue operator roles cannot stage content this way.

- Scheduling content staging

With this method, you can schedule content staging to occur at a specified number of minutes ahead of script start, or at a script start.

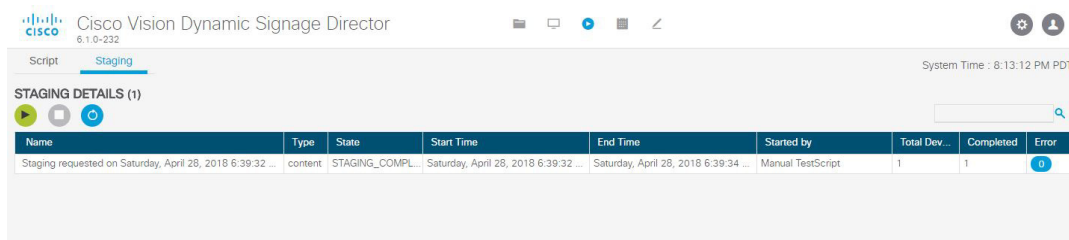
Staging Content Manually

User Role: Administrator / Event Operator

To stage content manually:

1. Go to **Script Control > Staging** tab (Figure 74 on page 139).
2. Select the script whose content you need to update on the media players.
3. Click the **Play** icon. The Start Manual Staging box appears (Figure 75 on page 139).

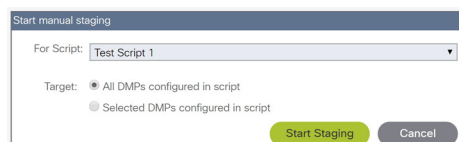
Figure 74 Staging Details



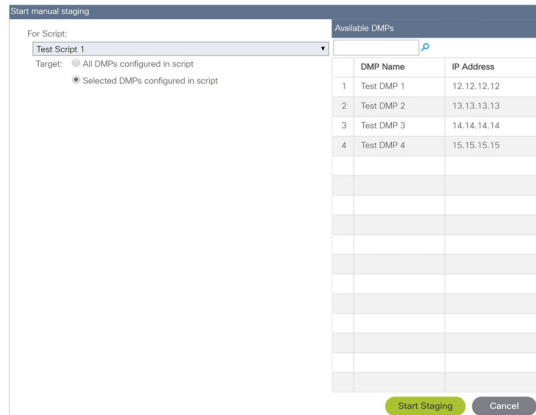
Name	Type	State	Start Time	End Time	Started by	Total Dev...	Completed	Error
Staging requested on Saturday, April 28, 2018 6:39:32 ...	content	STAGING_COMPL...	Saturday, April 28, 2018 6:39:32 ...	Saturday, April 28, 2018 6:39:34 ...	Manual TestScript	1	1	0

4. In the Staging screen, select the script you want to stage in the **For Script** field. Use the pull-down arrow.

Figure 75 Start Manual Staging Dialog Box



5. Select the target media players to receive the content updates. If you click “Selected DMPs configured in script,” a list of available media players appears (Figure 76 on page 140).

Figure 76 Selected DMPs Configured in Script

6. Select the available media players to receive the content updates.
7. Click **Start Staging**.

Scheduling Content Staging with Script Start

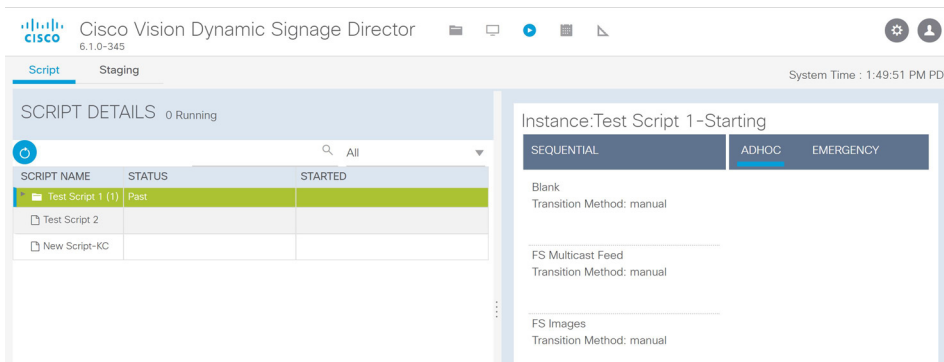
User Role: Administrator / Event Operator / Venue Operator

It is up to the user to determine how long before the script start to schedule staging. However, the script will not start until staging is complete, even if 0 minutes ahead of script start is configured.

For more information about running event scripts, see also the [Running an Event Script, page 186](#).

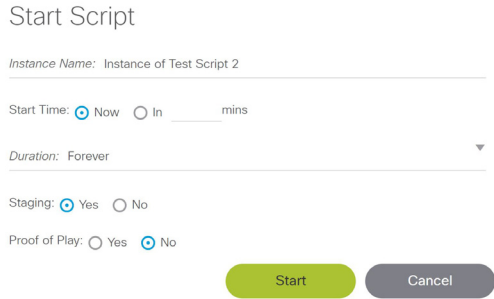
To schedule content staging with script start:

1. Go to **Script Control > Script** tab. The Script Details screen appears ([Figure 77 on page 140](#)) with your scripts.

Figure 77 Script Details Screen

2. Select the script.
3. Right click the script and click **Start**. The Start Script dialog box appears ([Figure 78 on page 141](#)).

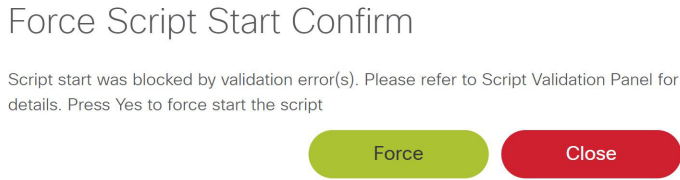
Figure 78 Start Script Dialog Box



4. Set the start time as **Now** or type in the minutes.
5. Use the drop-down arrow to choose the **Duration**. The duration has values listed in seconds.
6. Click the Staging **Yes** or **No** button.
 - a. Type in the **Minutes Ahead of Script Start** to stage content to the media players (Script Start).
 - b. To run staging immediately before running the script, specify a value of 0. The script will not start until staging is complete.
7. Click **Start**.

If the script start is blocked by validation error(s), [Figure 79 on page 141](#) appears.

Figure 79 Confirm Force Script Start



Use the drop-down arrow to see more information on your script. The Status column shows **“Starting.”** When complete, see **“Past”** and icon, as well as the date and time in the Started column.

Click **Staging** to see the details of your job.

How to Manage Content (Assets)

Script Staging System Time : 1:20:48 PM PDT

STAGING DETAILS (87)

Staging requested on	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:31:0	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:41:2	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:42:2	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:43:3	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:43:5	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:54:4	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:54:3	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:55:1	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:55:3	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:56:1	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Thursday, June 21, 2018 10:56:5	cont.	STAGING_C.	Thursday, June 21, 2018	Thursday, June 21, 2018	Manual	1	1	
Staging requested on Friday, June 22, 2018 5:00:2 AM	cont.	STAGING_C.	Friday, June 22, 2018 5:0	Friday, June 22, 2018 5:0	Manual Elevator Scr...	1	1	
Staging requested on Friday, June 22, 2018 5:10:32 AM	cont.	STAGING_C.	Friday, June 22, 2018 5:1	Friday, June 22, 2018 5:1	Manual Garage Dal...	22	22	
Staging requested on Saturday, June 23, 2018 5:00:2 AM	cont.	STAGING_C.	Saturday, June 23, 2018	Saturday, June 23, 2018	Manual Elevator Scr...	1	1	
Staging requested on Saturday, June 23, 2018 5:10:23	cont.	STAGING_C.	Saturday, June 23, 2018	Saturday, June 23, 2018	Manual Garage Dal...	22	22	
Staging requested on Sunday, June 24, 2018 5:00:1 AM	cont.	STAGING_C.	Sunday, June 24, 2018 5:	Sunday, June 24, 2018 5:	Manual Elevator Scr...	1	1	
Staging requested on Sunday, June 24, 2018 5:10:22 AM	cont.	STAGING_C.	Sunday, June 24, 2018 5:	Sunday, June 24, 2018 5:	Manual Garage Dal...	22	22	
Staging requested on Monday, June 25, 2018 5:00:2 AM	cont.	STAGING_C.	Monday, June 25, 2018 5:	Monday, June 25, 2018 5:	Manual Elevator Scr...	1	1	
Staging requested on Monday, June 25, 2018 5:10:23 AM	cont.	STAGING_C.	Monday, June 25, 2018 5:	Monday, June 25, 2018 5:	Manual Garage Dal...	22	22	
Staging requested on Monday, June 25, 2018 8:33:2 AM	cont.	STAGING_C.	Monday, June 25, 2018 8:	Monday, June 25, 2018 8:	Manual	1	1	
Staging requested on Monday, June 25, 2018 8:34:27 AM	cont.	STAGING_C.	Monday, June 25, 2018 8:	Monday, June 25, 2018 8:	Manual	1	1	
Staging requested on Monday, June 25, 2018 8:39:0 AM	cont.	STAGING_C.	Monday, June 25, 2018 8:	Monday, June 25, 2018 8:	Manual	1	1	
Staging requested on Monday, June 25, 2018 8:41:9 AM	cont.	STAGING_C.	Monday, June 25, 2018 8:	Monday, June 25, 2018 8:	Manual	1	1	
Staging requested on Monday, June 25, 2018 11:29:9 AM	cont.	STAGING_C.	Monday, June 25, 2018 1:	Monday, June 25, 2018 1:	Manual Instance of ...	22	22	
Staging requested on Tuesday, June 26, 2018 5:00:2 AM	cont.	STAGING_C.	Tuesday, June 26, 2018	Tuesday, June 26, 2018	Manual Elevator Scr...	1	1	
Staging requested on Tuesday, June 26, 2018 5:10:20	cont.	STAGING_C.	Tuesday, June 26, 2018	Tuesday, June 26, 2018	Manual Garage Dal...	22	22	
Staging requested on Tuesday, June 26, 2018 1:19:20 P	cont.	STAGING_C.	Tuesday, June 26, 2018	Tuesday, June 26, 2018	Manual Instance of ...	7	6	

1 Error of Now Tuesday, June 26, 2018 1:19:23 PM

DMP	IP	ERROR
Small ELO	10.194.175.208	Unable to send requestSync

Double click the line to see how to resolve the error.



Working with Playlists in Cisco Vision Director

User Role: Administrator / Content Manager

This module provides information about how to create and modify groups of content items for sequential display using playlists in Cisco Vision Director.

Information About Playlists

A **playlist** is a series of content items (static images, video, widgets, external URLs) that are grouped together to display in sequential order (one after the other) for a set duration and repeat. The playlist appears in a given area of the screen called a **region**.

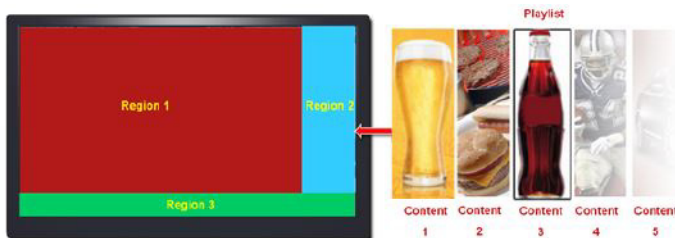
Each playlist runs independently of other playlists, and multiple playlists can be run in any given event script in separate regions.

Playlists are defined by the type of content that they contain—either static graphics only (Non Video), or video/other content types (Video or Mixed Media). A playlist set up as “Video or Mixed Media” can contain both video and static graphics, as well as other content types.

One of the most common uses of a playlist is in a screen template region where a series of advertisements cycle based upon a preset rotation. Playlists also can include tickers and full screen messages, among a number of other types of content.

Figure 1 on page 143 shows an example of a playlist that contains five static images that will each display for a set duration in Region 2 of the screen template.

Figure 1 Playlist Example of Static Images

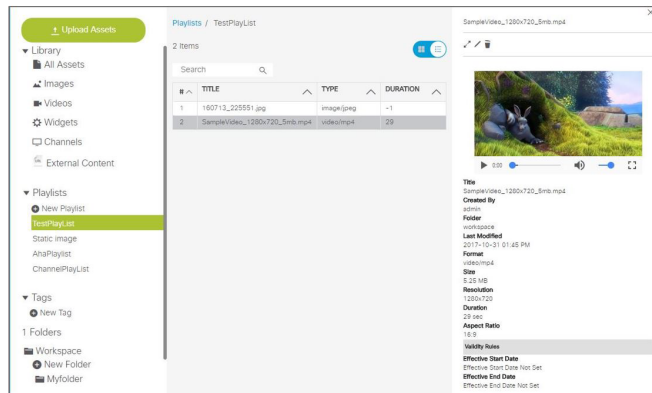


The playlists to be run as part of an event script must be staged, or pre-loaded, to the Cisco DMPs prior to the event from the **Library** screen.

Playlist View

Figure 2 on page 144 shows the Content screen playlist view and the options available there.

How to Set Up Playlists

Figure 2 Playlist View Navigation

New in this release are sizing bars. Put your cursor near the top of the area you want to change. When the cursor changes to the crossbar, drag whichever area you want, to improve your visibility.

How to Set Up Playlists

This section includes the following topics:

- [Guidelines for Creating Playlists, page 144](#)
- [Prerequisites for Playlist Creation, page 146](#)
- [Creating a Playlist, page 146](#)
- [Adding Content Items to a Playlist, page 148](#)
- [Changing the Order of Content Items in a Playlist, page 151](#)
- [Replacing Content in a Playlist During an Event, page 152](#)
- [Enhancements to Content Replacement, page 152](#)
- [Setting the Item Duration in a Playlist, page 156](#)
- [Copying Content From One Playlist to Another, page 157](#)
- [Deleting Content Items From a Playlist, page 158](#)
- [Deleting a Playlist, page 158](#)

Guidelines for Creating Playlists

When creating playlists, consider the following guidelines:

- You cannot have playlists with the same name.
- Each region can have at most one playlist.
- For Proof of Play, you can have more than one region with an ad playlist.
- In all releases of Cisco Vision Director, graphic playlists can only play static graphics and certain .swf files*. Prior to Release 3.1, only video content could be in a video playlist. In Release 3.1 and later, Cisco Vision Director can support static graphics and video in mixed media playlists.

IMPORTANT: The Cisco digital media players do not support Flash content. For additional information, refer to allowable [Static Graphic Formats](#).

- Once a playlist displays the last content item in the list, it will loop back to the beginning of the playlist.
- The recommended ad rotation time is 30 seconds. 15 seconds is the minimum supported time for all content. As a best practice, we recommend that you never use less than 15 seconds per playlist content items.

Note: All playlists from all zones/groups for a given event must be loaded on every media player prior to the event.

Each playlist can have its own ad rotation time independent of other playlists.

Content in the playlist is displayed in the order in which it is added unless you re-order your content.

Note: As a series of content items transition in a playlist (such as advertisements in Region 2 of a standard 3-region L-wrap template), there will be some variance in the appearance of each content item as the media player displays where that content is presented. Each content item will generally appear on all corresponding media player displays within about one second of each playlist item transition. However, the amount of time that it takes for all displays in your venue to show the same content item within a playlist might exceed a one-second duration based on the following venue conditions: Network infrastructure, number of regions on the display, number of content items in the playlist, and the playlist duration.

[Table 1 on page 145](#) provides some guidelines for general playlist support in Cisco Vision Director.

Note: While these limits have been tested with basic Cisco Vision Director operation, the combination of maximum values and complexity of your system and content can potentially impact the actual limit. Therefore, be sure to test your playlist content for expected behavior before using in production.

Table 1 Playlist Guidelines and Limitations

Playlist Guideline	Limit
Number of playlists (any type) in the Cisco Vision Director content database.	1,000
Number of playlists per group.	100
Number of items per playlist.	1,200
Number of items of content (any type) used in entire SVD event. ¹	1,200
Number of characters in a playlist name (including spaces).	22

1. The number of content items that can be replaced in a playlist depends on the total number of content items, playlists, and the composition of the playlists in Cisco Vision Director. Typically a playlist containing 243-273 content items can be saved. Saving playlists larger than that will fail and content replacement will not work.

Consider the following restrictions and expected behavior when configuring playlists:

- Single video loop—You can configure a playlist to loop continuously when you have a playlist with a single video content item set for a duration of zero, with the playlist duration also set to zero.
- Single non-video loop—You can configure a playlist to loop continuously when you have a playlist with a **single** non-video content item by setting the item duration to -1, and setting the playlist duration to a number greater than or equal to zero.
- All playlists will loop their content (for example, once the last item plays, the playlist restarts with the first item) **unless** a duration of zero is configured on the first playlist item.

How to Set Up Playlists

- To run a playlist one time, you can specify a duration of zero for the last item in the playlist. There is different behavior if the last item is a non-video item versus a video. If the last item has zero duration, and once the rest of the playlist items run, then if the last item is a non-video item, it continuously plays for the duration of the state. If the last item is a video, the video plays one time followed by a black screen for the duration of the state.
- If a change is made to a playlist and the playlist is currently being displayed, it is possible that items in the playlist that are past an item in the playlist with a duration of zero, could get displayed and the playlist continues until the item with zero duration is reached again.

Prerequisites for Playlist Creation

Before you create playlists, be sure that the following conditions are met:

- You are familiar with the playlist content types to specify the appropriate playlist types (Non Video, Video or Mixed Media).
- The content for the playlist is in the Library.
- You have a naming convention to ease identification and management of your playlists.

Creating a Playlist

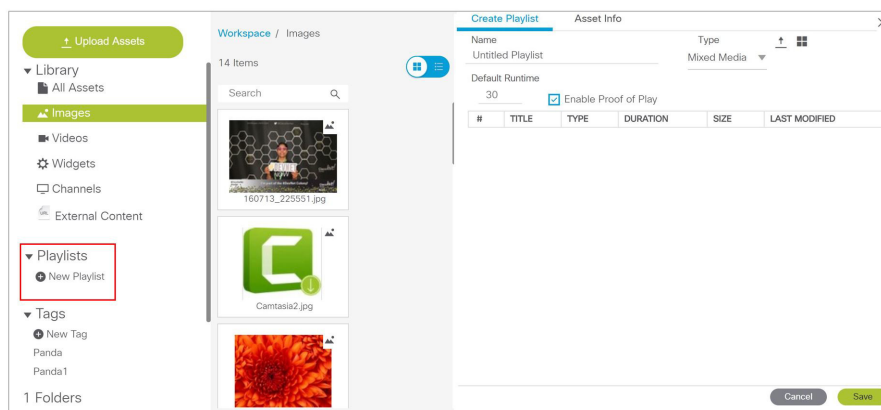
User Role: Administrator / Content Manager

IMPORTANT: For video walls, the playlist must have the same number of items, and the same duration for each content item. Each list item must be of the same type. For more information, see [Prerequisites for Video Walls, page 168](#).

To create a playlist:

1. From the **Main Menu (Library)** click **Playlist > New Playlist**. The Create Playlist box appears on the right [Figure 3 on page 146](#).

Figure 3 Create New Playlist Box



2. Specify the Playlist options, see [Table 2 on page 147](#).

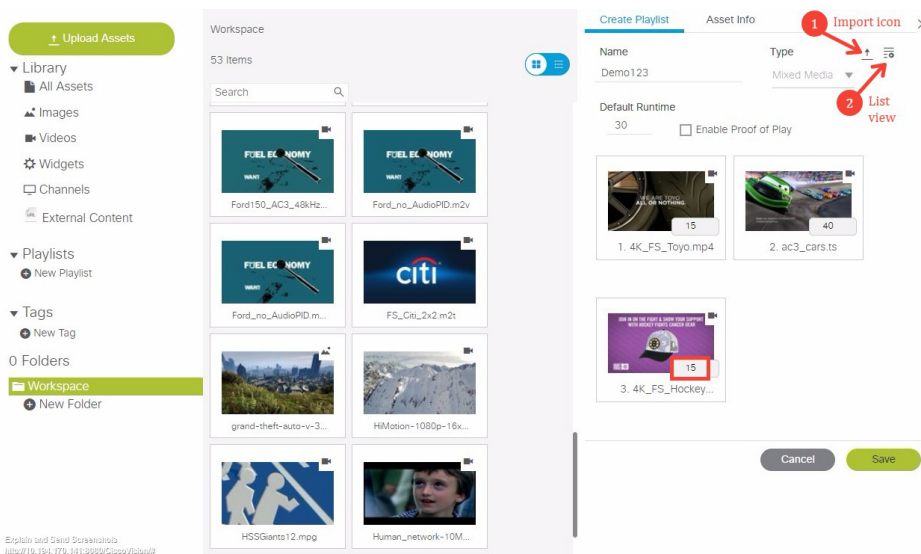
- a. Type a **Name** for your playlist.
- b. Use the pull-down arrow for **Type** of media. Best to choose **Mixed Media**.

Table 2 Playlist Options

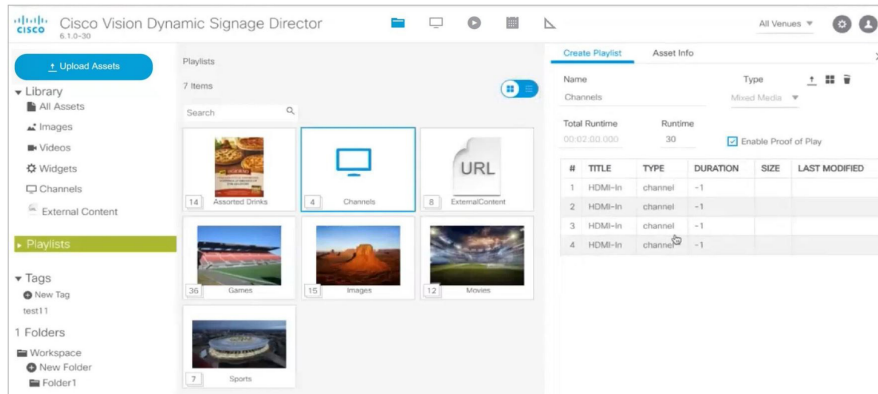
Option	Description
Playlist Name	(Required) Alphanumeric name for the playlist. Default is " New Playlist."
Type	Type of content to be used in the playlist: Non Video —(Default) Static graphics (images) only. Video or Mixed Media —Video content or combination of video and images.
Enable Proof of Play	Captures a log of items played for advertisement reporting. The default is Yes.
Default Item Duration	Length of time (in seconds) for the content item to play. The default is 30 seconds. Value must be an integer—fractions of seconds are not supported. Note: See the Guidelines for Creating Playlists, page 144 topic for information about how to properly use an item duration of 0 to loop content.
Playlist Total Duration	(Display field only) Estimates the length of time for all content items to play.

- c. Define Default Runtime (if necessary). Cisco default runtime is 30 seconds.
- d. Drag and drop content from the Asset Library (Figure 4 on page 147) or use the **Import** icon.
- e. Enable **Proof of Play** (check the box) to record the entire event script at your venue.

Figure 4 Importing Content to a Playlist



- 3. Click **Save**. The name of the new playlist will display in the text below the Playlist Items dialog box.

Figure 5 Playlist Specifics

The Playlist Detail in Listview shows: what order the content items were loaded, the title, the duration of each piece of content, the size, and when the playlist was last modified.

Adding Content Items to a Playlist

User Role: Administrator / Content Manager

IMPORTANT: For video walls, the playlist must have the same number of items, and the same duration for each content item. Each list item must be of the same type. For more information, see [Prerequisites for Video Walls, page 168](#).

Adding Content Items from the Asset Library (Main Menu) to a Playlist

To add content items to a playlist:

1. From the **Main Menu**, click **Playlist > New Playlist**. The Create Playlist box appears on the right ([Figure 3 on page 146](#)).
2. In the Playlists pane, select the Name of the playlist where you want to add content items.
3. In the Asset Items list, select the content item(s) that you want to add to the playlist.

TIP: You can select multiple files using the standard multi-select keyboard strokes. Use the search or sort functions to find the content you want to add to the playlist.

IMPORTANT: Be sure to select content that is formatted for the proper TV display resolution where you will be running the playlist, and that it matches the region size where it will be displayed. For example, if the TV supports 1920x1080 resolution, the content you add to the playlist must be in 1920x1080 format to display properly on the TV screen.

4. Drag and drop files onto the Playlist Items area.

Content is displayed in the order in which it was added. A thumbnail of each piece of content is shown in the Playlist Items box. The header above the playlist box will indicate the number of items in the playlist.

5. (Optional) To duplicate an item in the playlist, select a content item in the Playlist Items panel, and do one of the following:
 - a. To duplicate an item once—Click the Item duplicate icon.
 - b. To duplicate an item multiple times—Click the drop-down arrow and select the “Duplicate multiple times” option.

In the Duplicate Contents dialog, specify the number of times that you want to duplicate the item and click Duplicate.

Metadata-Validity and Playability

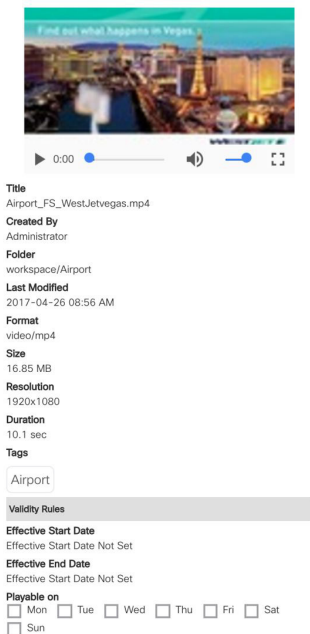
Tag an asset with metadata comprised of validity and playability information. Add granularity to your asset by configuring exactly when it is effective (validity) and exactly when it can be shown (playability). These values are typically provided by a sponsor or asset provider. Previously, an asset was unrestricted. Now assets are scalable.

To set validity and playability data:

1. Go to: **Library > Workspace > Click as Asset**. The Metadata window appears.
2. Set values (see [Figure 6 on page 149](#)). Click the **Edit** icon (pen) at top of panel.
 - a. For validity, set the **Effective Start Date** and **Effective End Date**.

Note: If you do not set this metadata, the default for all content is **forever**.

Figure 6 Setting Metadata Values



- b. If you do not set the end date, it will default to forever.
- c. If you do not pick a time, it will default to midnight (12:00 am).
- d. Slide **Restrict Playback** button to enable greater flexibility. The Playable options appear.

Figure 7 Restricting Playback of Content

- e. Choose days of the week you want the content to validly play. Previously, the default for content was everyday (always valid); now it's scalable. Uncheck days you do not want the content to play.
- f. Choose Start and End times.
- g. Click the **Save** icon at the top of the panel.

IMPORTANT: No matter where the physical location of the DMP is, once you set the start/stop data, the time you choose is “local” to that DMP, meaning content will play on that DMP at exactly the time you set, even if you are located out of the same time zone from that DMP.

Note: When your content become valid in the script, that content is not *instantly* valid. Meaning the next time the playlist loops back, the content becomes available (valid and playable).

IMPORTANT: Cisco Vision Director does **NOT** support a playlist with NO valid content. A playlist has to have at least ONE piece of content that is valid. Therefore the default for all content, unless you set its metadata, is **always valid**.

Adding Static Graphics to a Non-Video Playlist by Direct Upload

You can drag and drop images from the Asset Library to a playlist, or, if you have not already uploaded the content to Cisco Vision Director, you can upload images directly to the playlist.

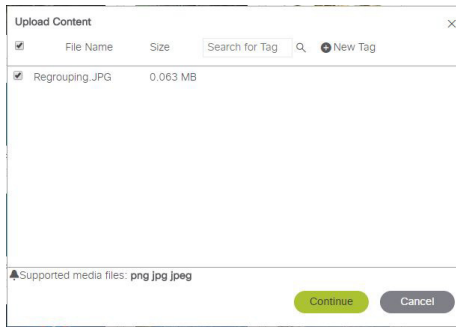
To directly upload static graphics to a non-video playlist:

1. Go to **Library**, click **Playlist > New Playlist**.
2. In the Playlists listing, select the name of the playlist where you want to add images.

TIP: Once you select images to upload, you can change the target playlist name or even create a new playlist for the selected content in the Upload dialog box. You can also create and apply tags to the content.

3. At the top of the Playlist Items pane, click the import icon ([Figure 8 on page 151](#)).

How to Set Up Playlists

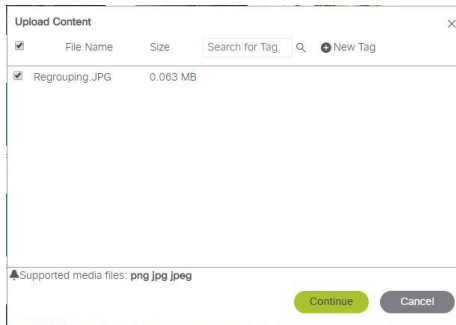
Figure 8 Import Images Directly to Non-Video Playlist

4. In the Open dialog box, select the images that you want to upload.

TIP: You can also select a compressed .zip file to upload multiple images.

5. Click **Open**.

6. In the Upload Content dialog box (Figure 9 on page 151), do the following:

Figure 9 Import Content Dialog Box

- a. (Optional) Change the target playlist to another existing playlist, or type the name of a new playlist to be created.
- b. (Optional) Apply an existing tag, or create a new tag name to apply to the content.
- c. Click **Continue**.

Changing the Order of Content Items in a Playlist

User Role: Administrator / Content Manager

Content is displayed in the order in which it is added.

TIP: If you do not want a specific order of items, you can click **Randomize** to put the content items into an arbitrary order.

To change the order of content items in a playlist:

1. Go to **Library**, click **Playlist**.
2. Go to List view.
3. In the Playlist Items list, select the content item that you want to move and drag and drop it into the desired position in the list. If you place the thumbnail of the content on top of another thumbnail, they swap positions.

Replacing Content in a Playlist During an Event

User Role: Administrator / Content Manager

You can perform content updates in a playlist during content presentation as long as you follow important guidelines.

Restrictions for Event-Time Content Replacement

CAUTION: Event-Time Content Replacement should be used with care if you are using Proof of Play due to impact of Proof of Play reporting if changes are made while a script is running. Weigh the cost-benefit of replacing content versus PoP impact. Once an updated event script has stopped running, the PoP will operate normally upon re-running of the script.

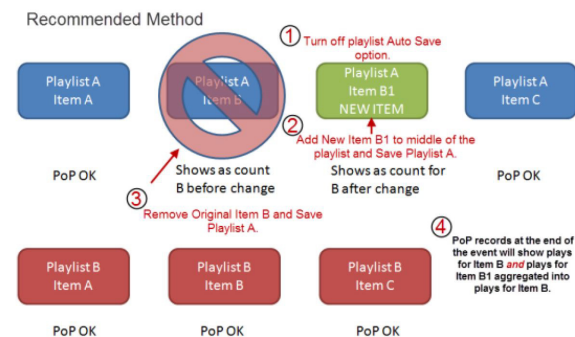
Before replacing content in a playlist during an event, consider the following restrictions:

- Avoid making the following types of playlist updates when using replacing content that is using Proof of Play:
 - Adding items to the end of a playlist—The new item will show up in the PoP raw data, but not the detailed report.
 - Removing an item from a playlist—Synchronization of the PoP reporting will be mismatched.
- The replacement content file name must be unique. Do not re-import content using the same file name as any existing playlist content item.

The best practice is to Import the content item with a new file name and add it to the playlist before removing the content item to be replaced. See [Figure 10 on page 152](#) for an illustration of the recommended workflow to preserve PoP reporting.

- Widgets are not supported for event-time content replacement.
- Content replacement can negatively impact video content synchronization and is not recommended. If you must consider this, plan to have non-video content available as the replacement.

Figure 10 Replacement of Existing Content Item



Enhancements to Content Replacement

New enhancements to content replacement allow you to update a playlist and save it, then update *another* playlist, without waiting for the first content replacement command to finish. In Release 6.0, you could make changes to a playlist, but not if the script that used the content you wanted to change was running. Content Replacement is defined as making changes to running scripts without restarting the script.

You can do multiple content replacements (playlist change or file upload) without waiting for the prior content replacements to finish. There are a couple limitations:

How to Set Up Playlists

- You can only have one replacement per content item or one replacement per playlist queued. In other words, you can't replace the same content a second time until the first replacement process finishes.
- You cannot make **another** change to the same playlist until the first change to that playlist finishes.
- All file uploads, even if you did not select content replacement, will temporarily block another upload of an item of the same name.

TIP: Check your work thoroughly before you start the content replacement process. That way, you won't need to go back and try to make more changes to your scripts before they get staged.

Note: Content replacement can invalidate the Proof of Play report.

This feature concerns uploading content to the Library (Director Server). Once completed successfully, this triggers uploading to the staging to the DMP specified.

To access content replacement:

1. From **Library > Upload Assets**. A dialog box appears. Choose the files (Figure 11 on page 153).
2. Click **Replace Now > Continue** if you want the content replacement to happen immediately, overwriting the content that may be staged to the DMP (Figure 12 on page 153).
3. This dialog shows you which content files are in conflict. Select the files to replace and click **Replace**.

Figure 11 Upload Content Dialog Box

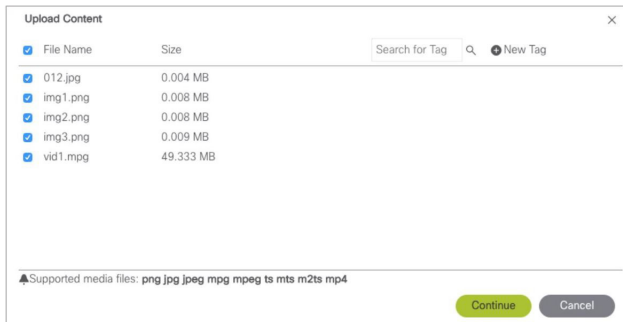
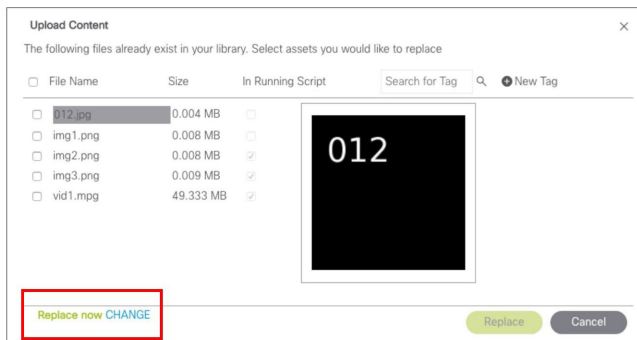
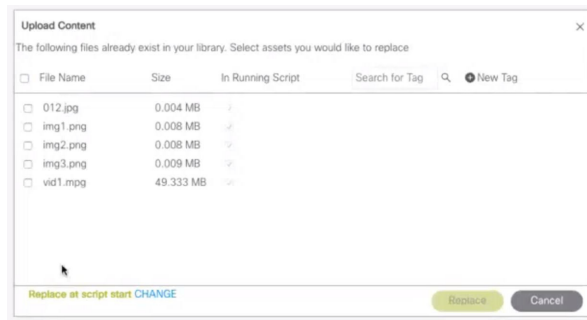


Figure 12 Content Replacement Conflict

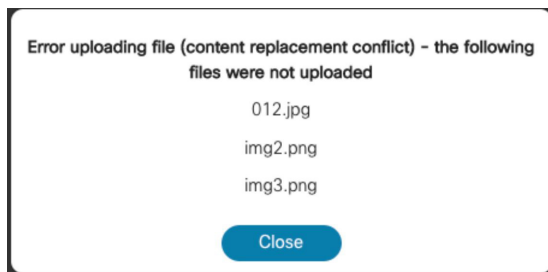


4. Choose **CHANGE > Replace at script** start to stage the content to the DMP at script start (Figure 13 on page 154).

How to Set Up Playlists

Figure 13 Replace at Script Start Option

If there is a previous upload that hasn't fully processed or you try to upload the same assets again, an error appears (Figure 14 on page 154). For these files, you must retry to upload them because no changes occurred.

Figure 14 Error Uploading File Message

Now you can perform content replacement on a second playlist (it cannot be the same playlist) even if the first playlist isn't done processing. With the newest content replacement enhancements you can make changes to running scripts, even if they have started.

Limitations to Content Replacement Enhancement

1. The Proof of Play may become invalid if you do content replacements
2. Content replacement only applies to local video and image files only (not channels, external URLs, or widgets)
3. Playlists containing 1 item will not content replace (change). To make this work:
 - a. Create a playlist of the same item twice
 - or
 - b. Change states to a different state with a different playlist, then return to the prior state

IMPORTANT: If the DMP performs a reboot during this uploading and staging process, check your script and be sure the process completed and the replaced content commands will get pushed to the DMP. There is no auto-retry command to the DMP of the staging to make certain the content gets replaced. **Workaround:** Go the DMP staging screen and manually stage the content to the DMP.

Creating a Playlist with Looping Content

User Role: Administrator / Content Manager

How to Set Up Playlists

Once a playlist displays the last content item in its list, it will automatically loop, or replay content from the beginning of the playlist, as long as an item duration of 0 is **not** specified for the first content item.

For playlists with only a single video or non-video item, you need to be sure that the item duration and playlist duration to specific values to achieve a continuous replay (loop) of the playlist.

To create a playlist with looping content:

1. Go to **Library**, click **Playlist**.
2. Select an existing playlist or create a new one.
3. Change the screen to Gridview for the thumbnails.
4. Add content items to the playlist. For more information, see [Adding Content Items to a Playlist, page 148](#).
5. Select the playlist that you want to modify and do the following:
 - a. To loop a playlist with multiple content items—Automatic. Be sure that the item duration for the first content item in the playlist is not 0.
 - b. To loop a playlist with a single, non-video item—Set the Default Item Duration for the playlist to a value greater than or equal to 0 and set the item duration to -1. Use the Pen icon to edit. See [Figure 15 on page 155](#).

Figure 15 Duration Values to Loop Single-Item Non-Video Playlist

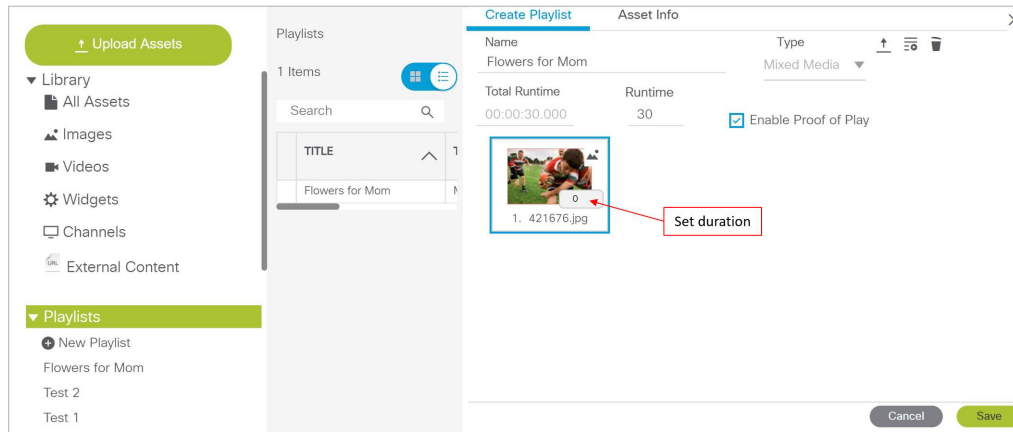
The screenshot shows the Cisco Vision Director interface. On the left is a navigation menu with 'Library' and 'Playlists' sections. The 'Playlists' section is expanded, showing 'Static image' selected. The main area displays a table with one item:

#	TITLE	TYPE	DURATION
1	Tropo.png	image/png	-1

The 'DURATION' cell for the first item is highlighted with a red box. To the right, a details panel for 'Tropo.png' shows metadata such as Title, Created By, Folder, Last Modified, Format, Size, and Resolution.

- c. To loop a playlist with a single, video item—Set both the Default Item Duration and item Duration to a value of 0 ([Figure 16 on page 156](#)).

IMPORTANT: When looping a single video item of 0 duration, be aware that content synchronization is lost on the SV-4K media player.

Figure 16 Duration Values to Loop Single-Item Video Playlist

6. Click **Update** for an existing playlist, or **Save** for a new one.

Setting the Item Duration in a Playlist

User Role: Administrator / Content Manager

IMPORTANT: For video walls, the playlist must have the same number of items and the same duration for each content item.

The Default Item Duration is set in the Playlist Details panel. The default value is 30 seconds.

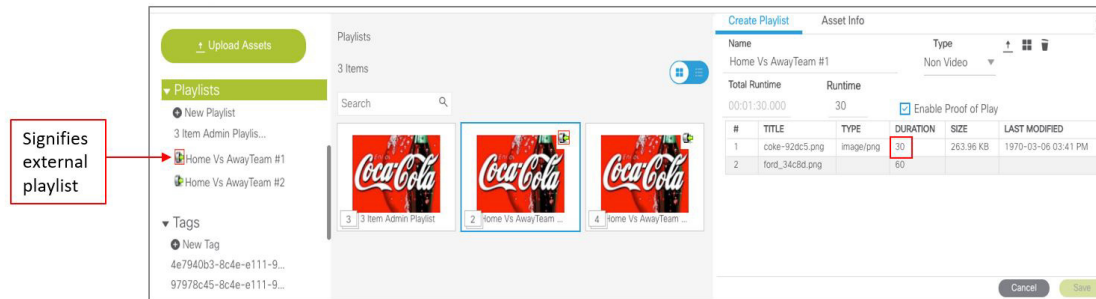
When you add non-video content items to the playlist, the value set in the Default Item Duration is used by default. In list view, you will see an item duration value of -1 (ignore) for the content item, which means that the default item duration set for the playlist is used.

Video content items use the length of the video as their default duration when added to a playlist.

To set the item duration in a playlist:

1. Go to **Library > Playlists**. Click on the playlist you want to check or change. The playlist content displays in Listview with all the durations shown for each asset (Figure 17 on page 157).
2. The the screen to Gridview for the thumbnails.
3. Select the existing playlist or create a new one.
4. Add content items to the playlist. For more information, see [Adding Content Items to a Playlist, page 148](#).
5. In the Playlist Items panel, select the list icon so that you can see the content items detail, including the item Duration (Figure 17 on page 157).

Figure 17 Playlist Item Duration



6. Click the item Duration cell for the content item that you want to modify.
7. Type a value or use the spinner controls to set the item duration (in seconds), using the following guidelines:
 - a. **For advertisements**—Set a value of 15 (recommended).
 - b. **To use the Default Item Duration set in the playlist properties**—Use a value of -1 (This is the default).
 - c. **To run a playlist one time (where last content-item is non-video)**—Set a value of 0 for the last non-video content item.

The content will play one time, and the last non-video item will run until the end of the Event state.

IMPORTANT: If the last content item is a video, then the video will play one time and a black screen is displayed for the remainder of the Event state.

- d. **To loop a playlist with multiple content items**—Automatic. Be sure that the item duration for the first content item in the playlist is not 0.
 - e. **To loop a playlist with a single, non-video item**—Set the Default Item Duration for the playlist to a value greater than or equal to 0 and set the item duration to -1.
 - f. **To loop a playlist with a single, video item**—Set both the Default Item Duration and item Duration to a value of 0.
8. Click **Update** for an existing playlist, or **Save** for a new one. For more information about creating playlists with looping content, see [Enhancements to Content Replacement, page 152](#).

Copying Content From One Playlist to Another

User Role: Administrator / Content Manager

You can easily copy content from one playlist to another. This task is useful for video walls or other groups of TV displays where you want to show identical content.

To copy content from one playlist to another:

1. Go to **Library**, click **Playlist**.
2. Create the new playlist if it does not already exist.
3. Select the name of the playlist that you want to copy content items from.

TIP: Use the Search box to find a playlist.

4. In the Playlist Items panel, select all of the items.

5. Drag and drop the content items to the target playlist in the Playlists panel where you want to copy the content.
6. Specify the Playlist options (see [Table 3 on page 158](#)).

Table 3 Specify Playlist Options

Option	Description
Playlist Name	(Required) Alphanumeric name for the playlist. Default is "New Playlist."
Type	Type of content to be used in the playlist: Non Video —(Default) Static graphics (images) only. Video or Mixed Media —Video content or combination of video and images.
Enable Proof of Play	Captures a log of items played for advertisement reporting. The default is Yes.
Default Item Duration	Length of time (in seconds) for the content item to play. The default is 30 seconds. Note: See the Guidelines for Creating Playlists, page 144 topic for information about how to properly use an item duration of 0 to loop content.
Playlist Total Duration	(Display field only) Estimates the length of time for all content items to play.

7. Click **Save**. The name of the new playlist will display in the text below the Playlist Items dialog box. Since you have not yet added items to the playlist, (0 Items) are indicated.

Deleting Content Items From a Playlist

User Role: Administrator / Content Manager

When you delete an item from a playlist, the item remains in the content library and is only removed from the playlist.

To delete an item from a playlist:

1. Go to **Library**, click the Playlist arrow to see the listing, select the playlist where you want to delete a content item.
2. In the Playlist Items panel, select the content item that you want to delete.
3. Click **Delete Playlist Item**.

IMPORTANT: There are two delete buttons that pertain to playlists—one to delete the actual playlist itself (**Delete Playlist**) and one to delete items in a playlist (**Delete Playlist Item**). Be sure to choose the correct button.

4. In the confirmation dialog box, click **Delete** to remove the item.

Deleting a Playlist

User Role: Administrator / Content Manager

How to Set Up Playlists

When you delete a playlist, the playlist is permanently removed from the content library. However, the content items in the playlist are still available to you in the content library.

To delete a playlist:

1. Go to **Library**, click the Playlist arrow to see the listing.
2. In the Playlist thumbnails, select the playlist that you want to delete.
3. In the Playlist Detail Panel, select the trashcan icon (Delete).
4. Click **Delete Playlist**.
5. In the confirmation dialog box, click **Delete** to remove the playlist.



Working with Video Walls

User Role: Administrator / Content Manager

This module provides information about how to design and deploy video walls.

Information About Video Walls

A **video wall** is a group of displays that show synchronized content and convey a single, much larger screen. Cisco Vision Director supports different video wall design methods depending on the type of media player controlling the video wall.

A common use for video walls is to vary the video wall layout and content over the course of an event.

Content Scaling

Scaling refers to support of two things:

- Stretching of the content.
- Showing only a portion of the content per display in a multi-screen video wall.

Multicast Video Scaling

- Supported in Release 5.0 and later releases.
- Intended for use in video walls.
- Allows scaling of a multicast video region across a video wall display for both portrait and landscape orientation.

IMPORTANT: When using multicast video in a video wall, make sure you use a feed that complies to ISO13818, particularly with respect to program clock reference (PCR). PCR is a value in the transport stream that provides a means for the decoder to lock its video output clock to the video input clock to the encoder that is providing the transport stream. In a video wall, any two DMPs may be up to one frame out of sync.

Video Wall Design Methods

Cisco Vision Director supports the following different video wall design methods, depending on your media player model:

- TV-based tile matrix
- DMP-to-DMP content synchronization
- Zone-based video wall synchronization

Note: While TV-based tile matrix video walls can be used for the SV-4K, the best practice for full HD resolution is to use either DMP-to-DMP content synchronization or zone-based video wall synchronization methods.

TV-Based Tile Matrix

All media players support TV-based tile matrix video walls.

A TV-based tile matrix video wall requires the use of TVs that have built-in tile matrix capabilities, where video input from one player is stretched across all displays. Due to this stretching, the resolution is proportionately reduced.

The tile matrix functionality is configured using RS-232 commands that specify the overall "x" and "y" dimensions of the matrix, as well as each TV's position in the video wall.

DMP-to-DMP Content Synchronization

The DMP-to-DMP Content Synchronization feature for the digital media player synchronizes content rendering of playlist items on the displays. For video files, synchronization can still be off by a few milliseconds. The DMP will resync every second.

This synchronization includes transitioning from one item to the next (such as for still images), and more accurate playback and rendering of local video content. For local video, this serves as the foundation for implementing video ribbon boards and video walls. This requires cabling of a single media player per display.

Note: Widgets, external URLs, and multicast video tuning synchronization are outside the scope of this feature.

Cisco Vision Director Release 4.0 and later supports enhanced content synchronization methods for the DMPs, with close synchronization of playlist item transition using the Precision Time Protocol (PTP).

Zone-Based Video Wall Synchronization

Zone-based video wall synchronization is an alternative form of synchronization available for devices participating in a video wall.

The primary benefit of this form of synchronization is that if any device that is not the leader in the video wall reboots, it will "catch up" to play whatever content item that the rest of the video wall is currently playing. This form of synchronization is recommended for dedicated video walls that are running video content longer than 15 minutes.

If a device reboots in a video wall that is **not** using zone-based video wall synchronization (using normal DMP-to-DMP synchronization), the tradeoff is that the rebooting device synchronizes with the rest of the video wall at the next content item in the playlist, or at replay of a single-item playlist.

Summary of Video Wall Synchronization Methods for the DMPs

[Table 1 on page 163](#) provides a comparison of the configuration guidelines and behavior for device reboot in a DMP video wall for the two content synchronization methods.

Note: Both content synchronization methods use single device cabling per TV display. See [Dynamic Video Wall Sizing, page 163](#).

Constant Bit Rate (CBR) is required for best performance.

Table 1 DMP Video Wall Synchronization Summary¹⁰

Synchronization Method	Network Time Source	Multicast Config Required	Video Duration	Bit Rate	Video Wall Reboot Behavior
DMP-to-DMP	PTP	No	< 5 minutes	CBR	Sync at next content item in the playlist.
Zone-Based	PTP	Yes	>15 minutes	CBR	Video content syncs with current item being played by the device leader. Still images sync at next content item in the playlist. Note: If the leader reboots, all DMPs will display black and resync when the leader has completed its reboot.

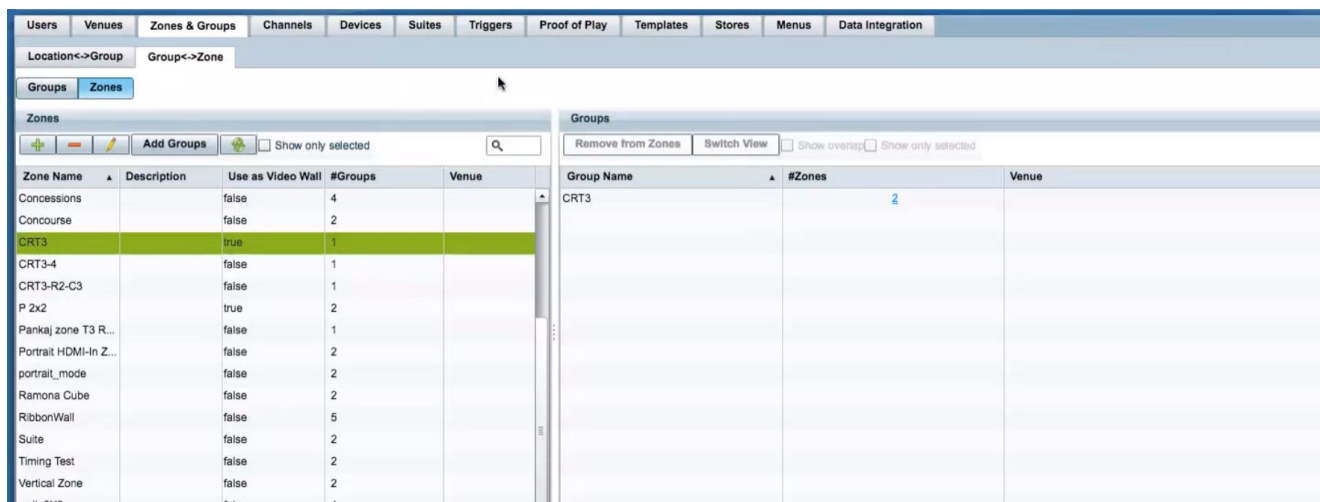
Dynamic Video Wall Sizing

Setting a “Sync Manager” synchronizes local videos across multiple DMPs. **This is not for multicast streaming.** To set this feature, set the **Use as Video Wall** to “true.” See [Figure 1 on page 163](#). This tells the system to treat the DMPs in a zone or group to be part of a video wall or not. This means now you *can* change a video wall size from one state to another.

Two good reasons to set a “Sync Manager”:

1. When **Use as Video Wall** is set to “true,” the system enables a “leader” DMP which maintains very tight synchronization between all the DMPs in the video wall. The leader DMP controls precisely where all DMPs play content, regardless of failure.
2. If one of the DMPs has to reboot or gets restarted, without a “Sync Manager” enabled, that DMP would restart the video file and start replaying the content **from the beginning**, and be unable to jump to the exact location of the other DMPs. This throws-off the continuity of the video wall.

Figure 1 Enable Dynamic Video Wall Sizing



Video Wall Cabling

A video wall can be connected in the following ways:

- [Daisy-Chained TV Displays for TV-Based Tile Matrix Video Walls, page 164](#)
- [DMP Connection Per TV Display in a Video Wall, page 164](#)

Daisy-Chained TV Displays for TV-Based Tile Matrix Video Walls

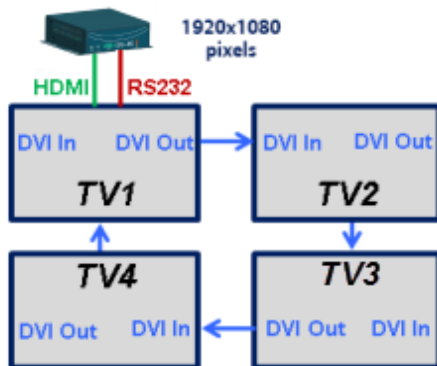
This cabling method is supported by all media players and uses the native tile matrix capabilities of the TV displays in the video wall.

In this cabling method, the TV displays in the video wall group are connected together using the DVI In/Out ports. One media player is connected to a single TV in the group using HDMI and RS-232 connections.

[Figure 2 on page 164](#) shows an example of a 2x2 tile matrix configuration with 4 displays daisy-chained in a group with control of the group by a single media player. In this example, notice that all displays are using 1920x1080 format.

IMPORTANT: For the 2x1 portion of the video wall, the DMP crops a 1920x1080 canvas to the 960x1080 signal resolution rather than shrinks it. Therefore, you must specify the correct template to match your signal resolution and your content must match the template. For more information, see [Understanding Content and TV Resolution, page 79](#).

Figure 2 Daisy-Chained 2x2 Tile Matrix Example with the DMP

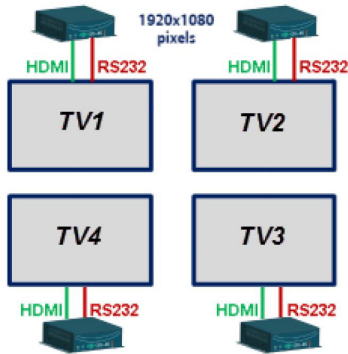


DMP Connection Per TV Display in a Video Wall

The DMPs support display of synchronized local content (video or images) in your video wall.

In this cabling method for local video synchronization, a single media player is connected to each TV display in the video wall using the HDMI Out and RS-232 connections ([Figure 3 on page 165](#)). It can be used for video walls playing local video that do not rely on the tile matrix capabilities of the TV.

With this architecture, you can develop content at 3840x2160 resolution. Then, divide your video into four 1920x1080 pieces for synchronized playback. This method will use the maximum resolution for each display giving you the highest possible quality for your presentation.

Figure 3 Video Wall with Single DMP Per TV Display

This cabling method also is required for zone-based synchronization, which is recommended to achieve enhanced functionality for dedicated video walls running videos with a duration greater than 15 minutes.

Video Wall Design Examples

This section provides examples of some of the more common and currently deployed video wall designs in Cisco Vision venues.

TIP: Be sure to consult with the video wall experts from the Cisco Creative Services team for any of your video wall ideas, including non-standard configurations. This team can help you with ideas, best practices, and wiring diagrams to ensure a successful deployment.

2x3 TV-Based Tile Matrix Video Wall Example

[Figure 4 on page 165](#) shows a video wall commonly used in a concourse area, with a larger game feed for groups of patrons to watch, along with rotating sponsor content displayed beside the game.

Figure 4 2x3 Video Wall Content Example

A 2x3 video wall is the most common video wall that Cisco recommends because in the left 2x2 group of displays, the game feed maintains the proper 16:9 aspect ratio of the HD game feed.

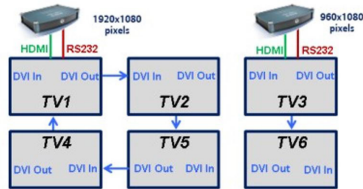
The right 2x1 group of displays can work independently from the game feed and show sponsor, social, or other content throughout the game. The user also can change the type of content that plays during the game. For example, during half-time or period break, when there is no game feed, the user can switch the 2x2 to play full screen sponsor content, while changing the 2x1 to show upcoming events or team branded content so that there are not any sponsor conflicts.

[Figure 5 on page 166](#) shows the cabling for the 2x3 video wall example, where two Cisco DMPs are used to break the wall into different display areas.

The first DMP provides the 2x2 game feed and the second DMP provides the 2x1 sponsor ads.

Note: This cabling design is not the recommended design for the digital media players. Instead, a single player per display is preferred for video walls. For more information, see the [DMP Connection Per TV Display in a Video Wall, page 164](#). In addition, use of any resolution other than 1920x1080 is not technically supported on the DMPs (although it might work).

Figure 5 2x3 Video Wall Cabling Example Using TV Tile Matrix Functionality



These dedicated DMPs provide the video signal for the group of TVs that the DMP is connected to through the daisy-chain. Depending on the screen manufacturer, the RS-232 connections can also be daisy-chained if this feature is available.

When operating in tile matrix mode, the TVs are fed the same video signal. Based on the TV's tile matrix configuration, the TV knows to first scale input video to the size of the configured x,y dimensions, and then to display its "piece" of the overall display based on its configured position within the matrix.

Note: If you want to show multiple types of content, such as four different channels on each of the screens, connect a DMP behind each TV. Please see [Best Practices for Video Walls, page 167](#) for further clarification and limitations.

Other Video Wall Configurations

While the 2x3 video wall is the most commonly used video wall configuration, using the information and concepts for the [Figure 5 on page 166](#), you can create any number of different video wall configurations.

IMPORTANT: These video wall examples require a different number of DMPs and cabling than the 2x3 video wall.

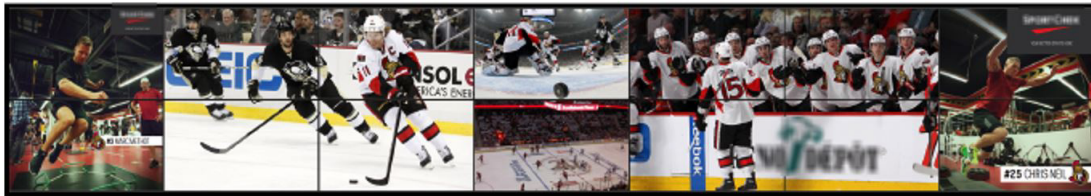
Figure 6 4x4 Video Wall Example



Figure 7 3x5 Video Wall Example



Figure 8 2x7 Video Wall Example



Best Practices for Video Walls

When implementing video walls, consider the following best practices:

- Use the same media player model (such as all CV-HD, or all CV-UHD media players) throughout the video wall.
- Use the same TV model throughout the video wall with a uniform bezel size (ultra narrow bezel strongly recommended).

Note: TV screens with an ultra narrow bezel help ensure the best viewing experience without important text or data being cut off.

IMPORTANT: For multicast video, specifically, keep in mind the bezels in the monitors and the motion on the video to be displayed in the wall. Fast motion video, coupled with up-to-1 frame out of sync, in a wall larger than 3x3 magnifies the out-of-sync issue. Choose the right video wall strategy for your use case.

- While using multicast videos for both video regions is supported, it is recommended to use a combination of multicast and locally-stored videos for the video regions (or local video for both video regions).

Restrictions for Video Walls

- Create video to be the same size as the video region where it will be rendered. This avoids any unnecessary video scaling.
- Use consistent video aspect ratio, and design video regions so that they are consistent with the aspect ratio of video content.
- Use constant bit rate (CBR) for local video files for best performance in video walls.

Restrictions for Video Walls

Before you create video walls, consider the following restrictions:

- In Release 4.1 and earlier releases, multicast video is not supported for a multi-screen video wall. For example, the SV-4K and DMP-2K cannot stretch multicast content across four displays to convey a single image.

Note: Support for multicast video scaling in a video wall with the SV-4K and DMP-2K was introduced in Release 5.0.

- All screens in the video wall should use 1920x1080 format.
- Widgets, external URLs, and multicast video tuning synchronization are not supported by the DMP-to-DMP content synchronization feature for the digital media players.
- When using zone-based content synchronization for video walls, one device controls synchronization. If that device stops showing video, then all displays in the video wall stop showing content.
- Multicast stream must be CBR and have PCR jitter within MPEG spec of +/-500 ns.

How to Configure Video Walls with the Digital Media Players

IMPORTANT:

- For streaming local content video files, local file sync can be within 1 frame of other DMPs.
- For multicast video streaming, the video can be within 1 frame. For successful display, the multicast stream feed must be CBR and have PCR jitter within MPEG spec of +/-500 ns.
- The network quality of service (QoS) must be within specifications. See [Cisco Vision Dynamic Signage Solution Operation and Network Requirements](#).
- The more you stretch / scale up content, the more noticeable the slightest sync differential is. Please consult Cisco Content Services for your specific video wall configuration.

This section includes the following topics:

- [Prerequisites for Video Walls, page 168](#)
- [Workflow Summary to Configure Video Walls, page 169](#)
- [Configuring Zone-Based Video Wall Synchronization for the DMPs, page 171](#)

Prerequisites for Video Walls

Before you deploy video walls and create the content for them, be sure that the following conditions are met:

- Beginning in Release 5.0, scaling of multicast video is supported for a video wall in both portrait and landscape orientation. See [Content Scaling, page 161](#).
- Generally speaking, stretching a piece of content across multiple screens is not supported for local content.

How to Configure Video Walls with the Digital Media Players

- Local video or image content to be played in a video wall first must be created in the overall format of the video wall to be supported, and then edited into separate 1920x1080 files that contain the segment of content to be shown on each display.
- For example, in a 2x2 SV-4K video wall (4 screens), the original content should be in 3840x2160 format (that is, 2 times 1920x1080). Then, it should be broken into four individual files of 1920x1080 format to show the appropriate portion of the content for the 4-screen display.
- The DMPs in the video wall must be on the same virtual local area network (VLAN) and use the same access switch.
- For content synchronization:
 - Each digital media player must be in its own group.
 - For each region, the playlists must have the same number of items, type of item, and duration of each item, or have no playlist at all in the region (empty).
[Table 2 on page 169](#) shows an example of playlist content for a 2x2 SV-4K video wall with a mix of local video and image content. Notice that all first items in each of the four playlists are of the same type (PNGs), with the same duration, but the content itself is not the same. Likewise, the second item in each playlist is video content with the same duration, but different files.

Table 2 2x2 Video Wall Playlist Example for the SV-4K

	Playlist 1	Playlist 2	Playlist 3	Playlist 4
1	30s: PNG 1-1	30s: PNG 1-2	30s: PNG 1-3	30s: PNG 1-4
2	34s: MP4 2-1	34s: MP4 2-2	34s: MP4 2-3	34s: MP4 2-4
3	21s: MP4 3-1	21s: MP4 3-2	21s: MP4 3-3	21s: MP4 3-4

- Trim local video item duration to boundaries in seconds and not fractions of seconds.

IMPORTANT: If your imported video content duration is in fractions of seconds, then the Content screen shows the actual item duration for the video. However, the system actually rounds that content duration for the playlist to even time boundaries (in seconds). Also, if you manually change the item duration within the Cisco Vision Director UI, the content playback will be truncated.

- For zone-based video wall synchronization:
 - Each media player must be in its own group.
 - Collectively, the groups that are part of the video wall are placed in a zone.
 - The “Use as Video Wall” checkbox is selected when you create the zone for the DMP groups.

Workflow Summary to Configure Video Walls

[Table 3 on page 170](#) provides a summary of the tasks and guidelines for you to complete when configuring a video wall using digital media players.

Table 3 DMP Video Wall Task Workflow

Step	Task	Guidelines
1	Determine the type of content that you want to display on the video wall.	<p>Restrictions for Video Walls, page 168.</p> <p>Most video walls can reliably use standard DMP-to-DMP synchronization.</p> <p>Video content of longer duration (15 minutes or longer), will benefit most from zone-based synchronization.</p>
2	Determine your video wall configuration.	<p>Video Wall Design Methods, page 161.</p> <p>Best Practices for Video Walls, page 167.</p> <p>Dynamic Video Wall Sizing, page 163.</p> <p>Be sure that the layout is designed to accommodate 1920x1080 screen formats. See Understanding Content and TV Resolution, page 79.</p>
3	Configure groups/zones.	Configuring Zone-Based Video Wall Synchronization for the DMPs, page 171
4	Create (or verify) templates.	All content (and for all TVs in a video wall zone) must be deployed using the same template, with the same number of regions and playlists.
5	Create content.	<p>Consider the content changes for different times over the course of the event.</p> <p>Prerequisites for Video Walls, page 168.</p> <p>Restrictions for Video Walls, page 168.</p> <p>Cisco Vision Content Planning and Specification Guide: Dynamic Signage Director, Release 6.1.</p>
6	Create playlists.	<p>Create one playlist for each DMP/display in the video wall.</p> <p>For every region, the playlists must have the same number of items, type of item, and duration of each item, or have no playlist at all the region (empty).</p>
7	Stage content.	–
8	Create event scripts.	Determine the states that you need to vary the video wall layout and content over the course of an event.
9	Test the video wall.	–
10	Schedule the event.	Working with Event Scripts, page 173.

Configuring Zone-Based Video Wall Synchronization for the DMPs

Zone-based video wall synchronization provides enhanced recovery for video walls if a DMP reboots during the running of a playlist. It is intended for dedicated video walls running video content of longer duration (> 15 minutes).

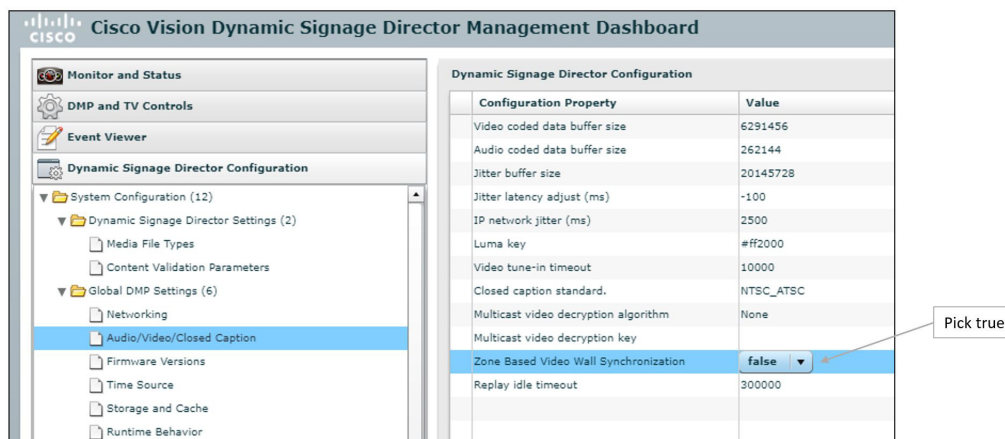
Enabling System Support for Zone-Based Video Wall Synchronization for the DMPs

User Role: Administrator

To enable system support for zone-based video wall synchronization:

1. Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Global DMP Settings > Audio/Video/Closed Caption**.
2. In the Configuration Property box, locate the **Zone Based Video Wall Synchronization** property.
3. In the value box, type **true** (Figure 9 on page 171).
4. Click **Apply**.

Figure 9 Zone-Based Video Wall Synchronization



To verify the multicast configuration for zone-based video wall synchronization:

1. From the **Management Dashboard**, go to **Dynamic Signage Director Configuration > System Configuration > Global DMP Settings > Networking**.
2. Verify that the default values for the following properties are compatible with your network, and change as required:

Content sync multicast address—239.193.0.253

Content sync multicast port—50001

Configuring Groups and Zones for Zone-Based Video Wall Synchronization for the DMPs

User Role: Administrator / Content Manager

To configure zone-based video wall synchronization for the DMPs:

1. Go to **Tools > Control Panel > Setup > Zones & Groups > Groups<->Zone tab > Groups tab**.
2. Create a new group for each media player that is part of the video wall.

How to Configure Video Walls with the Digital Media Players

3. Add only one DMP location per group.
4. Create a new zone and select the Use as Video Wall checkbox.
5. Add all DMP groups in the video wall to the zone.

Note: Synchronization applies only to video and still images. Synchronization cannot be guaranteed for other content such as tickers, external URLs, or widgets.



Working with Event Scripts

User Role: Administrator / Content Manager

This module describes how to create and schedule event scripts in Cisco Vision Director.

Information About Event Scripts

Event scripts and event states control what, when, and where content displays on the TV screens in a venue over the course of an event.

Create an event script using the **Tools > Control Panel > Schedule** interface screens.

Control (manage, run, start) an event script using **Script Control** from the Library (Main Menu) global navigation icon.

You create event scripts and event states ahead of an event, allowing you to predetermine what will display at a given time and location on each screen in the venue as shown in [Figure 1 on page 174](#). Prior to the event, you can stage and validate the script and make any necessary adjustments to be sure everything displays correctly.

Then, you run the script at the scheduled event time. The script can be initiated manually or automatically. Once the script is running, you can use the many features of Cisco Vision Director to further manage the ads, content, graphics, and video displayed throughout the course of the event.

[Figure 1 on page 174](#) illustrates an example of the progression through an event script. At each change in the event state (Pre-Game, In-Game, Post-Game) the screen template and content applied to the TV displays changes within the group and/or zone.

Event Script

Figure 1 Progression of an Event Script

Event Script

An **event script** sets where and at which time the ads, video, and graphics will be displayed in the venue and on the screen. The event script is typically tied to a timeline of moments in the game such as pre-game, game, and post-game. If the event is a concert, the event script could be tied to pre-concert, concert, and post-concert. Each of these event segments are called event states in Cisco Vision Director. You can pre-script what is displayed on each screen during each event state.

Event scripts allow you to display content based upon time as well as physical location, allowing ad sponsors to target different advertising for different demographics and locations in the stadium.

Event State

An **event state** is a point in the script where content changes. Event states are assigned to event scripts and specify actions that a group and zone will display or perform in sequence during the event. You can create event states that specify when, where, and how long to display a screen template, when to turn TVs on and off, and so on. You can define a duration and time transition to play a particular event state or you can invoke the event state manually.

There are three types of event states:

- Sequential
- Ad hoc
- Emergency

Sequential Event States

Sequential events states are scheduled states that are part of the event script and tied to a period of time in the event such as pre-game, game, and post-game.

- Sequential event states can be controlled by a timeline (Manual or Time-based) where time-based event states can be overridden by manual control.
- Actions assigned to sequential event states control functions, such as changing screen templates and playlists within a screen template, changing the channel, and turning the TV On/Off.

Ad Hoc Event States

Ad hoc event states are event states used for a temporary change, such as an unforeseen event delay or to indicate a goal or moment of exclusivity. You can assign graphics to control what you want displayed during an ad hoc state. You can also customize which channel you want your DMP's videos to display during the temporary change.

Ad hoc event states are usually timed states that have a specific duration assigned and are meant for a temporary change. Once the ad hoc state ends, the event script continues to play.

Emergency Event States

Emergency event states are fixed event states used to signal a change in all zones in the emergency zone to a full screen graphic or the content specified in an emergency playlist. When an emergency state is started, all local TV controls are locked so the emergency message cannot be removed. Emergency states can also be tied to venue alarm systems or automated activation.

Non Event State

Cisco Vision Director uses the non-event state to put all non-event displays in full screen mode with a default channel (the channel customized for the venue) at a specified time of day.

Targeted Advertising

Because each TV screen/DMP in Cisco Vision Director is individually addressable, sponsors can target advertising to a particular location in the venue to increase sales. This “exclusive” advertising is implemented with event scripts that play unique content in a sponsored area such as a club, luxury suite, or concourse level. As shown in [Figure 2 on page 175](#), you might have a script that plays ads for beer near the cheap seats and plays ads for champagne near the expensive seats. All this adds up to a better fan experience while providing more revenue opportunities for sponsors and the stadium.

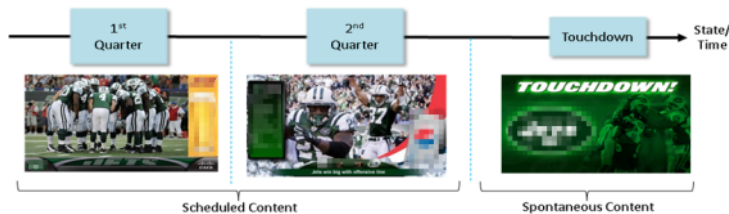
Figure 2 Using Targeted Event Scripts



Dynamic Content Management

In addition to providing the ability to segment content by location, Cisco Vision Director also provides the ability to segment content by third-party.

For example, during a touchdown or goal, you can manually play an ad-hoc event script that contains unique sponsored content such as a Touchdown splash screen as shown in [Figure 3 on page 176](#).

Figure 3 Using an Event Script for Spontaneous Content

Best Practices for Event Scripts

When working with event scripts, consider the following best practices:

- Be sure to regularly manage your script list by removing any test scripts and other outdated scripts from the system. Keep the overall script count to as limited a number as possible and as needed for your venue.
- Finalize script changes before an event.
- Avoid starting scripts during an event, if possible.
- Complete the start of all scripts before the event begins.
- Avoid starting a group of scripts at one time. Scripts start sequentially and an attempt to start multiple scripts at once can lead to delays in state changes.
- When using the to control the start/stop of event scripts, be very careful of editing a scheduled script that requires you to manually stop it. The risk is that if you then manually restart that script, the Scheduler will not stop a manually-started script.

Remember to manually stop that script at the appropriate time, or the script is blocked at the next regularly scheduled start time. If this happens, either remove the blocked script or stop the manually-started script.

- Avoid using both triggers and the Scheduler to start an event script which can lead to blocked scripts.
- Consider developing a content matrix that lists all of the zones / groups throughout the venue and all of the states needed for an event. You can use a spreadsheet to help keep track of the content and playlists needed for each state.
- For additional information on event content preparation and planning, refer to the [Cisco Vision Director Operations Playbook](#) (or the guide that corresponds to your release on [Cisco.com](#)).
- When working in an environment that has mixed DMP types, carefully consider the device differences and design and plan event scripts accordingly.

Note: The best practice is to create groups of media players of the same model type and to create zones of like-model groups. For more information, see the [Best Practices for Zones and Groups, page 65](#).

- If using RS-232 for TV control, send the TV On/Off commands a couple of times to allow for some TVs that might not respond the first time.
- Use an ad-hoc state to display a moment of exclusivity such as a touchdown, goal, stoppage in play or a sponsor venue domination.
- If you want to display different content using the same template in different zones / groups, you can save time by copying assigned actions from one zone / group to another. You can then select different content to display in the template in the copied zone / group.

- It is important that you allow media players to load the runtime and get into a ready state to receive and process new script actions. Therefore, be sure to define an empty script state (without any actions or commands) as the first state in all event scripts, and configure it to run for a duration of at least two minutes (120 seconds) before changing to a different state.

TIP: The actual duration for the empty state depends on the number of media players in the system and the amount of time it takes to stage any content. Manually staging content before you run a script can help reduce this time.

- Do not change an event state more frequently than the following:
 - SV-4K and DMP-2K media players: 15 seconds minimum
- If you are supporting an environment with mixed DMPs that use the same script, it is important to allow for 60 seconds for an event state change.
- Play the event scripts to visually verify each state and ad hoc states within a venue.

How to Set Up Event Scripts

This section includes the following topics:

- [Guidelines for Event States and Event Scripts, page 177](#)
- [Prerequisites for Event Script Creation, page 178](#)
- [Creating a New Event Script, page 178](#)
- [Creating Event States, page 179](#)
- [Creating an Emergency State, page 180](#)
- [Adding an Event State to a Zone / Group, page 181](#)
- [Assigning Actions and Content to an Event State, page 181](#)
- [Editing an Event Script, page 184](#)
- [Deleting an Event Script, page 184](#)
- [Copying Event State Actions, page 184](#)
- [Changing an Event Script Color, page 185](#)

Guidelines for Event States and Event Scripts

Consider the following guidelines when creating event states and event scripts:

- Cisco Vision Director displays the default video channel / non-event state on the media players when an event script is not running on it.
- When you use Proof of Play content in your playlist, and especially when your PoP content is included near or up to the end of the playlist, you should define a final script state (without any PoP content) that runs for at least 60 seconds so that all PoP data has time to be captured by Cisco Vision Director. This last event state is commonly set up to turn off the displays in the venue.
- When you configure a script action for a zone, then by default all groups within that zone inherit the defined action. You can override this inheritance by configuring a script action for a particular group within that zone.

- When a zone contains multiple groups, and if you configure script actions for a particular group, those actions will apply only to that group.
- Cisco Vision Director supports only one RS-232 command per event state.

[Table 1 on page 178](#) describes some guidelines for general script support in Cisco Vision Director.

Note: While these limits have been tested with basic Cisco Vision Director operation, the combination of maximum values and complexity of your system and content can potentially impact the actual limit. Therefore, be sure to test your script content for expected behavior before using in production.

Table 1 Script Guidelines and Limitations

Script Guideline	Limit
Maximum number of simultaneous scripts (when per-script multicast is in use)	20
Maximum number of event states per script	50
Maximum number of items per event script	2,200

Prerequisites for Event Script Creation

Before you create event scripts, be sure that the following conditions are met:

- DMPs have been successfully added to the Cisco Vision Director database and are in “production” state.
 - DMPs and IP phones are defined and added for Local Control Areas.
 - If used, third-party touch panels are defined and associated for local TV control.
- DMPs are linked to locations.
- Zones and groups have been created.
- Content has been added and playlists created.
- Channels have been assigned.

Creating a New Event Script

User Role: Administrator / Content Manager

To create a new event script:

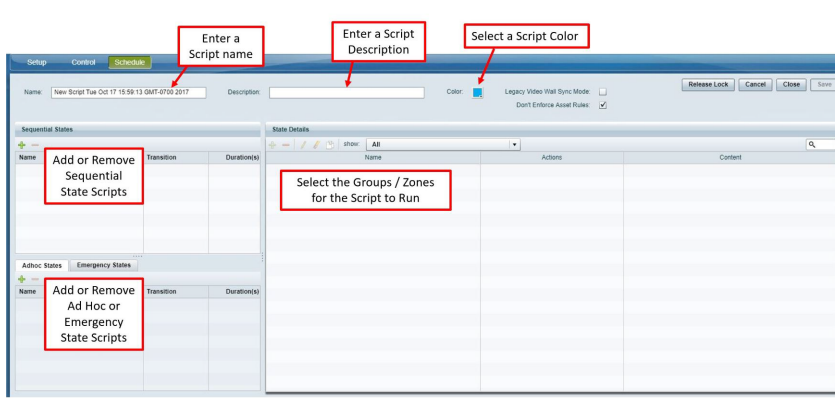
1. Go to **Tools > Control Panel > Schedule**. [Figure 4 on page 179](#) shows the Schedule screen script view. Hover over the screen for tool tips. The icons are to:
 - create a new script
 - delete the selected script
 - edit the script
 - copy the script
 - show script in read-only mode
 - refresh the script list

Figure 4 Schedule Script View Navigation



2. Click the green '+' icon located under Script List. A new script window appears with an automatically generated default script name based on date information.

Figure 5 Create New Script



3. Enter a new name (or keep the default script name).

TIP: If you double-click the new script or any script, the State screen appears. Click **Close** to return to the Script List screen.

4. (Optional) Enter a script description.

Note: If you choose to save the event script and add state details at a later time, you must place your cursor in the name or description field and enter a space in order for the **Save** button to be active.

5. (Optional) Click the Color box to assign a color to the script. If you do not select a color, the default color will be selected.

Script colors are only used for organization and do not affect any colors displayed on screens by the script. Refer to the [Best Practices for the Scheduler Application, page 191](#) for additional information.

6. Click **Save**.

7. Click **Close** to return to the Schedule window to create event states and assign zones / groups at a later time or continue to [Creating Event States, page 179](#).

Creating Event States

User Role: Administrator / Content Manager

After creating an event script, add states to the script to define when, where, and the content to display.

To add states to an event script:

1. With an event script open, click the '+' icon under Sequential, Ad-hoc, or Emergency to create a new state. A new state dialog box appears. [Figure 6 on page 180](#) shows a new sequential state.

Figure 6 Sequential State Dialog Box

2. (Required) Enter a state name.
3. (Optional) Enter a state description.
4. Select the transition type:
 - Manual: Requires you to manually initiate the next event state. Manual states are most useful when the duration is uncertain. Therefore, it is recommended that you use manual states during the game.
 - Timer: Automatically initiated to run for a specific length of time (in seconds) without manual interaction. It is recommended that you use time-based event states at the start and end of a game.

Note: An event operator can change the event state transition from time-based to manual at any time while the event script is running from the **Tools > Control Panel > Schedule** window.

5. (Optional) Add all zones to this state: When selecting this, the zones will automatically appear under State Details.
6. Click **Add**. Repeat the steps above to add additional states.

Note: Drag and drop the event states to change the order in which they display.

7. Click **Save**.
8. Click **Close** to return to the Schedule window to add zones / groups at a later time or continue to [Assigning Actions and Content to an Event State, page 181](#).

Creating an Emergency State

User Role: Administrator / Content Manager

Add an emergency state, in case a real emergency happens (such as a power outage, public safety incident, or serious weather causing evacuation) should occur. Basically, there are two ways to set up an emergency state.

To add an emergency state to an event script:

Option A

1. Configure input triggers with different actions assigned (such as START emergency state and STOP emergency state).

How to Set Up Event Scripts

2. If an emergency happens, send the emergency START trigger. This will activate the emergency event state on all running scripts.
3. Send the second emergency STOP trigger to stop the emergency state and return to the main script.

Option B

1. For all scripts running in parallel, assign all DMPs of each script to the emergency state.
2. If an emergency happens, start the emergency event state on each of the scripts.

This option takes much more time to execute in a real state of emergency.

Adding an Event State to a Zone / Group

User Role: Administrator / Content Manager

Once you have created event states, the next step is to add a zone / group.

To add a zone / group to an event state:

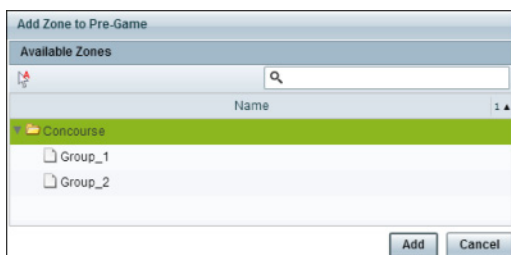
1. With an event script open, select the state that you want to add zones / groups to.

Note: When opening a saved event script, click **Edit** in order to make changes to it. If another user has a script open that you want to make changes to, click **Release Lock** to proceed.

2. Click the '+' icon under State Details.

Figure 7 on page 181 is an example of available zones / groups to choose from that can be added to the Pre-Game state. Your list will vary depending on your venue set up. The folders represent zones and groups are shown as page icons when you expand or open the folder.

Figure 7 Adding Zone to Event State Dialog Box



3. Select the specific zone / group that you want to add to the state, click Add. In this example, the Zone (Concourse) and the Groups (Group_1 and Group_2) will be added to the Pre-Game state. The State Details screen displays.

Note: The zones will automatically appear if you selected the check box to “Add all zones to this state” when you originally created the state.

4. Click **Save**.
5. Click **Close** to return to the Schedule window. To assign actions and content to event states, continue to [Assigning Actions and Content to an Event State, page 181](#).

Assigning Actions and Content to an Event State

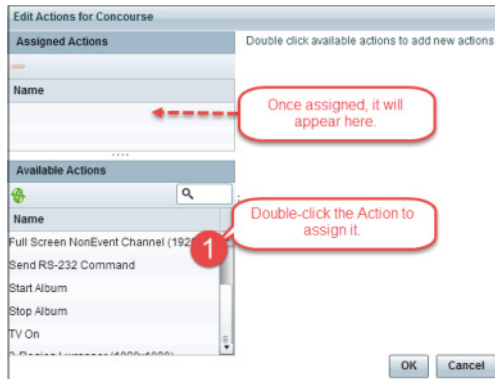
User Role: Administrator / Content Manager

Once you have added the event state to a zone / group, the next step is to assign actions and content.

To assign an action to a state:

1. With an event script open, select the state and state details (zone / group) that you want to assign an action to. You can assign an action at the zone level or the group level. Groups can also inherit the actions of the zone.
2. Double-click the zone / group or click the edit pencil icon. [Figure 8 on page 182](#) displays the dialog box that appears where you can assign a template by selecting from the list of available actions.

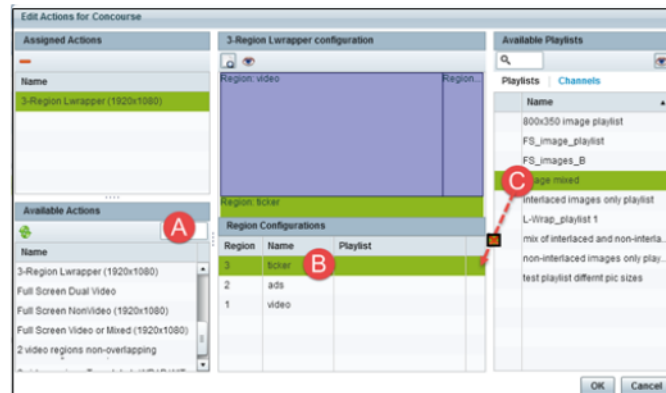
Figure 8 Edit Actions Dialog Box



3. Double-click the Action you want to assign. Once selected, it appears under Assigned Actions. [Figure 9 on page 182](#) is an example of an assigned 3-Region Lwrapper (1920x1080) template.

Note: Be sure to double-click on the action to assign it. If the action does not appear in the Assigned Actions list, click the green refresh icon located below the Available Actions heading.

Figure 9 3-Region Lwrapper (1920x1080) Example



4. Configure the assigned actions and content for the state:

- a. As shown in [Figure 9 on page 182](#), the 3-Region Lwrapper (1920x1080) action has been assigned and appears on the left under Assigned Actions.
- b. The middle column shows which regions are available to assign content. In this example, you can assign content to 3 regions (ticker, ads, and video). To assign content you can select from a visual perspective or from a list at the right which shows the available playlists and channels. Select the region (when selected, it appears highlighted) that you'd like to assign content to.

Note: When you click on the template region in the middle, only the same content type that matches the region will appear on the right. For example, only video or mixed media content will appear in the list when assigning content to the video region in the template.

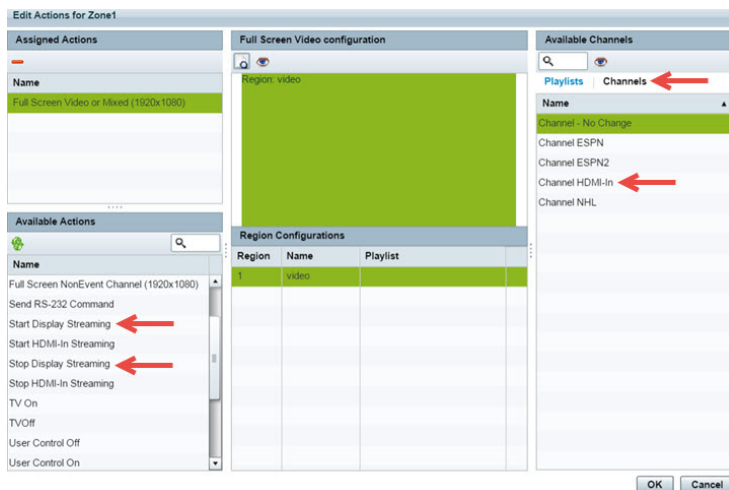
How to Set Up Event Scripts

- c. To assign content from a visual perspective, click on a playlist then click the eye icon to see a thumbnail of the content displayed in the playlist preview panel on the right. You can also use the search function if you have hundreds of playlists. With the region selected, drag and drop or double-click on a playlist or channel to assign it to the selected region. Once assigned, the name of the playlist or channel will display in the Region Configurations pane and red "x" will appear in the region row. Clicking the red "x" will remove the playlist or channel assigned.
5. Once content has been assigned to each region of the template, click **OK**.
6. Click **Save** in the Script window. Repeat the steps above to assign an action to each zone / group or you can proceed to [How to Run and Schedule Event Scripts and Series, page 186](#).

The following are changes to the Edit Actions dialog box ([Figure 10 on page 183](#)):

- Two new script state actions are added under Available Actions: **Start Display Streaming** and **Stop Display Streaming**.
- Available **Channels/Video Sources** changed to **Channels**.
- **Local HDMI-In** source changed to **Channel HDMI-In**. This reflects the name of the new default local HDMI-In channel 0.

Figure 10 Edit Actions Dialog Box



Using External Triggers to Control Script Actions

Beginning in Cisco StadiumVision Director Release 3.1, output triggers also can be configured by the administrator to send a Hypertext Transfer Protocol (HTTP) request to notify external systems of a script event and trigger an action externally. This functionality can be used with the Cisco StadiumVision Mobile Streamer to trigger actions on mobile devices, such as for ad insertion. Additional information is available at: [Configuring Cisco Vision Director for External Triggers](#).

Triggers are an approachable Advanced Programming Interface (API) mechanism to cause action to happen on Cisco Vision Dynamic Signage Director (CV DSD). Triggers use web-based mechanisms that connect machine to machine and define action.

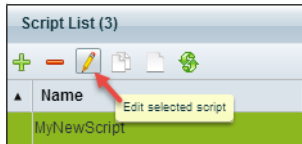
Editing an Event Script

User Role: Administrator / Content Manager

To edit an event script:

1. Go to **Tools > Control Panel > Schedule**.
2. Select the script you want to change, then click the **edit** (pencil) icon as shown in [Figure 11 on page 184](#).

Figure 11 Edit Script



You can also double-click the selected script to open it; however, you must click **Edit** to make changes.

3. Make the changes and click **Save**.

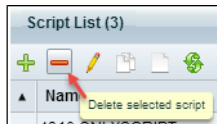
Deleting an Event Script

User Role: Administrator / Content Manager

To delete an event script:

1. Go to **Tools > Control Panel > Schedule**.
2. Select the script you want to remove, then click the "-" icon as shown in [Figure 12 on page 184](#).

Figure 12 Delete Script



A Confirm Script Delete dialog box appears.

3. Click **Save**.

Copying Event State Actions

User Role: Administrator / Content Manager

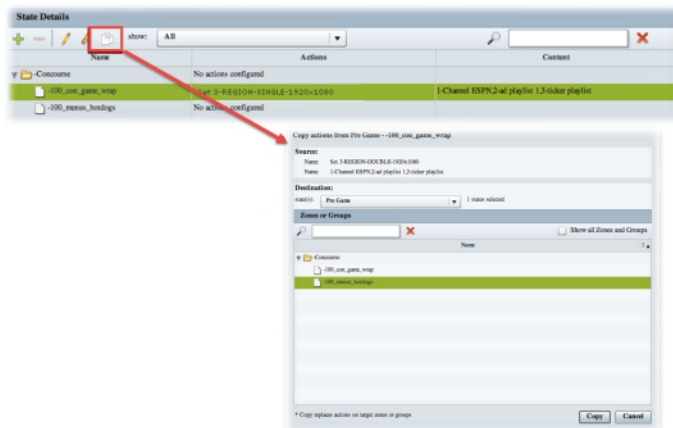
In the case where you have actions assigned to a zone / group and the content you want displayed in another zone / group is similar, you can copy the actions.

For example, if you are using a 3-Region template and want to reuse it with the same ticker, the same video, but a different ad region copying the template saves time.

To copy actions from one zone / group to another:

1. Go to **Tools > Control Panel > Schedule**.
2. Open the script, select the state, state details, and the zone / group that you want to copy.
3. Click the copy (pages) icon as shown in [Figure 13 on page 185](#).

Figure 13 Copying Event Actions



The Copy dialog box appears.

4. From the Destination State drop-down list, select the states that you want to assign the same actions (template) to.
5. Click **Copy**.
6. Select the event state that you copied to (it now appears with the updated state details), open the state details, and make applicable changes.
7. Click **OK**.
8. Click **Save** to save the script.
9. Click **Close** to return to the Schedule window.

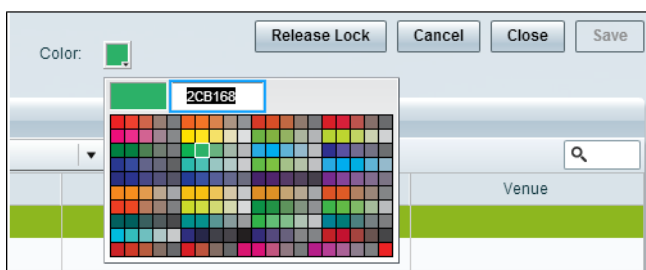
Changing an Event Script Color

Administrator / Content Manager

To change the color of an event script:

1. Go to **Tools > Control Panel > Schedule**.
2. Open the event script by double-clicking it or by clicking the edit pencil icon. If you open the script by double-clicking, click **Edit**.
3. Click the color square and choose the new color from the color picker as shown in [Figure 14 on page 185](#).

Figure 14 Selecting a New Script Color



4. Once you have selected a new color, the Save box becomes active. Click **Save**.

The event script appears highlighted with the new color.

Note: If color changes do not appear in the Scheduler application, reload or refresh the web browser.

How to Run and Schedule Event Scripts and Series

There are two ways to run and schedule event scripts:

- From Cisco Vision Director **Library > Tools > Control Panel > Schedule** to run single event scripts and to set single event scripts to run in advance. If you run an event script using this method, the scheduled event script will not appear in the Scheduler application.
- From Cisco Vision Director click **Event Management** to schedule single events and recurring event script series in the future. If you schedule an event script using this method, it will appear as scheduled in **Control Panel > Schedule**. You can also cancel the scheduled event script from **Control Panel > Schedule** or from the Scheduler application.

Running an Event Script

User Role: Administrator / Event Operator / Venue Administrator / Venue Operator

Note: When running an event script or setting the run time in advance from the Control Panel, it will not appear in the Scheduler application. An event script has to be scheduled using the Scheduler application for it to appear there.

To run an event script:

1. Go to **Script Control**. Check to see if any running scripts should be stopped.

Figure 15 on page 186 shows the Script Details list view and the options available there. As shown below, there is one script currently running.

Figure 15 Script Details Window

The screenshot shows the Cisco Vision Dynamic Signage Director interface. The main window is titled "SCRIPT DETAILS 4 RUNNING". It contains a table with the following data:

Script Name	Status	Execution Time
Garage Daily Script	Scheduled	12/30/2018 @ 5:10:00 AM
Garage Daily Script	Scheduled	12/31/2018 @ 5:10:00 AM
Instance of Demo Script (SCOTT)	Completed	06/13/2018 @ 10:22:22 AM
Instance of Demo Script (SCOTT)	Completed	06/20/2018 @ 12:14:15 PM
Instance of Demo Script (SCOTT)	Completed	06/20/2018 @ 12:22:42 PM
Instance of Demo Script (SCOTT)	Completed	06/20/2018 @ 12:37:01 PM
Instance of Demo Script (SCOTT)	Completed	06/20/2018 @ 12:44:00 PM
Instance of Demo Script (SCOTT)	Running	06/25/2018 @ 11:28:36 AM
2x2 (1)		
Scott Test		

A context menu is open over the '2x2 (1)' script, showing options: Start, Stop, Edit, and Delete. The right pane shows details for the selected script, including its name '2x2', transition method 'manual', and a list of content items: 'blank', 'Bayer Social Test', 'Full screen Welcome', and 'Bayer Social Test Copy 1'.

2. From the Script List (left), select the script that you want to run.

3. Right-click, the action box appears. Select **Start**.

The start script dialog box appears (Figure 16 on page 187).

Figure 16 Start Script Dialog Box

Start Script

Instance Name: Instance of Test Script 2

Start Time: Now In _____ mins

Duration: Forever

Staging: Yes No

Proof of Play: Yes No

- (Required) Name the script instance. A name will appear automatically based on the script name.
- (Required) Select Start Time or when you'd like the script to run. **Keep in mind that if you select Now, the Start Time includes time to stage the script.**

You also have the ability to run the script in the future by entering how many minutes in advance you want the script to run. Use **Tools > Control Panel > Schedule** interface, click the as shown in [Figure 17 on page 187](#). You can also specify the start staging time in advance of the script start.

Figure 17 Starting an Event Script in Advance

Start Script

Instance Name: Instance of New Script

Start Time: Now
 in: 60 Minutes

Duration: Forever

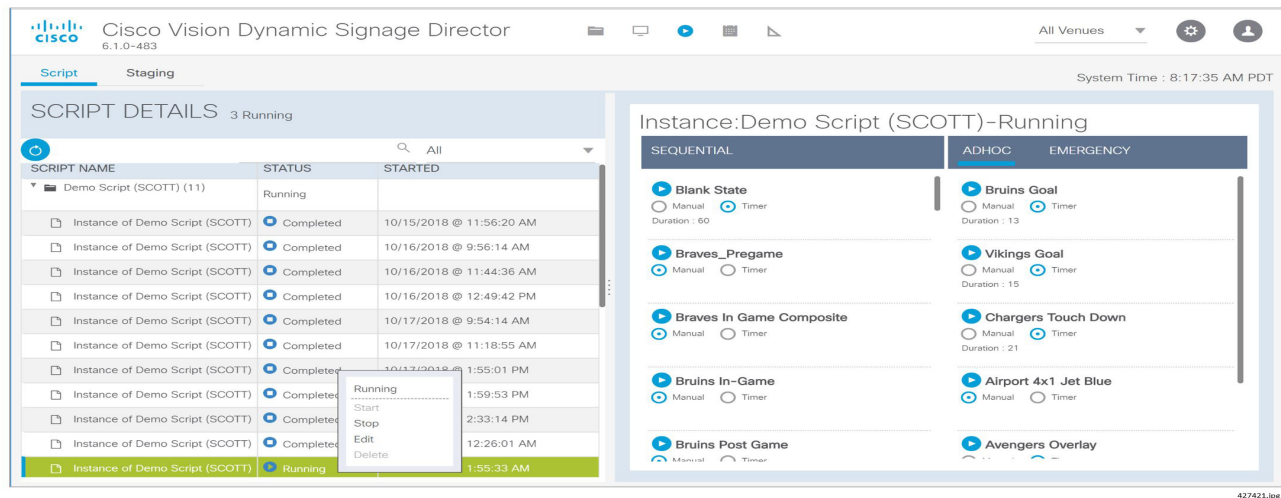
Staging: Yes No

Start Staging: 0 Minutes ahead of script start

Proof of Play: Yes No

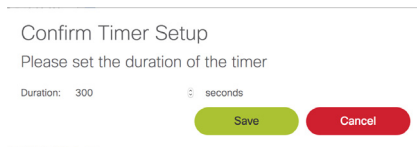
- (Required) Select the Duration of the script or how long you want the script to run. Typically this is set to **Forever** as you don't know exactly how long the event will take. This also provides the ability to manually end the script when the event is over.
 - (Required) Select whether to stage by selecting **Yes** or **No**.
- For more information about staging content, see the [Staging Content to the Media Player, page 138](#).
- (Required) Turn Proof of Play On (yes) or Off (no).
 - Click **Start**. As the script starts, the content in the playlist will be staged to the DMPs associated with the zones / groups. When the script is fully staged, the first state will change color to green in the Script Detail window and show "Starting."

Script states will advance automatically if set, or the event operator can manually advance them as shown in [Figure 18 on page 188](#).

Figure 18 Example of a Running Script

You can see the Instance Details by clicking on a Running script from the left panel list. The right panel changes to show you what instances are coming up for that script.

If you want to change state from Manual to Timer, click the radio button. The Confirm Timer window appears (Figure 19 on page 188).

Figure 19 Confirm Timer Setup Window

Use the arrows to add or subtract seconds. The default is 300 seconds. Click **Save**.

Note: When advancing from state to state, it is important that you allow media players to load the runtime and get into a ready state to receive and process new script actions. It's recommended that you define an empty script state (without any actions or commands) as the first state in all event scripts, and configure it to run for a duration of at least two minutes (120 seconds) before changing to a different state.

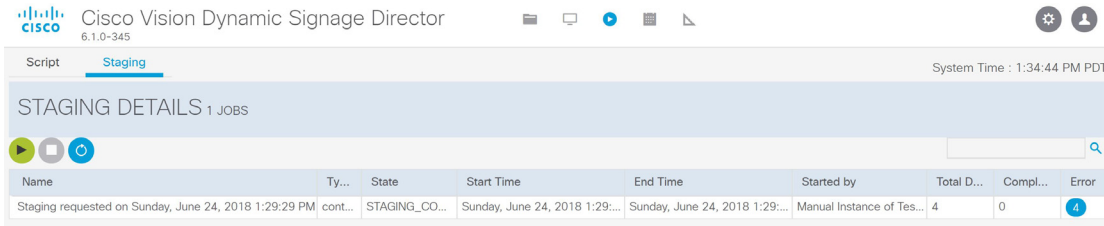
Staging a Script

Staging a script pushes the script information to the DMP to prepare it for displaying onto the monitor.

To stage a script to the DMP:

1. Click **Script Control**. The Script Details window appears.
2. Click the **Staging** tab.
3. Select the script from the list.
4. Click the green **Play** icon (Start Staging).

Figure 20 Start Staging a Script



Stopping an Event Script

User Role: Administrator / Event Operator / Venue Administrator / Venue Operator

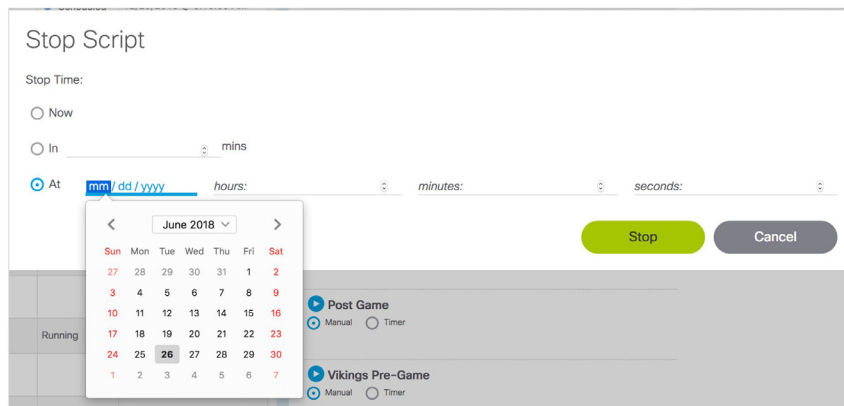
To stop an event script:

1. Go to **Script Control**.
2. Locate the running script from the Script List using search, a filter from the drop-down menu, or scrolling down. Select the script.
3. Click the **Staging** tab.
4. Click **Stop** icon.

To stop a script at a future time:

5. Click **At**.
6. Click the mm (for month) and the calendar pop-up appears (3. on page 189).
7. Choose the **Date, Hours, Minutes, and Seconds**. Use the arrows.
8. Click **Stop**.

Figure 21 Stopping a Running Event Script



Information About the Scheduler Application

This module describes the Scheduler application that is available from the Cisco Vision Director Main Menu. The Scheduler application is introduced in Release 4.0 to provide a calendar-based script scheduling function. It provides the following capabilities:

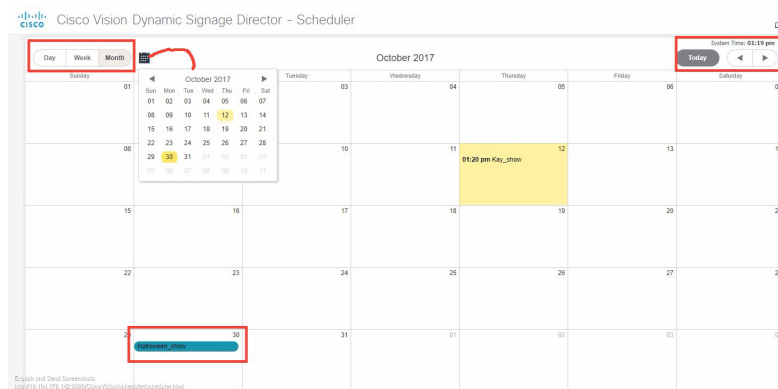
- Schedule a single occurrence or recurring event series in advance.
- Create an event script as you normally would (Control Panel > Schedule) and use the Scheduler application to insert the script into the Control Panel. The Scheduler application uses these already created event scripts to schedule single events or event series. These events or events series created by the Scheduler application will be listed in the Control Panel (Control Panel > Control) under each script folder.
- Modify and/or cancel a single occurrence, recurring event series, or an occurrence within a recurring event series.
- Automate the start and stop of an event script.
- Define event script parameters when scheduling an event script.
- View scheduled event scripts by day, week, and month.

Navigating the Scheduler Application User Interface

The Scheduler application appears as a calendar (Figure 22 on page 190) that allows you to navigate the user interface by:

- Day, week, or month.
 - Calendar icon to select a specific time frame.
- Note:** Days that have a scheduled event script and the current day appear highlighted.
- Left and right arrows to view previous and future time frames.
 - To schedule a new event script, double-click on the day that you want the event script to run.
 - To modify a scheduled event script, double-click on the scheduled event.

Figure 22 Scheduler Application Interface



How to Schedule Event Scripts Using the Scheduler Application

This section includes the following tasks:

- [Prerequisites for Using the Scheduler Application, page 192](#)
- [Accessing the Scheduler Application, page 192](#)
- [Creating a New Event, page 193](#)
- [Creating a New Event Series, page 194](#)
- [Confirming an Event Script is Scheduled, page 195](#)
- [Modifying a Scheduled Event, page 195](#)
- [Canceling a Single Event, page 195](#)
- [Canceling an Event Script Series or Single Occurrence in a Series, page 196](#)

Best Practices for the Scheduler Application

When using the Scheduler application, consider the following best practices:

- For event scripts that need to run fairly soon or on the same day, initiate starting the script using **Script Control > Start Script** interface.
- It is recommended to manually stage scripts for optimal operation. Manually staging scripts ensures the staging process is kept to a minimum. If you rely on automated staging, failures are not easily detected unless you view the staging job status.
- The Scheduler application is best used for unattended event script starts and ends, such as for store opening and closing.
- You can drag and drop a scheduled event script to take place at the same time on a different day.
- Select a color for the event script at the time of creation. Script colors are only used for organization and do not affect any colors displayed on screens by the script. After the event script is created, you can edit the color by editing the script. The color selected for the script will also be displayed in the Scheduler application. If the script color is changed from the **Control Panel**, the new script color will be reflected in the Scheduler application. If a specific color is not selected, a default (blue) color will be assigned.
- If after scheduling an event script or series it doesn't appear in the Scheduler application calendar view, reload or refresh the web browser.
- If you scheduled events using the Scheduler application, you can change the event name or cancel the event from the **Control Panel**. Modifications made to events that are scheduled using the Scheduler application are reflected in **Control Panel**.
- Do not change settings for an event that is in the past. Be careful when editing an event series that has events that have already completed.

IMPORTANT: While it is possible to cancel a single occurrence that is part of a series, it is not recommended. For example, if you cancel a single occurrence that is part of a series, then edit and save the series, the changes made to the single occurrence will be lost.

Guidelines for the Scheduler Application

When using the Scheduler application, consider the following guidelines:

- Event scripts must be created (**Control Panel > Schedule**) in advance of using the Scheduler application.

Restrictions for the Scheduler Application

- While you can schedule different event scripts to run on the same day and at the same time, only one event script can stage at a time. In practice, the event scripts will not start simultaneously as staging for one script will block the other scripts from staging until they have a chance to stage.

CAUTION: Do not delete a played scheduled event script or series before generating a proof of play report. If a scheduled event script or series is deleted, all proof of play data will be lost. Prior to deleting an event script, it is highly recommended to generate a proof of play report.

Restrictions for the Scheduler Application

When using the Scheduler application, consider the following restrictions:

- You cannot schedule the same script to run during the same interval. If you try to do this, a warning will appear.
- Single scheduled event scripts must be edited individually. You cannot select and edit multiple scheduled single event scripts at one time. However, you can edit an entire series at one time by opening any instance from the series.
- When using the Scheduler to control the start/stop of event scripts, be very careful of editing a scheduled script that requires you to manually stop it. The risk is that if you then manually restart that script, the Scheduler will not stop a manually-started script.

You need to remember to manually stop that script at the appropriate time, or the script is blocked at the next regularly scheduled start time. If this happens, either remove the blocked script or stop the manually-started script.

- The Scheduler application will only display events that are created using the Scheduler.
- Events created from the Control Panel (**Control Panel > Control > Start Script**) will only be displayed in the Control Panel and will not appear in the Scheduler application.
- You cannot set the zone and group specifics through the Scheduler application.

Prerequisites for Using the Scheduler Application

Before you use the Scheduler application, be sure that the following requirements are met:

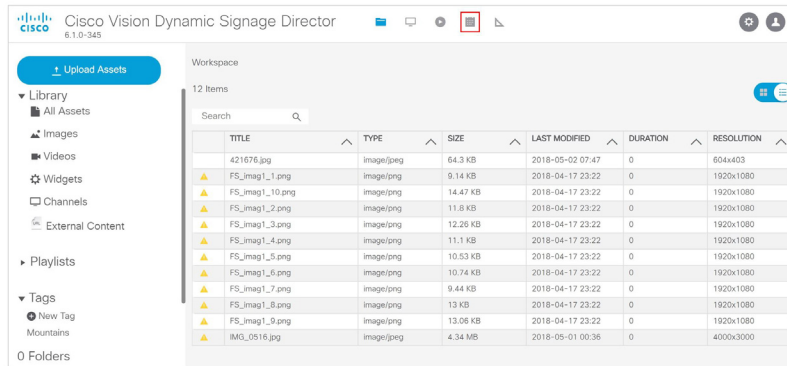
- You have an Administrator or Event Operator Role Based Access Control for Cisco Vision Director.
- You have created an event script through Control Panel > Schedule.

Accessing the Scheduler Application

User Role: Administrator / Event Operator

To access the Scheduler application:

1. Log into Cisco Vision Director as an Administrator or Event Operator.
2. From the **Main Menu**, click **Event Management**.

Figure 23 Access the Scheduler Application

The Scheduler application opens in a new browser window with the current day highlighted as shown in [Figure 22 on page 190](#).

Creating a New Event

User Role: Administrator / Event Operator

The following steps summarize the overall workflow to schedule a single event script occurrence using the Scheduler application:

1. From Cisco Vision Director **Library**, click **Event Management**.
2. Double-click on the day that you want the event script to run. The Create New Event dialog box appears.
3. Complete the Create New Event dialog box ([Figure 24 on page 193](#)).

Figure 24 Creating a New Event

The 'Create New Event' dialog box contains the following fields and options:

- Event name:** The Greatest Thing You'll Ever Learn
- Select script:** Test Script 1
- Repeat event:** (checked)
- Frequency:** Daily, every 1 day(s)
- Occurrences:** after 1 occurrences
- End by:** 7/10/18
- Select options:** Proof of play, Staging, Force Stop
- Time period:** 7/10/18 2:30 pm - 7/10/18 3:30 pm
- Schedule states:** (checked), Blank, 12:59 am

Buttons: Cancel, Save

- a. Event Name:** Type in a name for the event in the Event Name field (required).
- b. Select script:** Select the event script from the Select Script drop-down menu.
- c. Repeat event:** Leave the check box as is (unchecked) for a single event.
- d. Select options:** Click the check boxes to active or deactivate the following options: **Proof of Play**, **Staging** (enabled by default), **Force Stop**.

Restrictions for the Scheduler Application

Selecting Force Stop causes the script to end automatically at the scheduled end time. If Force Stop is not selected, the script will continue to run until a user manually stops the event script through the Control Panel or if a trigger is received that stops the script.

- e. **Time period:** Select the date and time for the event script to run (Figure 25 on page 194).

Figure 25 Set the Event Time Period

4. Save the scheduled event script. The Scheduler application appears with the scheduled event script highlighted in the color that was selected when the script was created.

Creating a New Event Series

User Role: Administrator / Event Operator

The following steps summarize the overall workflow to schedule an event script series using the Scheduler application:

1. From Cisco Vision Director **Main Menu**, click **Event Management**.
2. Double-click on the day that you want the event series to run. The Create New Event dialog box appears.
3. Complete the Create New Event dialog box as shown in Figure 26 on page 194.

Figure 26 Creating a New Event Series

- a. **Event Name:** Type in a name for the event series in the Event Name field (required).
- b. **Select script:** Select the event script from the Select Script drop-down menu.
- c. **Repeat event:** To schedule an event series, check the check box. Once selected, the event series options appear. Set the series as applicable.

Daily: Select Daily to repeat an event for a specific number of days. As in the example above, enter the frequency (every other day) and the number of occurrences (1) or set an end date. In this example, the event would be scheduled 1 time on Monday, Wednesday, and Friday ONLY.

Weekly: Select Weekly to repeat an event script on a weekly basis.

Note: Be careful when entering a number of occurrences. In the example above if the number of occurrences was set to 1, the event would only be scheduled 1 time in several weeks >>> not good!

- d. **Select options:** Click the check boxes to activate or deactivate the following options: **Proof of Play**, **Staging** (enabled by default), **Force Stop**.

Restrictions for the Scheduler Application

Selecting **Force Stop** causes the script to end automatically at the scheduled end time. If **Force Stop** is not selected, the script will continue to run until a user manually stops the event script through the Control Panel or if a trigger is received that stops the script.

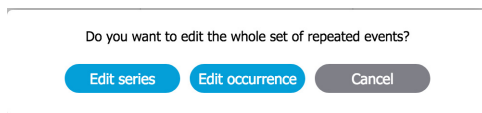
- e. **Time period:** Select the date and time for the event script series to run.
 - f. **Schedule states:** Slide the button and the fields appear to choose Blank, FS Multicast, or FS Images. Set the times the scripts will display. To add more options, click the “plus” button.
4. Save the scheduled event script series. The Scheduler application appears with the scheduled event script series highlighted in the color that was selected when the script was created.

Modifying a Scheduled Event

User Role: Administrator / Event Operator

To modify a scheduled event script occurrence or series:

1. Locate the scheduled event script or series in the Scheduler application.
2. Double-click the scheduled event script to open it.
3. Select **Edit Series** or **Edit Occurrence**.
4. Change the applicable options and choose **Save**.



Confirming an Event Script is Scheduled

User Role: Administrator / Event Operator

To confirm an event script occurrence or series is scheduled, perform one of the following:

1. Review the Scheduler application calendar view to verify the script appears.
 - From Cisco Vision Director Main Menu, **Tools > Control Panel > Schedule**. If an event script is scheduled, a green check icon appears in the left column.
 - From Cisco Vision Director Main Menu, click **Event Management**. If an event script is scheduled, the Status column indicates scheduled.

Canceling a Single Event

User Role: Administrator / Event Operator

To cancel a scheduled event script:

1. Locate the scheduled event script that you want to cancel from the Scheduler application or from **Control Panel > Schedule**.
2. If using the Scheduler application, **double-click** the event script to open it.
 - a. Click **Delete** in scheduler dialog box.

- b. Click **OK** in the alert dialog box.
- c. Navigate to the Scheduler application to view changes.

If changes or cancellations do not appear in the Scheduler application, reload or refresh the web browser.

3. If canceling the event script from **Control Panel > Schedule**, highlight the script instance, right-click and select **Stop**.

Canceling an Event Script Series or Single Occurrence in a Series

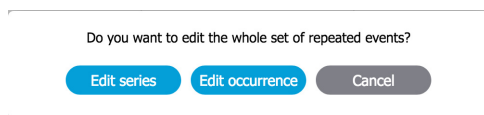
User Role: Administrator / Event Operator

To cancel a scheduled event script series or a single occurrence that is part of a series:

1. Locate the scheduled event script series or single occurrence in a series that you want to cancel in the Scheduler application.

TIP: To cancel a scheduled event series, you can select any instance from the series to cancel the entire series.

2. **Double-click** the event to open it.



- a. To cancel the entire event script series, click **Edit series**. In the scheduler dialog box that appears, click **Delete**. Next, click **OK** in the alert dialog box.
- b. To cancel a single occurrence that is part of a series, click **Edit occurrence**. In the scheduler dialog box that appears, click **Delete**. Next, click **OK** in the alert dialog box.
3. Navigate to the Scheduler application to view changes.
If changes or cancellations do not appear in the Scheduler application, reload or refresh the web browser.

Troubleshooting Event Scripts

Troubleshooting Blocked Scripts

Several conditions can cause a scheduled script to be blocked from running. No error messages occur during these conditions, and it requires manual discovery and correction.

In many cases, a scheduled script has problems because a separate method has been used to control the starting or stopping of that script in addition to the Scheduler application.

A script might become blocked under the following conditions:

- A running scheduled script was manually stopped and restarted.

The Scheduler application cannot stop a script that was manually started, even if the script had originally been scheduled. If the manually-started script instance is still running at the time of the next scheduled start, then the script is blocked.

Either remove the blocked script or manually stop the currently running script.

- Triggers were used to start a script that is also scheduled.

The Scheduler application cannot stop a script that was started through an external trigger. If the triggered script instance is still running at the time of the next scheduled script start, then the script is blocked.

Either remove the blocked script, or stop the currently running script manually or using an external trigger.

- When DMPs associated with a blocked script are referenced by another script, the additional script is also blocked.

Running Event Operations

Workflow Summary for Running an Event

[Table 2 on page 197](#) provides a summary of the tasks and related information to run an event in Cisco Vision Director.

Table 2 Running an Event Resources

Event Stages	For more information, see:
Plan the event and prepare content	Cisco Vision Director Operations Playbook Cisco Vision Content Planning and Specifications Guide: Dynamic Signage Director, Release 6.1
Create and schedule event scripts to run the event	How to Run and Schedule Event Scripts and Series, page 186
Capture event data by generating Proof of Play reports	Release 2.4 and Later Releases: Cisco Vision Director Proof of Play



Monitoring Media Player Operation During an Event Using Device Management

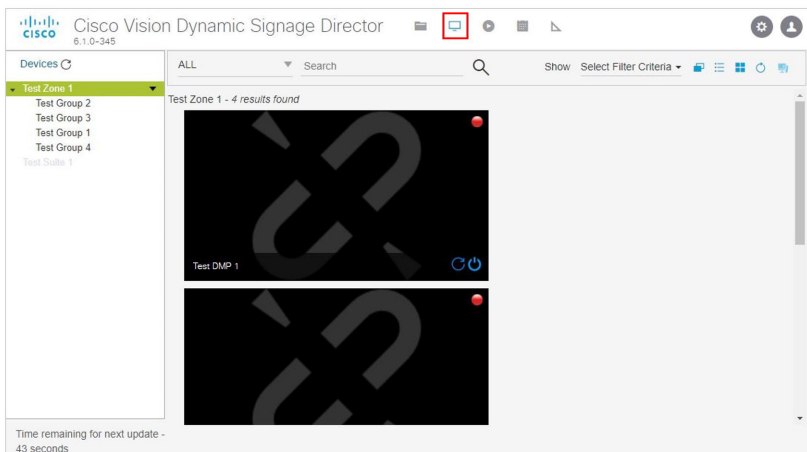
User Role: Administrator / Help Desk/ Support / Venue Operator / Venue Administrator

This module describes how to monitor operation of media players using Device Management in Cisco Vision Director.

Information About Device Management

The Device Management application shows at-a-glance device status information for media players and their attached TV displays during an event ([Figure 1 on page 199](#)).

Figure 1 Accessing the Device Management Application



Device Management Highlights

- Is accessible from the Cisco Vision Director (**Main Menu**) Library.
- Supports multi-venue site selection.
- Polls media players every 120 seconds (default) and auto-refreshes the monitoring display.
- Supports different ways to view device status.
- Allows you to select media players that you want to monitor by:
 - All criteria
 - Location Name

Device Management Views

- Description
- IP address
- MAC address
- Allows you to filter the selected device list by:
 - DMP state
 - DMP model
 - TV status
 - DMP health
 - TV health
- Provides icon for Administrator to Refresh or Restart a digital media player.

Device Management Roles

Note: The Administrator is the only role that can restart media players within the Device Management app, or change the polling interval in the Management Dashboard.

Device Management can be used by the following Cisco Vision Director user roles:

- Administrator
- Help Desk
- Support
- Venue Administrator
- Venue Operator

Device Management Views

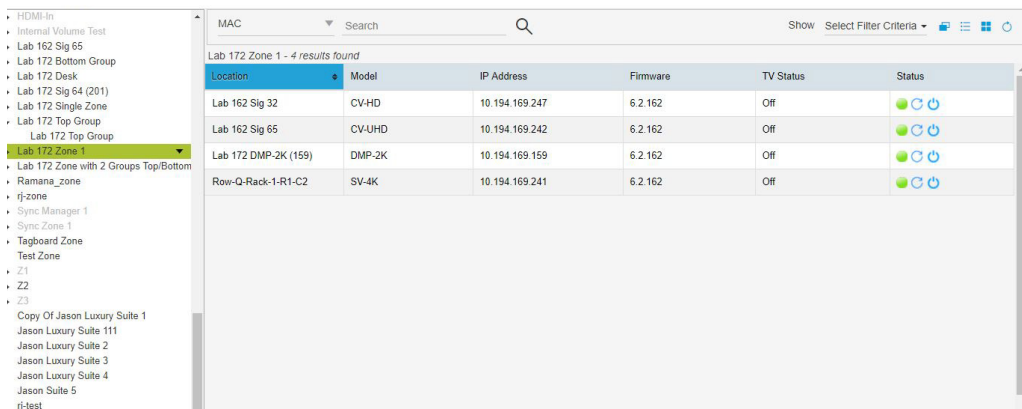
Device Management supports three monitoring views of device status:

- Toggle Tree View—Provides the Devices Panel and the Thumbnail View of the devices or toggles to only thumbnails.
- Grid View—Provides detailed device status information in a tabular format.
- Thumbnail View—Provides device status as a thumbnail snapshot of content running on the TV along with a red or green icon showing the DMP state.

Grid View

[Figure 2 on page 201](#) shows an example of the device information that can be seen in grid view, in addition to the status icons and controls that are also available from thumbnail view ([Figure 3 on page 202](#)).

Device Management Views

Figure 2 Grid View Monitoring Example


Location	Model	IP Address	Firmware	TV Status	Status
Lab 162 Sig 32	CV-UHD	10.194.169.247	6.2.162	Off	● ↻ ⏻
Lab 162 Sig 65	CV-UHD	10.194.169.242	6.2.162	Off	● ↻ ⏻
Lab 172 DMP-2K (159)	DMP-2K	10.194.169.159	6.2.162	Off	● ↻ ⏻
Row-Q-Rack-1-R1-C2	SV-4K	10.194.169.241	6.2.162	Off	● ↻ ⏻

Enhancements to Device Management

- Hover over the icons in the top right for functions.
- Supports multiple device selection using **Ctrl** and **Shift** keys for functionality such as TV On/Off, DMP Reboot, and Refresh
- Click the Refresh icon to refresh your preview, without having to wait for the next auto-refresh cycle to show a preview. This works for multiple DMPs, too.
- Within a Zone or Group, you can select multiple DMPs and perform a function (such as turn devices On/Off).
- Search channel names in the detail box.

To choose many devices in a Group or Zone, use **Ctrl** and **Shift** keyboard shortcuts to allow you to select large amounts of devices to perform Refresh, Reboot, TV ON and TV OFF functions. This speeds device control functions.

To select multiple devices and perform an action:

1. Go to **Device Management**.
2. Choose a **Zone, Group**, or device from the left panel.
3. In either Gridview or Thumbnail view, select as many devices as you need. Use **Ctrl (Control)** or **Shift** to select individual devices, skip around, or choose a range.
4. Choose an action to perform: **Refresh, Reboot, TV ON, TV OFF**, or **search Channel Name** (Figure 3 on page 202).

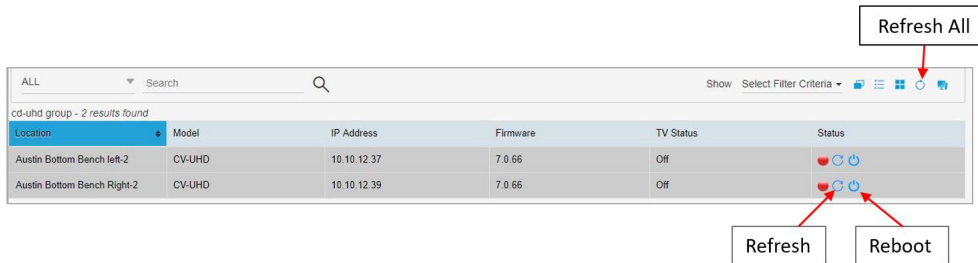
Device Management Filters

Figure 3 Thumbnail View of DMP, Summary



Or, select multiple devices from Gridview and perform an action (Figure 4 on page 202).

Figure 4 Select Multiple Devices with Shift and Control Keys



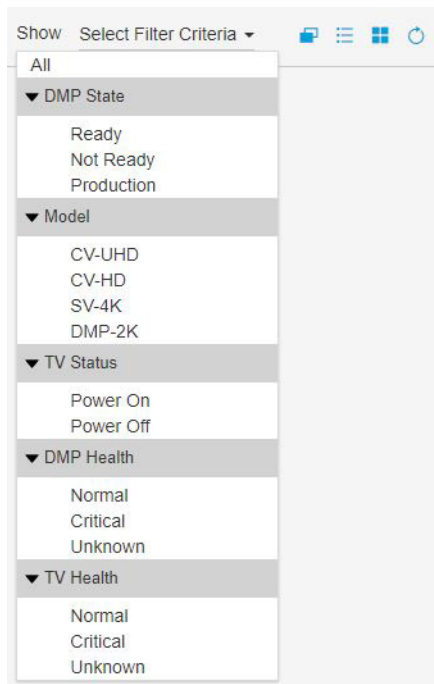
Device Management Filters

Device Management allows you to apply filter criteria to the devices selected for visual monitoring to see devices with specific characteristics or conditions:

- DMP State
- Model
- TV Status
- DMP Health
- TV Health

Note: The filters do not apply to all DMPs in the system. They only apply to the DMPs (groups/zones) that you have selected in the device tree list.

Figure 5 on page 203 shows the specific types of filter criteria available.

Figure 5 Device Management Display Filter Criteria

Best Practices for Device Management

When working with Device Management, consider the following best practices:

- Do not change the DMP polling interval to less than the 12000 ms (2 minutes) default.
- To reduce network traffic, only enable monitoring for the DMPs that you want to observe for the event.

How to Use Device Management

This section includes the following topics:

- [Prerequisites for Device Management, page 203](#)
- [Restrictions for Device Management, page 204](#)
- [Understanding the Device Management Screen, page 204](#)
- [Enabling Monitoring of Devices in Device Management, page 204](#)
- [Viewing DMP Details in Device Management, page 205](#)
- [Rebooting DMPs in Device Management, page 206](#)
- [Changing the Device Management Polling Period, page 207](#)

Prerequisites for Device Management

Before you configure Device Management, be sure that the following conditions are met:

How to Use Device Management

- DMPs are created in Cisco Vision Director.
- DMPs are assigned to zones, groups, and locations.

Restrictions for Device Management

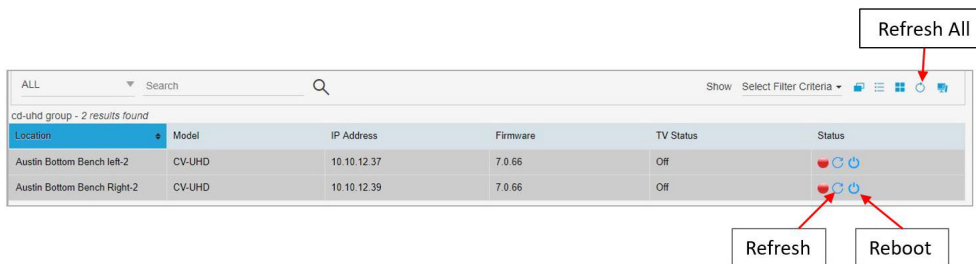
Before you use Device Management, consider the following restrictions:

- Only users with role of Administrator can reboot DMPs from Device Management.

Understanding the Device Management Screen

Figure 6 on page 204 shows the Device Management screen (grid view) and the options available there.

Figure 6 Device Management Screen Navigation



Enabling Monitoring of Devices in Device Management

User Role: Administrator / Help Desk / Support / Venue Operator / Venue Administrator

By default, monitoring of devices in Device Management is disabled.

To enable monitoring of devices in Device Management:

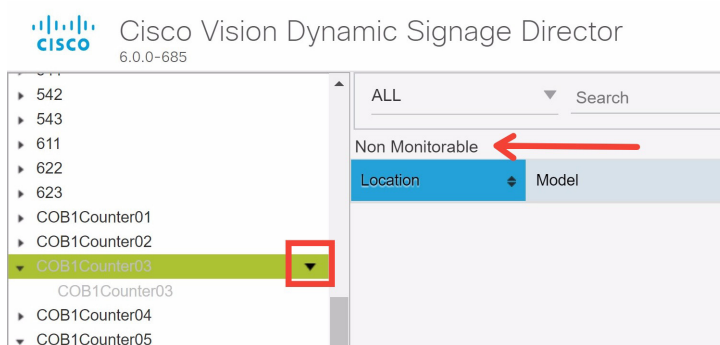
1. From the Device Management screen, show the device list tree.
2. In the Devices box, select the DMP group or zone that you want to enable.

TIP: Disabled DMPs display “Non Monitorable” on the screen when you select them (Figure 7 on page 205).

3. Click the drop-down arrow beside the DMP(s) that you want to enable for monitoring and select the Visual Monitoring checkbox (Figure 7 on page 205).

How to Use Device Management

Figure 7 Visual Monitoring Checkbox



Viewing DMP Details in Device Management

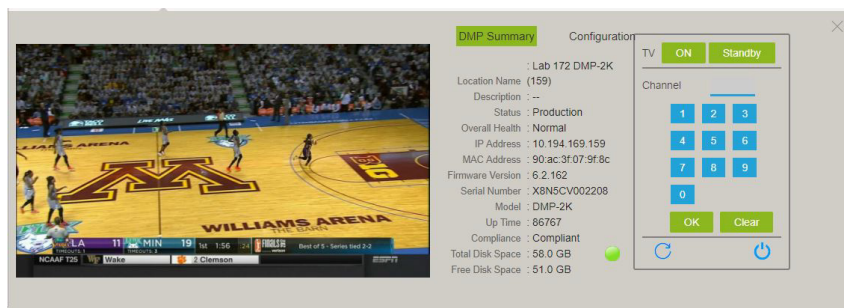
User Role: Administrator / Help Desk Support / Venue Operator / Venue Administrator

You can view a lot of information about DMPs from Device Management including addressing information, firmware version, disk space and configuration.

To view DMP details in Device Management:

1. From Device Management, go to thumbnail view.
2. Search for or filter the current display to find the DMP that you want information about.
3. Click the thumbnail of the DMP. The DMP Summary page displays (Figure 8 on page 205).

Figure 8 DMP Summary Panel



From here, there are TV controls you can manage such as:

- Channel selection
- TV On
- TV Standby
- Refreshing the DMP device
- Rebooting the DMP device

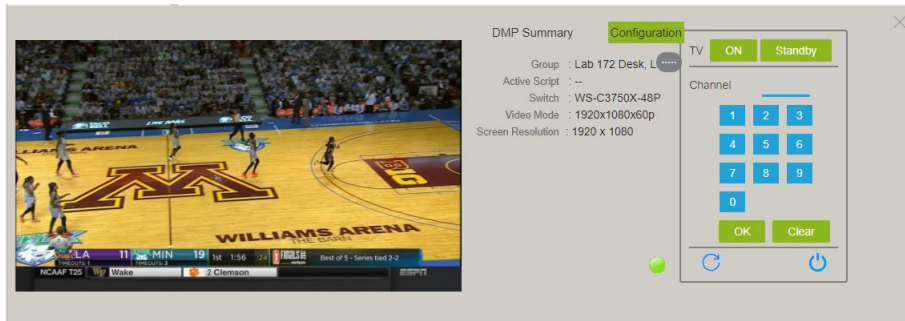
4. To see configuration information such as switch and script information, click **Configuration**. The DMP Configuration page displays (Figure 9 on page 206).

From here, there are TV controls you can manage such as:

How to Use Device Management

- Group
- Active Script
- Switch
- Video Mode
- Screen Resolution

Figure 9 DMP Configuration Panel



Rebooting DMPs in Device Management

User Role: Administrator / Venue Administrator

ONLY users with the Administrator role can reboot DMPs from within Device Management.

The reboot devices button can be used from either the grid view ([Figure 10 on page 207](#)) or thumbnail view ([Figure 11 on page 207](#)).

How to Use Device Management

Figure 10 Reboot Device Button–Grid View

Location	Model	IP Address	Firmware	TV Status	Status
Lab 172 DMP-2K (159)	DMP-2K	10.194.169.159	6.2.162	Off	

Figure 11 Reboot Device Button–Thumbnail View



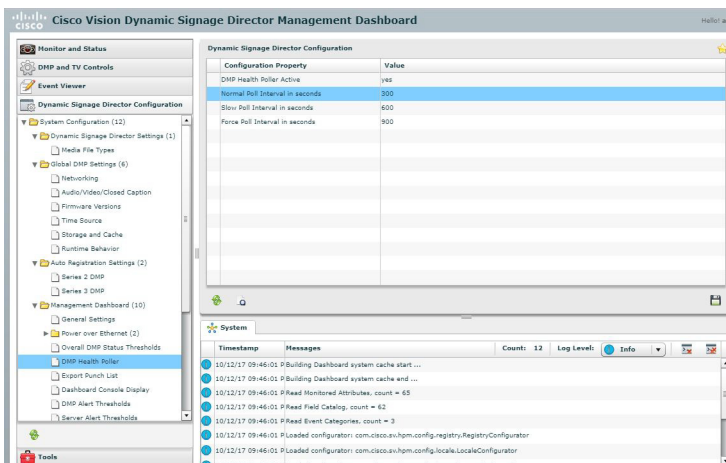
Changing the Device Management Polling Period

User Role: Administrator / Venue Administrator

By default, Device Management polls devices to update status every 120 seconds.

To change the Device Management polling period:

1. Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Management Dashboard > DMP Health Poller**.
2. In the Configuration Property box, find the Normal Poll Interval in seconds.



3. In the value box, type the time period in ms.
4. Click the disk icon to save your changes.

How to Use Device Management

TIP: You do not need to reset the DMPs to apply the new value. Whenever a script starts, the media player retrieves the global settings.



Troubleshooting Event Operations in Cisco Vision Director

Troubleshooting Event Operations

Table 1 on page 209 provides a summary of useful tasks when there is a problem while running an event in Cisco Vision Director.

Table 1 Troubleshooting Event Operations

Task	For more information see:
Replace a Failed DMP	Replacing a Failed Media Player While an Event Script is Running, page 248
Replace Content	Replacing Content in a Playlist During an Event, page 152
Stream video as multicast URL to a media player with content problem	Tuning Selected Media Players to a Multicast URL, page 104
Clear a blocked script	Troubleshooting Event Scripts, page 196

Troubleshooting Error Messages

Use the information in this section to troubleshoot error messages that occur when operating Cisco Vision Director.

Action consistency problem between actionRegions and regionCount

Description There is an internal error in the database due to the Actions having a region Count > 0 but no information about the regions.

Workaround If a state is reported in the message, then you can recreate the affected state. Otherwise, recreate the script to remove the error condition. Ignoring this error can result in unpredictable script behavior.

Device(s) appear multiple times in zone/group mapping

Description The same device appears multiple times in the same state.

Workaround Either remove the devices in question from groups, remove groups from zones, or remove actions from zones and groups.

Device(s) have duplicate host(s)

Description Two different devices (or the same device) appear multiple times with the same IP address.

Workaround Either remove the device(s) in question from groups, remove groups from zones, remove actions from zones / groups, or change the IP addresses of the device(s).

Group for groupinstance is not set

Description The groupinstance object is missing a link to which group it refers to.

Workaround If a state is reported in the message, then you can recreate the affected state. Otherwise, recreate the script to remove the error condition. Ignoring this error can result in unpredictable script behavior.

Missing regionMap in an action that needs one

Description The regionMap is not set on an actioninstance but should be.

Workaround Add a region.

No action set for actioninstance

Description Actioninstance is not associated with an action, which is not a valid configuration. Actioninstances without actions can cause conflicts when Cisco Vision Director is determining which digital media players have actions assigned to them.

Workaround Add an action to the zone or group.

No actioninstances for group

Description Actioninstance is not associated on the groupinstance.

Workaround Add an action to the groupinstance.

No actioninstances for zone

Description Actioninstances are not on the zone (there should be because not all sub-groups of this zone have actions on it).

Workaround Add an action to the zoneinstance.

No states in script

Description There are no states in this event script.

Workaround Add states to the event script.

Null state in script

Description There is a state entry which has a null pointer in it. This null state will be ignored, but represents a corrupted database.

Workaround Delete the entire script and recreate it.

Region id is null in ActionRegion—database corrupt

Description The ActionRegion is not linked to the region ID.

Workaround If a state is reported in the message, then you can recreate the affected state. Otherwise, recreate the script to remove the error condition. Ignoring this error can result in unpredictable script behavior.

Region " + i + " content has incompatible region type with the action .

Description The contentType of the playlists does not match the contentType of the template.

Workaround Put different playlists into the region, change the type of the region (from video to non-video or vice versa), or change the contentType of the playlists.

Region " + i + " does not have a contentType

Description Unable to compute the contentType for the region as there were no associated playlists or the playlists were missing a contentType.

Workaround Add a contentType to the playlist or add a playlist to the action.

Region lacks a playlist

Description A region should have a playlist associated with it, but it does not. As a result content will not be shown in that region.

Workaround Add a playlist to the appropriate action in the event script.

State has no zoneInstance(s)

Description A state exists but it doesn't have a zoneinstance (actions on zones).

Workaround Add actions to zones or groups.

Warning empty playlist in region

Description There is a playlist in the region, but it does not contain content.

Workaround Add content to the playlist.

Null Zone In zoneinstance

Description The event script has an action on a zoneinstance which is missing the Zone. This happens when the user deletes a Zone but does not delete the actions from that Zone or a group under that Zone before deleting the Zone. After deleting the Zone, the actions become irrelevant, but the script can still contain the action. The UI no longer shows the actions, so they can't be deleted.

Workaround If a state is reported in the message, then you can recreate the affected state. Otherwise, recreate the script to remove the error condition. Ignoring this error can result in unpredictable script behavior.

Content not ready for playlist

Description If the content is not ready for the playlist, this is set. Possible reasons include content not uploaded via Kore integration or the CMS is unreachable. For gadget type content, determine computeReadyForPlaylist based on the custom App **instance and check the** widget to see if it refers to invalid data sources.

Workaround User should fix reason for content to be invalid for playback.

Action removed from actioninstance

Description Error message occurs if an action is deleted from the database, possibly by a system upgrade.

Workaround User should remove those actioninstances from the script by deleting the state or all actions on a zone or group in the state.

Empty playlist(s) in region

Description There is no content in at least one playlist in this region, as a result the playlist is ignored.

Workaround Add content to the playlist or remove the playlist from the event script.

Device(s) have missing host(s)

Description The device has a missing or empty host (IP address).

Workaround Set the device(s) hosts to a valid IP address.

Device(s) have mismatched site

Description The script site / venue is not equal to the site / venue of the device.

Workaround Set the site of the script and or devices to match.

Video Region Count Exceeded

Description The number of video regions in the template exceed the number of valid video regions for the digital media player.

Workaround Change the template to reduce the number of video regions or assign these actions to different digital media players (by modifying zone/group structure or putting actions on different zone / group).

Warning Mixed DMP Type

Description Different types of digital media players are assigned to the same group or zone.

Workaround Change the script so that only one media player type is assigned to the same group or zone.

Synchronization Zone Group Conflict

Description A digital media player from a zone-based video wall has actions assigned from a different zone or group causing conflicts and disabling synchronization.

Workaround Change the script so that all actions are assigned to the digital media players from the video wall zone.

Synchronization Template Mismatch

Description Multiple groups within a synchronization-enabled zone have mismatched templates or playlists. Templates must be the same and each playlist must have the same number of items of the same type and the same duration. If not, synchronization will be disabled.

Workaround Change the state to enable all groups within the video wall zone to use the same template.

Multiple Templates Assigned

Description Multiple actions that assign a template have been assigned in the same state resulting in unpredictable behavior.

Workaround Remove all but one of the actions that assigns a template to the zone / group within that state.

Synchronization Multiple Templates Assigned

Description Multiple actions that assign a template have been assigned in the same state resulting in unpredictable behavior and disabling synchronization.

Workaround Remove all but one of the actions that assigns a template to the zone / group within that state.

Troubleshooting the Network Time Service

After a server power outage, sometimes the network time service does not recover.

A possible symptom of a network time service problem during an event is DMPs not changing state.

To troubleshoot the network time service:

1. If there was a power outage, restart the Cisco Vision Director server.

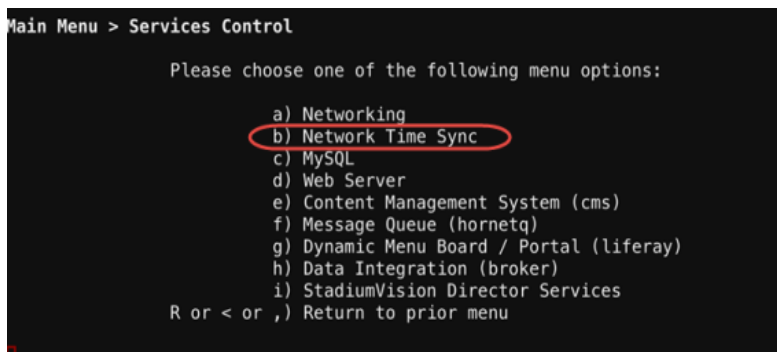
Troubleshooting the Network Time Service

2. Look at the output from the console log to verify the system status.
3. Verify that the ntpd service is running.

TIP: A quick way to determine if there is a problem with the network time service is to verify the system time reported on the **Control Panel > Control** screen against the actual time.

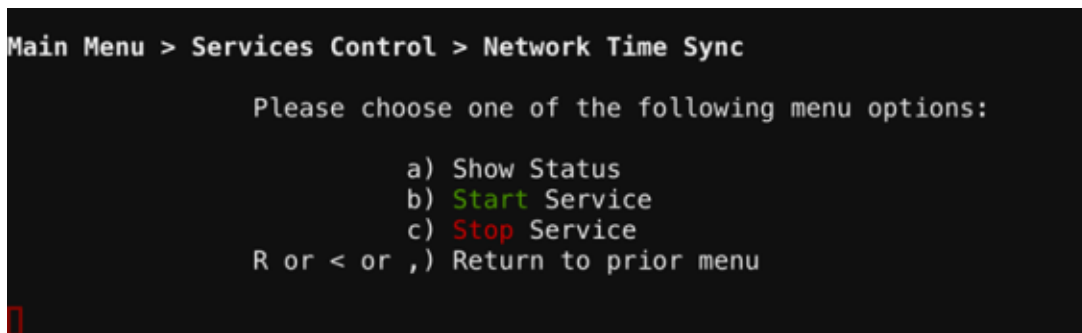
4. Log into the TUI.
5. From the Main Menu, go to **Services Control > Network Time Sync** (Figure 1 on page 213).

Figure 1 TUI Services Control Menu–Network Time Sync Option



6. (Optional) To verify the ntpd service, select Show Status (Figure 2 on page 213).

Figure 2 TUI Network Time Sync Menu



7. If the ntpd service is not running, click **Start Service**.



Managing Switch Data in Cisco Vision Director

This section includes the following topics:

- [Information About Importing Switch Data, page 215](#)
- [How to Import Switch Data to Cisco Vision Director, page 215](#)
- [Viewing Switch Details, page 220](#)

Information About Importing Switch Data

It is helpful to import switch data to Cisco Vision Director so that you can obtain certain switch-related information for your media player devices, and also run certain commands from the switch such as power resets of the media player using POE.

After you import switch data, information about the switch and its media player connections can be viewed in the following areas of the Management Dashboard:

- **Monitor and Status > All Devices > Settings**
- **Tools > Settings > Switch Management > View Switch Details**

How to Import Switch Data to Cisco Vision Director

This section includes the following topics:

- [Guidelines for Importing Switch Data, page 215](#)
- [Prerequisites for Importing Switch Data, page 216](#)
- [Configuring the Global Switch Device Default Settings, page 216](#)
- [Importing Switch Data, page 218](#)
- [Reimporting Switch Data, page 219](#)

Guidelines for Importing Switch Data

Before you import switch data to Cisco Vision Director, consider the following guidelines:

- Configure the Default Switch parameters area with the common credentials and connection type for all switches whose data you want to import to Cisco Vision Director. This will save you time when importing data from multiple switches.

How to Import Switch Data to Cisco Vision Director

- The following parameters can be configured as global defaults to connect to all Cisco Connected Stadium switches for data import:
 - Transport
 - User name
 - Password
 - Enable password
- You can override global defaults with a switch-specific transport protocol or user credentials at the time of switch import.

However, the switch-specific settings that you can specify on the Import Switch dialog box will only be used if you have changed the "Switch settings can override defaults?" option to yes in the global default settings.

- If you make any changes to your switch configuration, then you must re-import the switch data to reflect the latest port connections, or other updates.

Prerequisites for Importing Switch Data

Before you import switch data to Cisco Vision Director, be sure that the following conditions are met:

- You have installed and configured the Cisco Connected Stadium switch(es) for Cisco Vision Director.
- You have deployed the media players with connectivity to the switch.
- You have the following information for your switch connections:
 - Transport type (SSH is recommended)
 - User name
 - Password
 - Enable password
 - IP address of the switch

Configuring the Global Switch Device Default Settings

User Role: Administrator

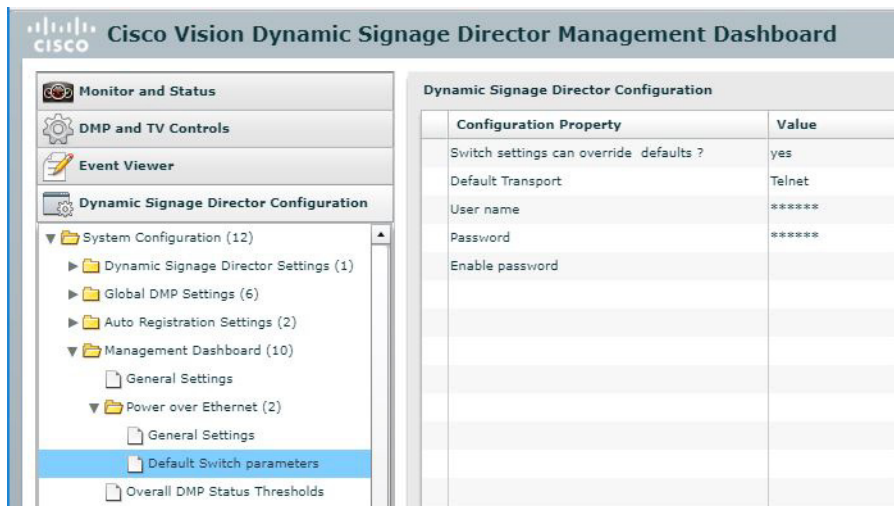
Use this task to set the common credentials and connection type for all switches whose data you want to import to Cisco Vision Director. This will save you time when importing data from multiple switches.

To configure global switch device default settings:

1. Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Management Dashboard > Power over Ethernet > Default Switch parameters.**

[Figure 1 on page 217](#) shows the available configuration properties that can be specified as defaults for all imports of switch data to Cisco Vision Director.

Figure 1 Default Switch Parameters Properties



2. In the Default Switch configuration properties, type the default values that you want to set for all switch imports according to [Table 1 on page 218](#).

Table 1 Default Switch Configuration Property Descriptions

Property	Description
Switch settings can override defaults?	<p>no—Specifies that the values set in these default switch configuration properties cannot be overridden by transport, user name, or password values in the Import Switch settings area.</p> <p>yes—Specifies that these default settings for transport, user name and passwords can be overridden by values specified in the Import Switch settings at the time of import.</p>
Default Transport	<p>Default connecton type to the switch as Telnet or SSH. For best security, SSH should be used.</p> <p>This value can be overridden in the Import Switch settings when the override option is set to yes.</p>
User Name	<p>Default user name on the switch.</p> <p>This value can be overridden in the Import Switch settings when the override option is set to yes.</p>
Password	<p>Default password for the user name on the switch.</p> <p>This value can be overridden in the Import Switch settings when the override option is set to yes.</p>
Enable password	<p>Default enable password on the switch.</p> <p>This value can be overridden in the Import Switch settings when the override option is set to yes.</p>

Importing Switch Data

User Role: Administrator

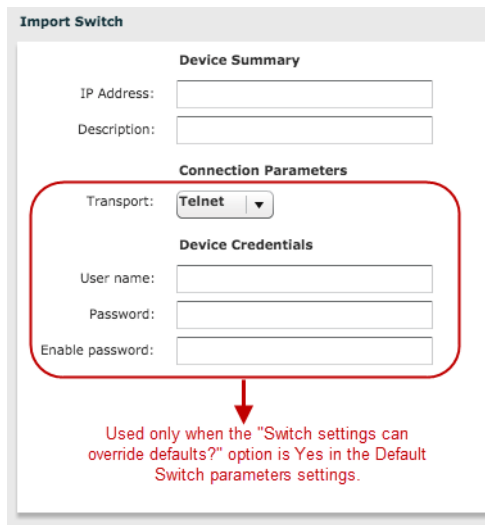
This task describes how to import Cisco Connected Stadium switch data so that you can manage your media player devices in the Management Dashboard.

IMPORTANT: If you make any changes to your switch configuration, then you must re-import the switch data to reflect the latest port connections, or other updates.

To import switch data:

1. Go to: **Tools > Management Dashboard > Tools** drawer > **Settings** tab > **Switch Management > Import Switch**. [Figure 2 on page 219](#) shows the Import Switch options.

Figure 2 Import Switch



Import Switch

Device Summary

IP Address:

Description:

Connection Parameters

Transport:

Device Credentials

User name:

Password:

Enable password:

Used only when the "Switch settings can override defaults?" option is Yes in the Default Switch parameters settings.

2. Specify the IP address of the switch that you want to import.
3. (Optional) Type a description for the switch.
4. (Optional) If you have enabled override of the default switch settings, specify the switch-specific connection parameters.
5. Click the Import Switch icon.

Reimporting Switch Data

User Role: Administrator

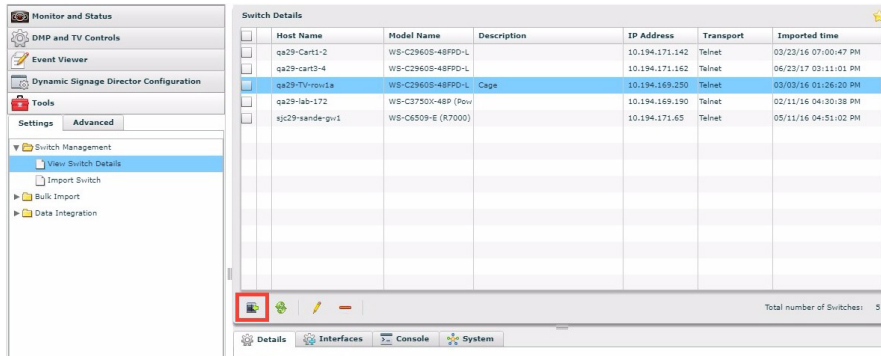
This task describes how to update Cisco Connected Stadium switch data in Cisco Vision Director after you have already done an initial import, but have made changes to your switch configuration—such as additions or moves of media players.

To reimport switch data:

1. Go to: **Tools > Management Dashboard > Tools drawer > Settings tab > Switch Management > View Switch Details.**
2. In the Switch Details box, select the switch that you want to update.
3. Click the reimport icon ([Figure 3 on page 220](#)).

Viewing Switch Details

Figure 3 Reimport Switch Data From View Switch Details



Viewing Switch Details

User Role: Administrator

To view switch details:

1. Go to: **Tools > Management Dashboard > Tools drawer > Settings tab > > Switch Management > View Switch Details.**

Figure 4 on page 220 shows the default switch details view that provides basic information about the switch itself.

Figure 4 View Switch Details



2. To get information about the media player device connections on the switch, click **Interfaces.**

Figure 5 on page 221 shows information about the media players connected to the switch, including addressing, VLAN and POE values.

Viewing Switch Details

Figure 5 Switch Details–Interfaces View

The screenshot displays the Cisco Vision Director interface. On the left is a navigation pane with sections for 'Monitor and Status', 'DMP and TV Controls', 'Event Viewer', 'Dynamic Signage Director Configuration', and 'Tools'. The 'Tools' section is expanded to show 'Settings' and 'Advanced'. Under 'Settings', 'Switch Management' is expanded to show 'View Switch Details', 'Import Switch', 'Bulk Import', and 'Data Integration'. The main area is titled 'Switch Details' and contains a table with columns: Host Name, Model Name, Description, IP Address, Transport, and Imported time. The table lists five switches, with the third one, 'qa29-TV-row1a', selected. Below this table, there are icons for refresh, save, and delete, and a status bar indicating 'Total number of Switches: 5'. At the bottom, the 'Interfaces' tab is active, showing a table with columns: Interface, IP Address, MAC, Vlan, Admin, Oper, Power, Connected DMP, and Device Type. This table lists various interfaces (G1/1/0/36 to G1/1/0/17) with their respective configurations.

Host Name	Model Name	Description	IP Address	Transport	Imported time
qa29-Cart1-2	WS-C2960S-48FPD-L		10.194.171.142	Telnet	03/23/16 07:00:47 PM
qa29-cart3-4	WS-C2960S-48FPD-L		10.194.171.162	Telnet	06/23/17 03:11:01 PM
qa29-TV-row1a	WS-C2960S-48FPD-L	Cage	10.194.169.250	Telnet	03/03/16 01:26:20 PM
qa29-lab-172	WS-C3750X-48P (Pow		10.194.169.190	Telnet	02/11/16 04:30:38 PM
sjc29-sande-gw1	WS-C6509-E (R7000)		10.194.171.65	Telnet	05/11/16 04:51:02 PM

Interface	IP Address	MAC	Vlan	Admin	Oper	Power	Connected DMP	Device Type
G1/1/0/36		00:22:bd:d3:5b:8a	225	auto	on	15.4		CVIS-IPC-4500
G1/1/0/18				auto	off	0.0		n/a
G1/1/0/2				auto	off	0.0		n/a
G1/1/0/37		00:22:bd:d3:5b:97	225	auto	on	15.4		CVIS-IPC-4500
G1/1/0/19				auto	off	0.0		n/a
G1/1/0/1				auto	off	0.0		n/a
G1/1/0/34				auto	on	13.0		CVIS-IPC-4500
G1/1/0/16				auto	off	0.0		n/a
G1/1/0/35				auto	on	15.4		CVIS-IPC-4500
G1/1/0/17				auto	off	0.0		n/a



Managing System Services in Cisco Vision Director

This section includes the following topics:

- [Information About Monitored Services, page 223](#)
- [Using the Monitored Services Screen, page 224](#)

Information About Monitored Services

Service alerts are reported based on the monitored services enabled in the Management Dashboard under **Monitor and Status > Services**.

[Figure 1 on page 223](#) shows the Cisco Vision Director services available for monitoring and their status and descriptions ([Table 1 on page 223](#)).

Figure 1 Monitored Services in the Management Dashboard

Monitored Services					
	Polling	Mode	Interval	Service Name	Service Status
✓	Enabled	Automatic	30 seconds	Cisco POS Server 3	Cisco server at qa-test-07/10.194.170.142 is running normally.
✓	Enabled	Automatic	30 seconds	Config Server	Server is available.
✓	Enabled	Automatic	30 seconds	Director Server OS	CPU 3% Memory 16% Disk usage 30% System running normally.
✓	Enabled	Automatic	10 minutes	Director Database	Database is running normally.
✓	Enabled	Automatic	30 seconds	Local Control Server	Server is available.
✓	Enabled	Automatic	10 minutes	Proof Of Play Database	Database iapps_pofp is running normally.
✓	Enabled	Automatic	30 seconds	Control Server	Server is available.
✓	Enabled	Automatic	30 seconds	Monitor Server	Server is available.
✓	Enabled	Automatic	5 minutes	Network Configuration	Network name resolution is ok.
⚠	Enabled	Automatic	10 minutes	High Availability Hardware	No HA system configured in registry entry backup.secondaryIp.
✓	Enabled	Automatic	10 minutes	Integration Broker	Server is available.
✓	Enabled	Automatic	10 minutes	CUCM Server	CUCM at 10.194.170.137 is running normally.
✓	Enabled	Automatic	30 seconds	Quest POS Server 4	Quest service is pingable at 10.194.170.162
✓	Enabled	Automatic	30 seconds	Content Management CMS Server	Server is available.

Table 1 Monitored Services Descriptions

Service Name	Description
{Cisco Micros Quest} POS Server n	Monitors connectivity between Cisco Vision Director and the POS vendor configured as a store in Cisco Vision Director. The POS store can be "Cisco," "Micros," or "Quest." A numbered service "n" is used to distinguish multiple integration instances.
Config Server	Monitors the status of the Cisco Vision Director sub-component that supports auto-registration, system configuration, and Management Dashboard functions.

Using the Monitored Services Screen

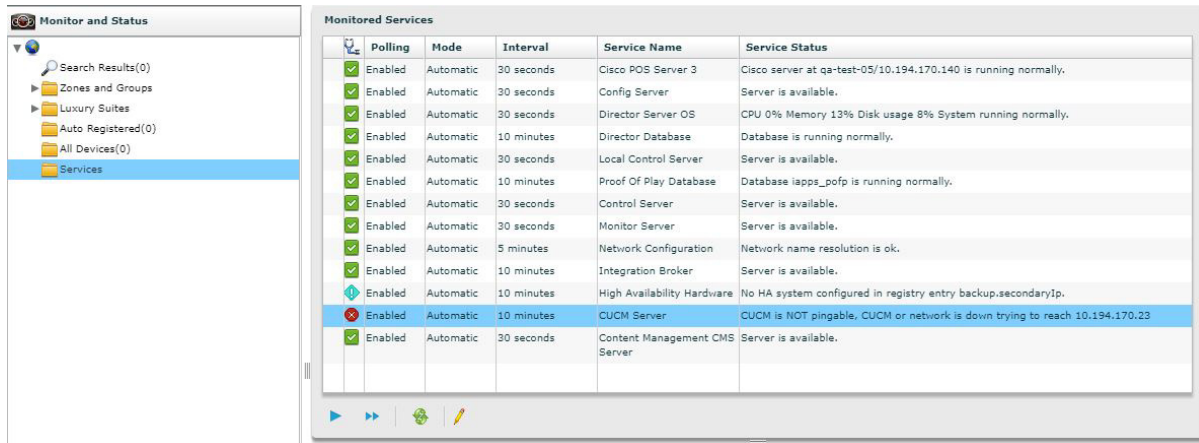
Service Name	Description
Content Management CMS Server	Monitors the status of the content management database.
Control Server	Monitors the status of the Cisco Vision Director sub-component that supports IP phone and script functions.
CUCM Server	Monitors the connectivity and availability of the Cisco Unified Communications Manager (CUCM) server that supports the proper operation of in-suite phone speed-dial operation in the Cisco Vision Director phone service.
Director Database	Monitors that the Cisco Vision Director database (which stores internal system configuration information) is running properly and accessible by other Cisco Vision Director services.
Director Server OS	Monitors the overall health of the Cisco Vision Director server, including the CPU, memory, and disk utilization.
High Availability Hardware	Monitors that a configured secondary Cisco Vision Director server is running and available.
Integration Broker	Monitors the sub-component that supports the Data Integration functionality.
Local Control Server	Monitors the status of the Cisco Vision Director sub-component that supports the Local Control API.
Monitor Server	Monitors the overall status of the sub-component that supports monitoring functions in the Management Dashboard.
Network Configuration	Monitors the configuration and operation of DNS services, that are required for legacy RSS ticker support and certain external data sources configured in the Data Integration feature.
Proof of Play Database	Monitors the status of the Proof of Play database.

Using the Monitored Services Screen

Use the Monitored Services screen to verify the health of your Cisco Vision Director services.

[Figure 2 on page 225](#) shows an example of the High Availability service in critical (red) state, and a description of its status. Click the **Problems** tab for suggested actions to resolve the service back to normal state.

Figure 2 Monitored Services Details



Use the tabs at the bottom of the panel to obtain more details about that service, as described in [Table 2 on page 225](#).

Table 2 Service Information Tabs

Tab Name	Description
Status	Displays detailed status for the selected service. Data displayed is service-specific.
Problems	Displays the actions you can take to change the state of the specific service from critical (Red) state to Normal (Green) state. The Problems tab is only relevant for services that are in the red state.
Polling Interval	Displays the poll interval, the last time status was checked, and the next scheduled status check.
Service Information	Displays details about the information monitored by the selected service.
Console	Displays the log and other message output during the service check operation.
System	Displays log messages about internal events that occurred during the service check.



Managing Server Resources in Cisco Vision Director

Before an event, validate the system readiness for CPU, memory (RAM), and disk utilization to be sure that you have enough resources.

Note: Measurement units for storage in Cisco Vision Director are based on a KB equivalent of 1024 bytes [known as a kibibyte (KiB)], not 1000 bytes.

Therefore, a notation of MB actually means 1,048,576 (1024 x 1024) bytes in Cisco Vision Director.

This section includes the following topics:

- [Information About Monitoring System Utilization, page 227](#)
- [Running Database Maintenance, page 232](#)

Information About Monitoring System Utilization

This section includes the following topics:

- [Server Utilization Information, page 227](#)
- [Server Alert Thresholds, page 228](#)
- [CPU Utilization, page 229](#)
- [Memory Utilization, page 229](#)
- [Disk Utilization, page 230](#)

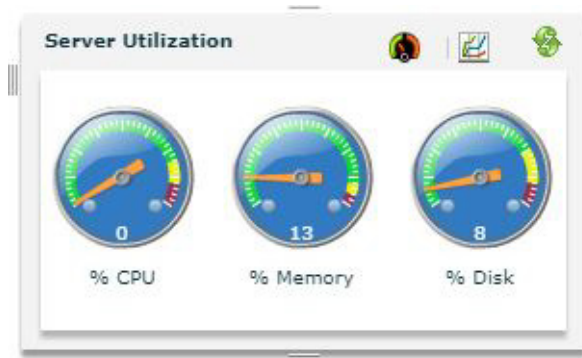
Server Utilization Information

The Cisco Vision Director Server monitoring service (named Director Service OS) polls system status every 30 seconds for the CPU, memory (RAM), and disk utilization.

Utilization status is reported based on the server alert thresholds configured in the **Management Dashboard**.

The gauges in the CV Director **Server Utilization** panel in the **Management Dashboard** provide an at-a-glance view of the percentage of CPU, memory, and disk space usage for the Cisco Vision Director Server ([Figure 1 on page 228](#)).

Note: The browser does not automatically update the utilization status; you must click the refresh button.

Figure 1 Cisco Vision Director Server Utilization

IMPORTANT: The **Management Dashboard** shows a critical alert when the CPU or Disk utilization goes above 90%, or if the Memory utilization goes above 95%.

TIP: You can also find the current CPU, memory, and disk utilization percentages in the daily Vision Health Report.

Server Alert Thresholds

Utilization status and alerts are reported based on the server alert thresholds configured in the **Management Dashboard**.

Two alert thresholds are defined for CPU, free memory, and disk space:

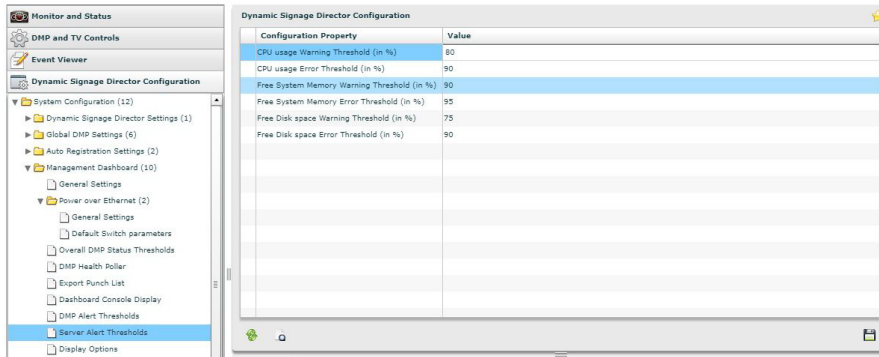
- **Warning**—Warning thresholds define the yellow area of the server utilization gauges.
- **Error**—Error thresholds define the red area of the server utilization gauges and correspond to critical alerts.

To check the default values of server alert thresholds:

Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Management Dashboard > Power over Ethernet > Server Alert Thresholds**.

[Figure 2 on page 229](#) shows the default threshold values for the different system areas.

Figure 2 Default Values for Server Alert Thresholds



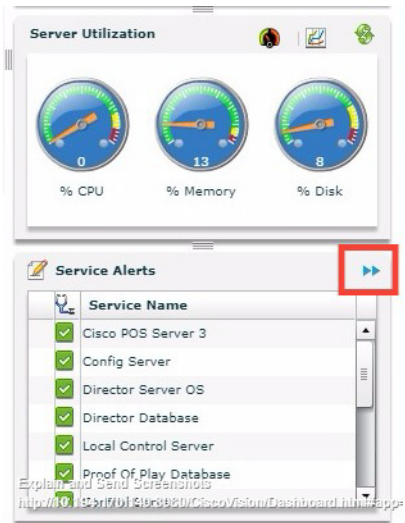
CPU Utilization

If CPU utilization is above the 90% alarm threshold for a short period of time, it is probably acceptable. However, if CPU utilization remains elevated, there is a problem with a runaway process or task that is consuming all of the available CPU, which can result in reduced responsiveness in the system.

Look at the system to determine how to resolve the problem. The **Management Dashboard** caches the last executed report. Always make a new request / refresh to get the most up-to-date information (Figure 3 on page 229).

If necessary, open a case with Cisco Technical Support and provide a thread dump taken from the System State Report tool.

Figure 3 Management Dashboard Server Utilization and Monitored Services



Memory Utilization

If memory utilization is above the 90% alarm threshold for over a long period of time, there could be something running in the system which is using more memory than it should. Identify which processes are using the most memory.

Table 1 on page 230 shows the total memory on a Cisco Vision Director server and the usage that crosses the alarm threshold.

IMPORTANT: If memory utilization is above 90%, open a case with Cisco Technical Support.

Table 1 Memory Utilization and Threshold Values

RAM	Size
Total Memory	32 GB (Platform 3) 16 GB (Platform 2)
Cisco Vision Director Cached Memory	10 GB
Memory Usage that Crosses the Alarm Threshold	14.5 GB

Disk Utilization

If disk utilization is above the threshold, the disk space is filling up. The disk might fill up from having a lot of backup files, proof-of-play files, or log files, in addition to your content.

[Table 2 on page 230](#) shows the total hard disk size and recommended minimum free space.

Table 2 Hard Disk Values

Disk Size	Size
Total Disk Size	320 GB
Minimum Free Space	15 GB

IMPORTANT: The Daily Backup task might consume the hard disk space limit, which can cause the system to fail in unexpected ways.

How to Manage Disk Utilization

This section includes the following topics:

- [Modifying File Retention Periods on the Cisco Vision Director Server, page 230](#)
- [Using the Event Viewer to Monitor Disk Alerts, page 231](#)
- [Deleting System Files, page 231](#)

Modifying File Retention Periods on the Cisco Vision Director Server

User Role: Installer (Administrator)

Cisco Vision Director allows you to define retention periods for backup and log files in the Text Utility Interface (TUI).

The default settings are:

- Backup files—One file. The backup retention policy can be modified to 2, 5, 7, or 10 files.
- Log files—15 days. The log retention policy can be modified to 5 or 10 days.

CAUTION: Track your overall disk utilization and the size of your backup content so the number of files that you want to keep can be supported by your system resources.

For more information about using the TUI, see the "[Cisco Vision Director Text Utility Interface](#)" module of the [Cisco Vision Director Server Administration Guide](#).

To modify the file retention periods:

Note: The retention policy must be changed on both the primary and secondary servers.

1. Log into the TUI.
2. Go to Vision Server Administration > Retention Policy.
3. Select the Backup/restore Files menu or the Log Files menu and type the letter for the retention period.

Using the Event Viewer to Monitor Disk Alerts

User Role: Administrator

If you have the Director Server enabled for monitoring (recommended), you can look for any alerts on the Director Server in the Service Alerts window in the Management Dashboard.

Disk space alerts are based on the disk alert thresholds set for the server.

To use the event viewer to monitor disk alerts:

1. Go to **Tools > Management Dashboard > Event Viewer** drawer > **All Events > System**.
2. In the Events panel, look for "DEGRADED" in the Sub Type column for the "Service Monitor" in the Source column.

Deleting System Files

User Role: Installer (Administrator)

You can use the TUI to remove the following types of system files:

- Log files
- System state reports
- ISO upgrade files
- Backup files

IMPORTANT: The TUI clean file options remove all instances of the selected file type.

For more information about using the TUI, see the [Cisco Vision Dynamic Signage Director Server Text Utility Interface](#) module of the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

To delete system files:

1. Log into the TUI.
2. Go to **Troubleshooting > Disk Monitoring > Delete Files**.
3. From the Delete Files menu, type the letter option for the file type that you want to delete.
4. At the prompt, confirm the removal.

Running Database Maintenance

User Role: Installer (Administrator)

Beginning in Cisco StadiumVision Director Release 4.1, the backup task can run even while an event script is running. As part of this change, the database is no longer optimized or repaired during the backup process—a new TUI option is added to run database maintenance manually, if needed.

One way to see if you might need to run database maintenance is to look at the backup log (/var/log/svd-config/backup-**YYMMddHHMMSSz**.log). If you see that the table updates are other than "OK" or not up-to-date, then run database maintenance.

Note: Slow performance is another possible sign that database maintenance is needed.

For more information about using the TUI, see the "[Cisco Vision Director Text Utility Interface](#)" module of the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

IMPORTANT: You must be sure to restart Cisco Vision Director software after maintenance is complete. The best practice is to shut down the Cisco Vision Director software **before** running database maintenance and then restart it after maintenance is complete. However, even if you did not shut down prior to running maintenance, you still must restart the Cisco Vision Director software.

To run database maintenance:

1. Log into the TUI.
2. (Recommended) Shut down the Cisco Vision Director software. From the main menu, go to: Cisco Vision Server Administration > Shutdown Dynamic Signage Director Software.
3. From the Cisco Vision Server Administration menu, select Database Maintenance ([Figure 4 on page 232](#)).

Figure 4 TUI Database Maintenance Option

```

Main Menu > Cisco Vision Server Administration

Please choose one of the following menu options:

a) Display Software Version
b) Upgrade Server
c) Restart Dynamic Signage Director software
d) Shutdown Dynamic Signage Director software
e) Setup automatic backup and restore
f) Re-Run CiscoVision initial configuration
g) Retention Policy
h) Database Maintenance
i) Clear Switch Host Keys
j) Failover
k) Setup Memory Profile
l) Reboot
m) Power Off
R or < or ,) Return to prior menu
  
```

4. At the confirmation prompt, press Y to start the process ([Figure 5 on page 232](#)).

Figure 5 Database Maintenance Confirmation Prompt

```

-----
Database Maintenance.
This will repair and optimize the database. Ideally, Cisco Vision Dynamic Signage Director should not be running to do this operation. Do you want to continue?
PRESS Y TO CONTINUE, PRESS N TO CANCEL
  
```

5. As the maintenance runs, the status of each table update is shown ([Figure 6 on page 233](#)).

Running Database Maintenance

Figure 6 Database Maintenance Table Updates

```

iapps_1.x_script_schedule      OK
iapps_1.x_scriptinstance      OK
iapps_1.x_services_in_servicetype OK
iapps_1.x_servicetype         OK
iapps_1.x_site                OK
iapps_1.x_site_user           OK
iapps_1.x_stagingassetinfo    OK
iapps_1.x_staginginfo         OK
iapps_1.x_state               OK
iapps_1.x_stateinstance       OK
iapps_1.x_suites_in_zone      OK
iapps_1.x_switch              OK
iapps_1.x_t_activescrypt      OK
iapps_1.x_t_activescrypt_destinations OK
iapps_1.x_t_activescrypt_runtime OK
iapps_1.x_t_activescrypt_siteids OK
iapps_1.x_t_current_dmp_status OK
iapps_1.x_t_multicast_routing_entry OK
iapps_1.x_t_multicast_routing_entry_sitemulticastlisteners OK
iapps_1.x_t_multicast_routing_entry_sitemulticastsenders OK
iapps_1.x_tag                 OK
iapps_1.x_template            OK
iapps_1.x_ticker              OK
iapps_1.x_tickercontent       OK
iapps_1.x_tomcat_roles        OK
iapps_1.x_tomcat_users        OK
iapps_1.x_trigger_history      OK
iapps_1.x_trigger_history_logentries OK

```

6. When database maintenance is complete, restart the Cisco Vision Director software.
7. From the TUI main menu, go to: **Cisco Vision Server Administration > Restart Dynamic Signage Director Software.**



Managing Media Player Operation in Cisco Vision Director

This module provides information about maintaining normal operation of your media players. It includes the following topics:

- [Information About the System Health Report, page 235](#)
- [Best Practices for Using the System Health Report, page 237](#)
- [How to Obtain the System Health Report, page 237](#)
- [Viewing Media Player Device Status, page 240](#)
- [Managing DMP Operation in Cisco Vision Director, page 241](#)
- [Replacing a Failed Media Player While an Event Script is Running, page 248](#)
- [Troubleshooting the Digital Media Players, page 249](#)

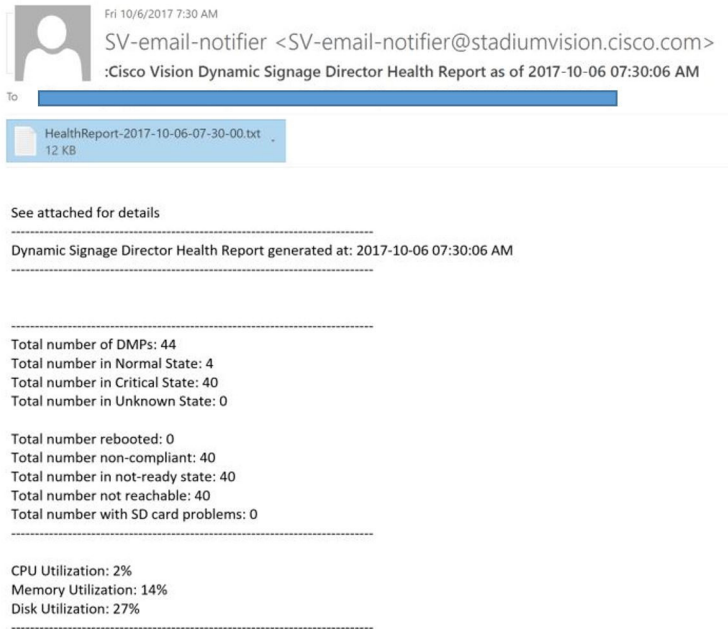
Information About the System Health Report

As a best practice, you should review the daily Vision health report to monitor and maintain the media players and overall health of the Cisco Vision Director system. This report runs automatically at 08:00 daily, and you can configure the system to send it to one or more email addresses.

[Figure 1 on page 236](#) shows a typical email notification for the Cisco Vision health report. In the email body, a summary of the report is provided, with the full report details provided in an attached .txt file.

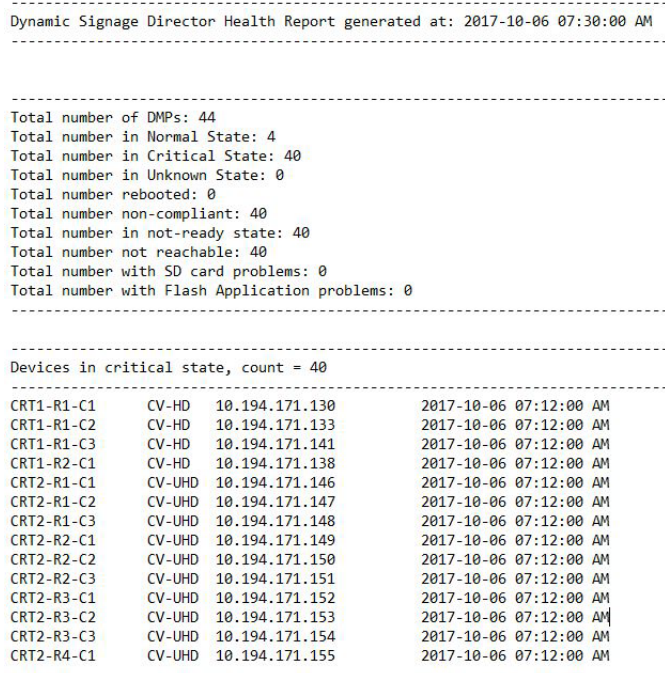
Information About the System Health Report

Figure 1 Sample Cisco Vision Health Report Email Notification



To see the details for the devices by category, open the text file attachment in the email. [Figure 2 on page 236](#) shows an excerpt of the device details report provided for the different status categories.

Figure 2 Cisco Vision Health Report Details (Excerpt)



Expand System Health Notification Report

The Daily health report will now include the status of various service endpoints described in HPMMonitoredServices.xml. The status can be anyone of the following - UNKNOWN, NORMAL, NONOPTIMAL, CRITICAL.

DSD server status: CPU, memory, storage utilization

In DailyHealthReport.java => generate(), the following snippet can be included:

Best Practices for Using the System Health Report

- Verify your system regularly to be sure that the Cisco Vision health report is being sent as expected:
 - Confirm your health report email configuration.
 - Check often with venue IT personnel that the SMTP server that is configured for the Cisco Vision health report is running normally.
- Review the Cisco Vision health report daily to monitor the media players and overall health of the Cisco Vision Director system.
- Investigate all of the devices reported in the "Devices in critical state" and the "Devices not reachable" sections.

Note: The device counts in these two sections are typically equal, but not necessarily.

- Inform the Event Manager about these devices.
- Investigate the affected devices and bring to Normal state. Replace if necessary.
- Do not ignore the devices reported in these sections. The media players almost always will be showing black screens on the TV displays.
- If you see that an unusual number of devices have recently rebooted, investigate further. This could be due to a power fluctuation issue in the edge switch, the edge switch itself was rebooted, or another issue caused a break in power supply to the affected devices.
- Non-compliant devices:
 - If you know that you normally have a certain number of devices in non-compliant state, then ignore this entry.
 - If the number of non-compliant devices is not what you expect, investigate and correct the issue(s).

How to Obtain the System Health Report

This section includes the following topics:

- [Configuring the System Health Report for Email Notification, page 237](#)
- [Modifying the Time of the System Health Report Task, page 238](#)
- [Running the System Health Report Task Manually, page 239](#)

Configuring the System Health Report for Email Notification

User Role: Administrator

How to Obtain the System Health Report

By default, Cisco Vision Director automatically runs a system health report at 08:00. However, email notification is disabled.

To configure the system health report for email notification:

1. Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Notification Settings > Email Settings**.
2. In the Configuration Property box, set the required properties shown in [Figure 3 on page 238](#).

Figure 3 System Health Report Configuration Properties

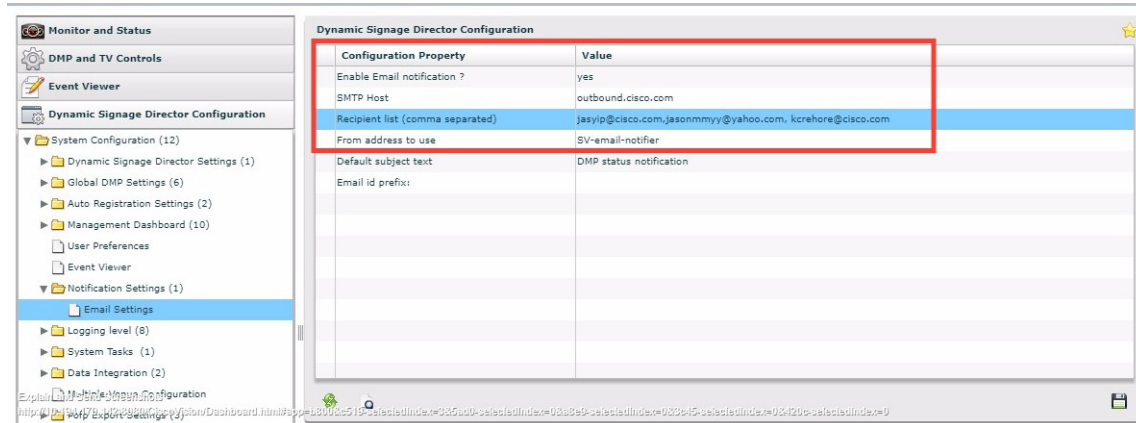


Table 1 on page 238 describes the properties and possible values.

Table 1 Email Notification Configuration Properties

Property	Values
Enable email notification?	Yes—Enables email notification. No—(Default) Disables email notification.
SMTP host	IP address or hostname of the SMTP email server for the venue. (If hostname is used, it must be resolvable by your network DNS server.)
Recipient list (comma separated)	Comma-separated list of email recipients to receive the report. (For example: email1@domain.com, email2@domain.com)
From address to use	(Optional) Email sender name. The default is "SV-email-notifier."
Default subject text	(Optional) Text to appear in the email subject field. The default is "Cisco Vision Health Report as of year-month-day hh:mm:ss am/pm."
Email id prefix:	(Optional) Prefix to use in the beginning of the email subject field. This can be used to organize email alerts from multiple customers or sites.

Modifying the Time of the System Health Report Task

User Role: Administrator

By default, Cisco Vision Director runs a system health report daily at 08:00.

How to Obtain the System Health Report

To modify the time of the system health report task:

1. Go to **Tools > Management Dashboard > Tools** drawer > **Advanced** tab > **Scheduled Tasks**.
2. In the Scheduled Task Data box, find the task named HPMReportTask.
3. Click in the Task Time column and specify the time (in 24:00 format) when you want the report to run.
4. Click **Apply**.

Figure 4 Changing the Health Report Time

Task ID	Task Type	Task Time	Servers
10	MulticastStateChange	periodic-5-seconds	control
13	HPMMonitorTask	periodic-180-seconds	config
14	HPMReportTask	07:30	config
15	HPMDMPCCommandTa	07:30	config
16	CleanupScriptInstanc	05:30	config

Running the System Health Report Task Manually

User Role: Administrator

To run the system health report task manually:

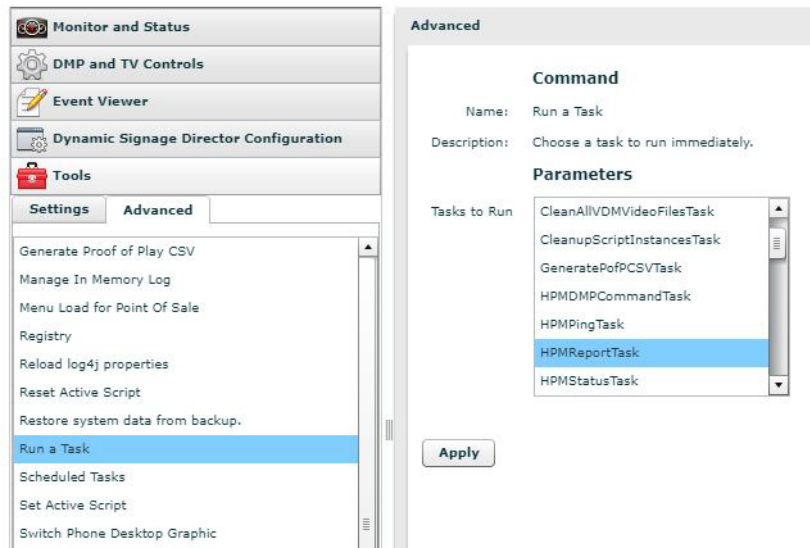
1. Go to **Tools > Management Dashboard > Tools** drawer > **Advanced** tab > **Run a Task**.

In the Tasks to Run box, select the **HPMReportTask** (see [Figure 5 on page 240](#)).

2. Click **Apply**.

Viewing Media Player Device Status

Figure 5 Run HPMReportTask Detail



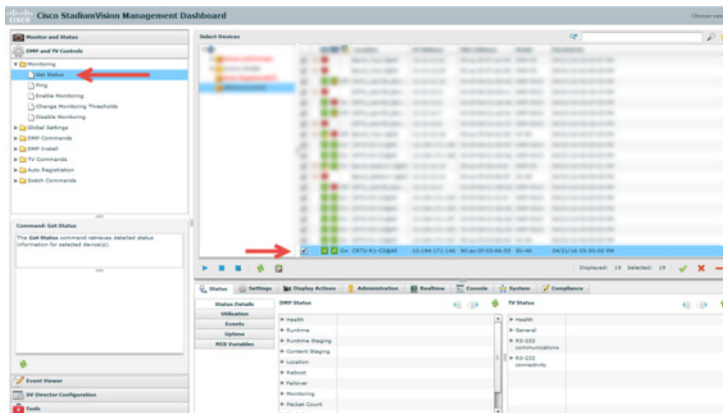
Viewing Media Player Device Status

User Role: Administrator / Help Desk / Support / Venue Administrator / Venue Operator

The Management Dashboard provides a number of levels and ways to obtain information about the status of your media player devices. This topic describes how to obtain detailed device status as shown in [Figure 6 on page 240](#).

IMPORTANT: Not all commands or display areas are supported for every digital media player. Therefore, some areas of the display might not report any information for a device. Also, under the Utilization tab, the CPU Usage reports an average load that is normally always between values of 0 and 1.

Figure 6 Management Dashboard Media Player Device Status



To view media player device status:

1. Go to **Tools > Management Dashboard > DMP and TV Controls > Monitoring > Get Status**.
2. In the Select Devices panel, select the devices that you want an updated status for.
3. To execute the command, click the play (>) button located at bottom left of the panel.
4. In the Device List panel, select the device that you want to verify.

5. Go to the device details area at the bottom of the panel and click **Status**.

Use the buttons on the Status panel to obtain more details about the media player as described in [Table 2 on page 241](#).

Table 2 Management Dashboard Status Panel Buttons

Button	Description
Status Details	Displays a combination of device details for both the media player and its associated TV displays.
Utilization	Displays media player-specific resource information such as CPU usage, memory, and disk storage.
Events	Displays system events that pertain to media players.
Uptime	Displays information about how long the device has been running.
MIB Variables	Displays internal settings for the media player.

Note: When using the `dmp.monitorPower` display parameter, you can run the **Get Status** command from the **Management Dashboard** to get the latest TV health status known to the DMP. This information can be up to two minutes old, or a few seconds depending on when the power query last ran. If the “`dmp.monitorPower`” parameter is set to false then you will not get the correct TV health status.

Managing DMP Operation in Cisco Vision Director

This section provides information about maintaining normal operation of your digital media players.

It includes the following topics:

- [Management Dashboard Commands for the Digital Media Player, page 241](#)
- [Performing a Regular Reboot of the Digital Media Players, page 246](#)
- [Clearing the Storage on the Digital Media Players, page 246](#)
- [Clearing Registries on the Digital Media Player by Restoring Factory Defaults, page 247](#)
- [Recovering SV-4K Operation After Server Power Loss, page 248](#)

Management Dashboard Commands for the Digital Media Player

This section provides a summary of the new and existing Management Dashboard commands that are supported by the digital media player.

- [Auto-Registration Commands for the Digital Media Players, page 243](#)
- [DMP Commands for the Digital Media Players, page 243](#)
- [DMP Install Commands for the Digital Media Players, page 243](#)
- [Global Settings Commands for the Digital Media Players, page 244](#)

- [Monitoring Commands for the Digital Media Player, page 244](#)
- [Switch Commands for the Digital Media Players, page 244](#)
- [TV Commands for the Digital Media Players, page 246](#)

Auto-Registration Commands for the Digital Media Players

Table 3 Management Dashboard Auto-Registration Commands

Command Name	Supported on DMPs
Change DMP State	Yes
Provision DMP	No

DMP Commands for the Digital Media Players

Table 4 Management Dashboard DMP Commands

Command Name	Supported on DMPs
Display IP	Yes
Restart Runtime	Yes
Disable DHCP	No
Enable DHCP	No
Disable HDMI Autodetection	No
Enable HDMI Autodetection	No
Disable Diagnostic Web Server	Yes
Enable Diagnostic Web Server	Yes
Reset Storage	Yes
Update MIB	No
Send RS232	Yes
Reboot Device	Yes
Play SWF	No
Stop SWF	No
Play Media URL	No
Stop Media URL	No
Set Alpha Transparency	No

DMP Install Commands for the Digital Media Players

Table 5 Management Dashboard DMP Install Commands

Command Name	Supported on DMPs
Firmware Upgrade	Yes (only for firmware upload; not to provision firmware)
Restore Default Settings	Yes
Initial Config	No
Stage Template	No
Initialize Touchscreen	No
Show Calibration	No
Setup NTP	No

Global Settings Commands for the Digital Media Players

Table 6 Management Dashboard Global Settings Commands

Command Name	Supported on DMPs
Global DMP Settings	No

Monitoring Commands for the Digital Media Player

Table 7 Management Dashboard Monitoring Commands

Command Name	Supported on DMPs
Get Status	Yes
Ping	Yes
Enable Monitoring	No
Change Monitoring Thresholds	No
Disable Monitoring	No

Switch Commands for the Digital Media Players

Table 8 Management Dashboard Switch Commands

Command Name	Supported on DMPs
Power Cycle DMP	Yes
Power On DMP	Yes

Command Name	Supported on DMPs
Power Off DMP	Yes
Run Cabling Test using TDR	Yes
Show TDR Test Results	Yes
Ping Test	Yes
Clear ARP Cache	Yes

TV Commands for the Digital Media Players

Table 9 Management Dashboard TV Commands

Command Name	Supported on DMPs
TV On	Yes
TV Off	Yes
Set Display Input	Yes
Set Display Banner	Yes
Set Closed Caption	Yes
Set Volume	Yes
Set Video Channel	Yes
Show Diagnostics	Yes
Hide Diagnostics	Yes
Show Diagnostics with Message	Yes
Show Custom Swf	No
Hide Custom Swf	No
Display PIN	Yes
Hide Channel Guide	Yes
Disable User Control	No
Enable User Control	No

Performing a Regular Reboot of the Digital Media Players

The **best practice** for maintaining normal operation of the digital media players is to perform a **weekly** reboot of the devices. The Task Note below says the *default value* for DMP rebooting is 2 weeks.

Note: The Cisco Vision Director reboot task applies globally to all media player devices.

For information about how to configure the Reboot DMP system task, see the [Task Note: Configure Reboot DMPs](#).

Clearing the Storage on the Digital Media Players

The DMPs have different sizes of solid-state storage:

- The SV-4K provides a minimum of 120 GB of solid-state storage, with 100 GB available for content.
- The DMP-2K provides 64 GB of solid-state storage.

If you begin to run out of storage or otherwise need to recover the SSD, you can clear the storage on the media player.

To find information about available storage, select a device in the **Management Dashboard** device list. Then, go to **Settings > Storage** in the device details area of the dashboard.

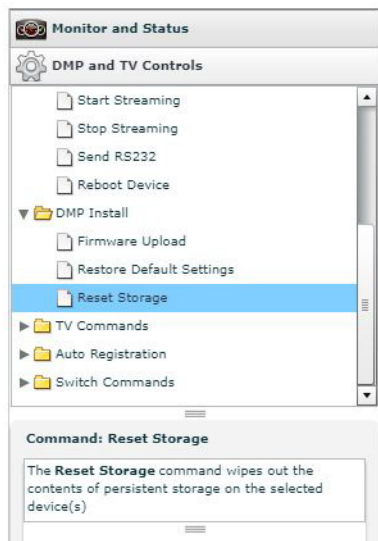
TIP: The HTML runtime must be running on the digital media player to use this task.

Beginning in Release 4.1, you also can find information about available storage if you view device details from thumbnail view in **Device Management**.

To clear the storage on the digital media player:

1. Go to **Tools > Management Dashboard**.
2. Select the devices that you want to clear.
3. Go to **DMP and TV Controls > DMP Install > Reset Storage** (Figure 7 on page 247).

Figure 7 Reset Storage Command



6. Click **Play**.
7. The contents of the SSD storage is removed (including the Cisco Vision Director runtime software and script contents) on the devices. The devices will not automatically reboot after this command.
8. Select **Reboot Device**.
9. Click **Play**. The selected devices reboot and reprovision firmware and settings.

Clearing Registries on the Digital Media Player by Restoring Factory Defaults

If you need to clear the registry settings on the DMP and re-provision the device, use the **Restore Default Settings** command.

To clear the registries on the media players:

1. Go to **Tools > Management Dashboard**.
2. Select the devices that you want to clear.
3. Go to **DMP and TV Controls > DMP Install > Restore Default Settings**.

Replacing a Failed Media Player While an Event Script is Running

4. Click **Play**.

Any persistent device settings on the DMPs are erased and the box will be in factory default state. The DMP automatically reboots and reprovisions its firmware and settings.

Recovering SV-4K Operation After Server Power Loss

User Role: Installer (Administrator)

If the Cisco Vision Director server should lose power while the SV-4K devices remain powered, you will need to recover the SV-4K devices after power is restored to the server.

To recover SV-4K operation after server power loss:

1. Restore power to the Cisco Vision Director server.
2. Reboot the SV-4K devices.

IMPORTANT: If for some reason you needed to restore the SV-4K operation to a new Cisco Vision Director server (not a failover operation), then change the DHCP server option 43, reconfigure the new server for auto-provisioning of the SV-4K, and reboot the SV-4K devices similar to a new deployment of the SV-4K devices. For more information, see the [Release 6.1: Cisco Vision Director Deployment Guide: Series 2 and Series 3 Media Players](#).

Replacing a Failed Media Player While an Event Script is Running

This task describes the steps to replace a failed media player with a new device that continues to follow the same script.

After replacement, the new media player should:

- Belong to the same groups and zones.
- Respond to the zone/group state actions.
- Display the same content as the media player it replaces.

To replace a failed media player while an event script is running:

1. Unplug the failed device and replace it with a new device.
2. Wait until auto-registration and provisioning completes, and the new device appears in the **Management Dashboard**.
3. From **Control Panel > Setup > Zones & Groups**, un-map the failed device from its Location, and map the new device to this Location.
4. From **Script Control**, manually stage content to the new device.
5. (For SV-4K only) From the **Management Dashboard**, go to:
 - a. **DMP and TV Controls > DMP Commands**
 - b. Run the **Restart Runtime** command for the new SV-4K device only.
6. Verify that the new device is showing the expected content.
7. Delete the failed device from Cisco Vision Director. This device will be named in the format "Unassigned-xx-xx-xx-xx-xx-xx", where xx-xx-xx-xx-xx-xx is the MAC address.

Troubleshooting the Digital Media Players

This section includes the following topics:

- [Before You Begin Troubleshooting the DMPs, page 249](#)
- [Troubleshooting PTP Operation for the Digital Media Players, page 249](#)
- [Troubleshooting DMP Hardware Operation, page 251](#)
- [Troubleshooting DMP TV and Video Display Problems, page 252](#)

Before You Begin Troubleshooting the DMPs

Before you begin troubleshooting the DMP, follow the information in these topics:

- [RMA Process for the DMPs, page 249](#)
- [DMP Diagnostic URL, page 249](#)

RMA Process for the DMPs

The Return Materials Authorization (RMA) process is covered by the Cisco Solution Support Service for Cisco Vision.

Before you open a Cisco Solution Support case for the DMPs:

1. Locate your symptom in the DMP troubleshooting topics and begin to isolate the problem by following the suggested troubleshooting steps.
2. If you cannot resolve the problem with any of the recommended troubleshooting steps, open a Cisco Solution Support case to further troubleshoot and coordinate the return process with the vendor.

DMP Diagnostic URL

Some of the troubleshooting steps for the DMP recommend that you open a browser and navigate directly to the device using the following URL to further diagnose a problem:

http://dmp-ip-address

The diagnostic URL requires a password for use. The password is set in the "defaultDmpAdminPwd" registry key in the Management Dashboard. The default username is "admin."

Be sure to reset the password from the default value as a security best practice.

CAUTION: Do not manually power off the DMP after changing the password. To change the DMP password, you must use the Power Cycle DMP switch command from the Management Dashboard to restart the device properly. To use this command, be sure that you have imported the switch data first.

Note: This password is also used for the Diagnostic Web Server (DWS).

Troubleshooting PTP Operation for the Digital Media Players

This section identifies some of the symptoms related to problems with PTP operation:

- [Symptom: Local PNGs are not synchronized across devices, page 250](#)
- [Symptom: Playlists do not advance to the next content item on the DMPs, page 250](#)

Symptom: Local PNGs are not synchronized across devices

Troubleshooting steps:

1. Verify the PTP configuration on your devices: Go to **Management Dashboard > Dynamic Signage Director Configuration > Global DMP Settings > SV-DMP Common Settings**.

Verify that the PTP domain and PTP master candidates property configuration is correct for your network.

2. Open your browser and navigate to one of the devices:

http://sv4k-ip-address/ptp.html

3. Enter the username and password.

Note: The password policies changed. Follow the rules to log in to Cisco Vision Director. See the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

4. Look for the message "PTP is not enabled."

This message might mean that the device was not rebooted after changes to the Management Dashboard settings.

5. If the message appears, reboot the device.

Symptom: Playlists do not advance to the next content item on the DMPs

If the current PTP master becomes unreachable (shuts down, or becomes unreachable on the network), the PTP members will be unable to update their clocks and this condition will occur.

Troubleshooting steps:

1. Verify the PTP configuration on your devices: Go to **Tools > Management Dashboard > Dynamic Signage Director Configuration > Global DMP Settings > SV-DMP Common Settings**

2. Verify that the PTP domain and PTP master candidates property configuration is correct for your network.

3. Open your browser and navigate to one of the devices:

http://sv4k-ip-address/ptp.html

4. Enter the username and password.

Note: The password policies changed. Follow the rules to log in to Cisco Vision Director. See the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

5. Identify the PTP master by finding the unit that has an "offsetFromMaster" value of 0.0 ([Figure 8 on page 251](#)).

Figure 8 Identify the PTP Master

PTP clock status

```

Status from local PTP:
sending: GET CURRENT_DATA_SET
90ac3f.ffff.03864a-0 seq 0 RESPONSE MANAGMENT CURRENT_DATA_SET
  stepsRemoved 0
  offsetFromMaster 0.0 ←
  meanPathDelay 0.0

Status from remote PTP devices:
sending: GET CURRENT_DATA_SET
90ac3f.ffff.038637-1 seq 0 RESPONSE MANAGMENT CURRENT_DATA_SET
  stepsRemoved 1
  offsetFromMaster 2997.0
  meanPathDelay 15377.0
    
```

6. Ping the master PTP device.
7. If the master is not reachable and you have configured alternate masters but they are not reported as master after waiting for a minute, reboot one of the reachable PTP master candidates.

Note: Identifying the alternate master for this step can more easily be done if you are explicitly identifying the IP address of alternate masters, and not using the "*" wildcard to specify possible election of any device on the network.

8. If a device shows that it has not synchronized, reboot the device to force synchronization.

Troubleshooting DMP Hardware Operation

This section identifies some of the symptoms related to problems with the digital media player hardware:

- [Symptom: "Please Insert Card" message on SV-4K or DMP-2K startup screen, page 251](#)
- [Symptom: Pwr and Eth LEDs are not lit and no signs of activity on the device, page 251](#)
- [Symptom: Device Err or Err/Upd LEDs blinking, page 252](#)
- [Symptom: DMP rebooting automatically after startup, page 252](#)

Symptom: "Please Insert Card" message on SV-4K or DMP-2K startup screen

Troubleshooting steps:

1. Verify that an IP address is assigned to the device.
2. Verify proper DHCP Option 43 configuration.
3. Verify that the Cisco Vision Director server is running and reachable.
4. Contact Cisco Technical Support to do further troubleshooting and proceed with RMA process.

Symptom: Pwr and Eth LEDs are not lit and no signs of activity on the device

Troubleshooting steps:

1. Verify any visible damage to the Ethernet port on the device.
2. If there is not any visible port damage on the device:
 - a. Connect a 12V 5A power supply to the media player to confirm startup and normal operation.

- b. Replace the Ethernet cable.
- c. Connect the media player to a known-working switch port for another device.
- d. Verify the POE+ settings on the switch.

TIP: If you have imported the switch settings to Cisco Vision Director, you can view the POE+ settings.

Go to **Tools > Management Dashboard > Tools** drawer > **Settings** tab > **Switch Management > View Switch Details**.

Power normally displays " 29.5" for the device after LLDP negotiation with the switch.

- e. If none of these steps locate the problem, contact Cisco Technical Support to proceed with the RMA process.

Symptom: Device Err or Err/Upd LEDs blinking

Troubleshooting steps:

1. Refer to the LED documentation.
2. Troubleshoot according to the description of the problem.

Symptom: DMP rebooting automatically after startup

Troubleshooting steps:

1. Verify whether multiple devices are doing an auto-reboot.
2. If multiple devices are automatically rebooting at startup:
 - a. Verify that the devices are obtaining an IP address. If the devices are not getting an IP address (" Unable to get IP address" message on the TV display), verify communication to the DHCP server.
 - b. Verify proper DHCP Option 43 configuration.
3. If the DMP stays at the loading screen with the progress bar, verify communication with the Cisco Vision Director server.
4. (Advanced) Verify that an HTTP request comes in to the /var/log/httpd/access_log (use the System State Report [SSR]).

Look for a message like the following:

```
10.194.169.242 - - [13/Oct/2014:13:10:05 -0700] " GET /CiscoVision/dmp_v4/scripts/boot.brs HTTP/1.1" 200
89403 "-" "-"
```

Troubleshooting DMP TV and Video Display Problems

This section identifies some of the symptoms related to problems with the DMP displays:

- Symptom: Black screen on the DMP TV display/no multicast video stream, page 252
- Symptom: No local control when external volume strategy configured, page 253

Symptom: Black screen on the DMP TV display/no multicast video stream

Troubleshooting steps:

1. Verify if multiple TV displays are showing a black screen for the same multicast video stream.

2. If multiple TV displays are showing a black screen for the same multicast stream:
 - a. Verify the media player LEDs.
 - b. If the LEDs are in normal state, verify that the Cisco Vision Director server has power and is reachable.
 - c. If all TV displays are the same and/or new model, test with a different, known-working TV display model.
 - d. (Advanced) Test with laptop connected to the same switch port/interface as the device with a problem, and see if the problematic video stream can be displayed using the open source VLC player.
 - e. Test a different multicast video stream.
 - f. Test with local video content. If local video works, troubleshoot video headend and/or other network problems.
 - g. Confirm video output setting on the DMP using a browser to go to: **http://sv4k-ip-address**.
3. If the problem can be isolated to a DMP device:
 - a. Verify that the Pwr/Eth LEDs are on.
 - b. Try a different HDMI cable.
 - c. Test a different TV display.
 - d. (Advanced) Test with laptop connected to the same switch port/interface as the DMP with a problem, and see if the problematic video stream can be displayed using the open source VLC player.

Symptom: No local control when external volume strategy configured

Troubleshooting steps:

1. Is the RS-232 cable connected? Verify the cable connections.
2. Verify the serial cable type being used against the RS-232 requirements for the TV display (null modem [crossover] or straight through).
3. Verify that the external output strategy works on other TV displays.
4. Verify the RS-232 codes from the manufacturer against the TV display specifications in Cisco Vision Director.



Managing Backups in Cisco Vision Director

This module includes the following topics:

- [Information About Backups, page 255](#)
- [How to Manage Backups, page 256](#)
- [How to Restore From Backup, page 261](#)

Information About Backups

This section includes the following topics:

- [Backup Environment, page 255](#)
- [What System Data is Backed Up, page 255](#)
- [When to Run a Backup, page 256](#)

Backup Environment

While you can run a backup for a network environment where there is only a single Cisco Vision Director server, the recommended environment that is described in this document is a redundant environment for either Platform 2 or Platform 3 servers or a virtualized environment. In a redundant environment, you are running Cisco Vision Director on a primary server, with a secondary server connected to the same subnet where the backup data from the primary server is saved.

The backup process can be scheduled and also run manually. When a backup is completed, the CMS is automatically restarted.

What System Data is Backed Up

There are several areas of Cisco Vision Director that need to be backed up. The backup process backs up the following areas of the Cisco Vision Director server:

- Cisco Vision Director Content Management System (CMS)
- Cisco Vision Director database
- Cisco Vision Director system configuration files
- Content Integration data
- Dynamic Menu Board data (including GAR files)

CAUTION: The Proof of Play raw data in the `/var/sv/pofp/rawdirectory` is *not* backed up.

- Proof of play report data in the `/var/sv/pofp/data` directory

When to Run a Backup

You should run a manual backup whenever you perform any of the following tasks:

- Add/modify the Channel Guide
- Content update (menu board, L-Wrapper) JPG, SWF, and so on
- Add/modify zones and groups
- Add /modify DMP and phone
- Add/modify Luxury Suite
- Update Management Dashboard registry
- Update Control Panel

CAUTION:

1. **Stop any running script before starting a manual backup.**
2. **Do not start a game/event script during a backup.**
3. **Do not operate the Cisco Vision Control Panel / Management Dashboard until the backup is complete.**

How to Manage Backups

This section includes the following topics:

- [Prerequisites for Running Backups, page 256](#)
- [Best Practices for Managing Backups, page 256](#)
- [Scheduling a Regular Backup, page 257](#)
- [Starting a Backup Manually for Immediate Execution, page 257](#)
- [Verifying Backup Completion, page 258](#)
- [Modifying the Number of Backup Files to Retain, page 261](#)

Prerequisites for Running Backups

Note: Configure the primary and secondary servers for backup operation as part of the initial server setup. For more information about configuring the servers for backup, see [Backing Up and Restoring Cisco Vision Dynamic Signage Director Servers, page 63](#) in the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

Before you can run backups, meet the following conditions:

- The backup account has been enabled on the secondary server
- The primary server has been set up for automatic backup and restore

Best Practices for Managing Backups

- Perform a manual system backup prior to starting the game script.
- Back up all components (highly recommended).
- Stop the active game/event script from the Management Dashboard before starting the manual backup.

Information About Backups

- In Cisco StadiumVision Director Release 4.1 and later releases, the backup task can run even while an event script is running. As part of this change, the database is no longer optimized or repaired during the backup process—a new TUI option is added to run database maintenance manually if needed.
- Do not operate the Cisco Vision Director **Control Panel** or **Management Dashboard** until the backup is complete.

Scheduling a Regular Backup

User Role: Administrator

After you have configured the servers to support the backup process, schedule backups using the Management Dashboard in the Cisco Vision Director software.

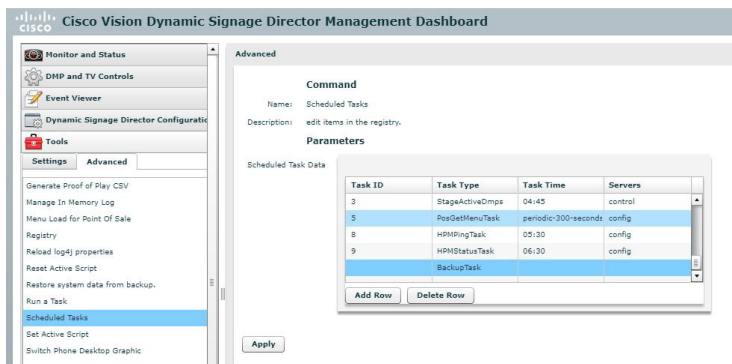
Note: We recommend that you schedule backups while the Cisco Vision Director servers are not actively running scripts or performing other event processing.

To configure a backup to run on a regular schedule:

1. Go to **Tools > Management Dashboard > Tools** drawer > **Advanced** tab > **Scheduled Tasks**.
2. Click **Add Row** and scroll to the new blank line.
3. Click in the Task Type column and type **BackupTask** (Figure 1 on page 257).

Note: Type the name of the task exactly as shown with upper and lowercase characters.

Figure 1 Scheduling a Regular Backup Task



4. Click in the Task Time column and specify the time (in 24:00 format) when you want the backup to run.
5. Click in the Servers column and type **config**.
6. Click **Apply**.

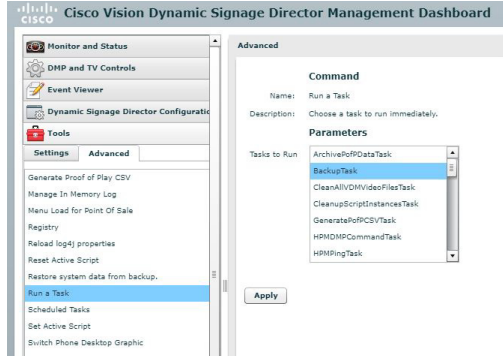
Starting a Backup Manually for Immediate Execution

User Role: Administrator

If you want to start a backup immediately, run a backup process manually.

To start a backup manually for immediate execution:

1. Go to **Tools > Management Dashboard > Tools** drawer > **Advanced** tab > **Run a Task**.
2. In the Tasks to Run box, select the **BackupTask** (Figure 2 on page 258).

Figure 2 Running a Scheduled Backup Task Manually**3. Click **Apply**.**

The backup begins immediately. When completed, the CMS is automatically restarted.

IMPORTANT: The “success” message that appears means the backup task has started. It does **NOT** mean the backup task has completed.

Verifying Backup Completion

User Role: Administrator

To verify backup completion, confirm that a backup file exists and that no errors appear in the log file.

Verifying That a Backup File Exists

IMPORTANT: Verifying the existence of a backup file only tells you that a backup file was attempted but not necessarily if there were any errors.

To verify that a backup file exists:

1. Go to **Tools > Management Dashboard > Tools drawer > Advanced tab > Restore system data from backup**
2. Verify that backup files with dates and times appear.

Finding Backup Errors in the Log File

IMPORTANT: Be aware that the messages “Starting backup” and “Backup completed” will always appear in the log, regardless of success.

You can access log files in the following ways:

- TextUtility Interface (TUI).
- System State Report. Go to **Tools > System State Report**.
- By running `grep -i backup sv_dev_debug.log` (requires root access). [Figure 3 on page 260](#) shows an example of log output for a successful backup without errors.

To find backup errors in the log file:

1. Open the `/opt/sv/servers/config/logs/sv_dev_debug.log` file.
2. In the `sv_dev_debug.log` file, find messages that include the string “com.cisco.sv.backup.”

These are the backup process messages.

3. Find the “Starting backup” message.

Information About Backups

4. After the “Starting backup” message (but before the “Backup completed” message), look for a “com.cisco.sv.backup” message that also includes “ERROR” in the string.

If you find this error, the backup did not complete successfully.

Figure 3 Successful Backup Log Output Example From Grep

```

grep -i backup sv_dev_debug.log

2015-01-23 14:18:41.254 [TP-Processors] 33024@sv_admin DEBBUG com.cisco.sv.backup.BackupTask - get parameters: Tasks to Run: BackupTask
2015-01-23 14:18:41.256 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupTask - Initiating backup task.
2015-01-23 14:18:41.256 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Starting backup.
2015-01-23 14:18:41.274 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Running hook /opt/vm/scripts/backup_sv/prebackup.sh
2015-01-23 14:18:42.417 [DefaultQuartzScheduler_Worker-3] DEBUG process.ProcessMonitor - Response starts Post Backup script started.
Post Backup script finished.
2015-01-23 14:18:42.417 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - /opt/vm/scripts/backup_sv/prebackup.sh response | Post Backup script started.
Post Backup script finished.
2015-01-23 14:18:42.456 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupPolicyDataCallable - Entering Policy Data File backup process
2015-01-23 14:18:42.456 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Beginning DB backup for user menu in database sv_menu
2015-01-23 14:18:42.460 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - awaiting executor termination
2015-01-23 14:18:42.463 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupCMCallable - Starting CM process
2015-01-23 14:18:42.461 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Beginning DB backup for user apps in database isapp_1
2015-01-23 14:18:42.466 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDB - mysql backup process, db-isapp_1 destination /var/vm/BACKUP/mysql-isapp_1-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:42.466 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDB - mysql backup process, db-sv_menu destination /var/vm/BACKUP/mysql-sv_menu-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:47.533 [TP-Processors] 41834@sv_admin INFO com.cisco.sv.backup.BackupManager - GetTarSIDs - GetTarSIDs: tar -cP /var/vm/BACKUP/svContent/20150123141842-0800.tar.gz CONTENT
2015-01-23 14:18:48.629 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:48.629 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of sv_menu result | return code: 0
2015-01-23 14:18:48.631 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupConfigFiles - Beginning file backup process for /etc
2015-01-23 14:18:48.631 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - svns backup skipping non-readable file /directory /opt/vm/vars/control/issapp/upgrade
2015-01-23 14:18:48.631 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - svns backup skipping non-readable file /directory /opt/vm/vars/control/issapp/upgrade
2015-01-23 14:18:48.631 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - svns backup skipping non-readable file /directory /etc/hosts
2015-01-23 14:18:49.687 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts
2015-01-23 14:18:49.687 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:49.689 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of isapp_1 result | return code: 0
2015-01-23 14:18:49.689 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupContentFiles - Beginning file backup process for /etc
2015-01-23 14:18:51.975 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupCMCallable - Response from backup call is <contentID1> <contentID2> - svpFilename=/var/vm/BACKUP/svContent/20150123141842-0800.tar.gz/vpFilename -<contentID1> <contentID2> <contentID3>
2015-01-23 14:18:51.975 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupCMCallable - Finished content backup process, status=200 zip name /var/vm/BACKUP/svContent/20150123141842-0800.tar.gz
2015-01-23 14:18:51.976 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Beginning DB backup for user menu in database sv_menu
2015-01-23 14:18:51.980 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDB - mysql backup process, db-sv_menu destination /var/vm/BACKUP/mysql-sv_menu-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:52.053 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts
2015-01-23 14:18:52.053 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:52.054 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupPolicyDataCallable - Finished Policy Data backup process, result code=0 response |
2015-01-23 14:18:52.059 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Beginning DB backup for user apps in database isapp_1
2015-01-23 14:18:52.062 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDB - mysql backup process, db-isapp_1 destination /var/vm/BACKUP/mysql-isapp_1chedule-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:52.492 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts
2015-01-23 14:18:52.492 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:52.492 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of isapp_1 result | return code: 0
2015-01-23 14:18:52.494 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupContentFiles - Beginning file backup process for /etc
2015-01-23 14:18:52.496 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDB - mysql backup process, db-isapp_policy destination /var/vm/BACKUP/mysql-isapp_policy-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:53.537 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts
2015-01-23 14:18:53.537 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:53.537 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of isapp_policy result | return code: 0
2015-01-23 14:18:53.538 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Beginning DB backup for user cms in database svcms
2015-01-23 14:18:53.540 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDB - mysql backup process, db-svcms destination /var/vm/BACKUP/mysql-svcms-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:54.362 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts
2015-01-23 14:18:54.362 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:54.362 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of sv_menu result | return code: 0
2015-01-23 14:18:54.362 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of sv_menu result | return code: 0
2015-01-23 14:18:54.362 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDB - Mysql dump of svcms result | return code: 0
2015-01-23 14:18:54.366 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts /etc/hosts/mysql
2015-01-23 14:18:54.366 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:18:54.366 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupConfigFiles - Finished /etc/gpg process for /etc to /var/vm/BACKUP/svns-4.0.0.356-20150123141842-0800.tar.gz. Response |
/var/vm/daily/learnbackups.sh
2015-01-23 14:13:38.000 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts /opt/vm/Erreg/images/
2015-01-23 14:13:38.001 [BackupManager-ThreadPool] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response code 0
2015-01-23 14:13:38.001 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupContentFiles - Finished /etc/gpg process for /etc to /var/vm/BACKUP/svns-4.0.0.356-20150123141842-0800.tar.gz. Response |
2015-01-23 14:13:38.003 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - awaiting executor termination completed. [gp=/var/vm/BACKUP/pof/pfns-4.0.0.356-20150123141842-0800.tar.gz, mv=/var/vm/BACKUP/mv/20150123141842-0800.sql.gz, db=/var/vm/BACKUP/mysql-isapp_1-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/svContent/20150123141842-0800.tar.gz, sv=/var/vm/BACKUP/svContent/20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-isapp_1chedule-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-isapp_policy-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-svcms-4.0.0.356-20150123141842-0800.sql.gz]
2015-01-23 14:13:38.003 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Running hook /opt/vm/scripts/backup_sv/postbackup.sh
2015-01-23 14:13:38.050 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts Post Backup script started.
Post Backup script finished.
2015-01-23 14:13:38.050 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - /opt/vm/scripts/backup_sv/postbackup.sh response | Post Backup script started.
Post Backup script finished.
2015-01-23 14:13:38.050 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Backup results are [gp=/var/vm/BACKUP/pof/pfns-4.0.0.356-20150123141842-0800.tar.gz, mv=/var/vm/BACKUP/mv/20150123141842-0800.sql.gz, db=/var/vm/BACKUP/mysql-isapp_1-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/svContent/20150123141842-0800.tar.gz, sv=/var/vm/BACKUP/svContent/20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-isapp_1chedule-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-isapp_policy-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-svcms-4.0.0.356-20150123141842-0800.sql.gz]
2015-01-23 14:13:38.050 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Tar command is /bin/tar -cP /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar.gz /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.sql.gz mysql-isapp_1chedule-4.0.0.356-20150123141842-0800.sql.gz mysql-svcms-4.0.0.356-20150123141842-0800.sql.gz pof/pfns-4.0.0.356-20150123141842-0800.tar.gz
2015-01-23 14:13:54.572 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Response started file response |
2015-01-23 14:13:54.633 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts /bin/32bit/72766995/548508028 /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
2015-01-23 14:13:54.633 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - getMdfsum computed checksum of /bin/32bit/72766995/548508028 /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
2015-01-23 14:13:54.634 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Writing checksum file to /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.csum message /bin/32bit/72766995/548508028 /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
2015-01-23 14:13:54.641 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Starting copy to secondary process to backup@10.124.170.243
2015-01-23 14:13:58.676 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.off.process.ProcessMonitor - Response starts @ftp of backup
@ftp -put /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
Uploading /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar to /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
@ftp -put /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.sql.gz /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.sql.gz
@ftp -put /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.sql.gz /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.sql.gz
@ftp -put /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
Uploading /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar to /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.tar
@ftp -put /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.csum /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.csum
Uploading /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.csum to /var/vm/BACKUP/sv-4.0.0.356-20150123141842-0800.csum
2015-01-23 14:13:58.985 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Sent event ["sv","svSource"].
["svSource","sv","svType","BACKUP","svSource","NOTIFICATION","taskName","com.cisco.sv.backup.BackupManager","svSource","23-Jan-2015 14:13:58","svType","SVTBM","svSource","/var/vm/BACKUP/pof/pfns-4.0.0.356-20150123141842-0800.tar.gz, mv=/var/vm/BACKUP/mv/20150123141842-0800.sql.gz, db=/var/vm/BACKUP/mysql-isapp_1-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/svContent/20150123141842-0800.tar.gz, sv=/var/vm/BACKUP/svContent/20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-isapp_1chedule-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-isapp_policy-4.0.0.356-20150123141842-0800.sql.gz, sv=/var/vm/BACKUP/mysql-svcms-4.0.0.356-20150123141842-0800.sql.gz"]
2015-01-23 14:13:58.985 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Backup completed.

```

Modifying the Number of Backup Files to Retain

User Role: Installer (Administrator)

To reduce the amount of disk storage required in your system, the default backup retention policy is to keep one backup file. This retention policy can be modified to retain 2, 5, 7, or 10 backup files.

For more information, see the [Backing Up and Restoring Cisco Vision Dynamic Signage Director Servers, page 63](#) module in the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

How to Restore From Backup

Once the primary and secondary servers have been configured for automatic backup and restore, the Cisco Vision Director software automatically copies backup files between the primary and secondary servers.

When the restore process starts, the MD5 checksum of the file is verified. If for some reason you need to manually copy files between the servers, be sure that you copy both the .tar and .chksum files because the restore process automatically uses both files to verify the MD5 signature.

Note: If you need to failover to the secondary server and do a restore, follow the procedures in the [Configuring Failover Between Redundant Cisco Vision Dynamic Signage Director Servers, page 75](#) in the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

This section includes the following topics:

- [Starting a Restore Manually for Immediate Execution, page 261](#)
- [Restarting Cisco Vision Director Software After a Restore, page 262](#) (Required)

Starting a Restore Manually for Immediate Execution

User Role: Administrator

As with backups, you can schedule the restore process or run it manually. When the manual restore screen is displayed, it lists backups from both the backup and restore directories, concatenated together. This allows you to run a manual restore on either the primary or the secondary server.

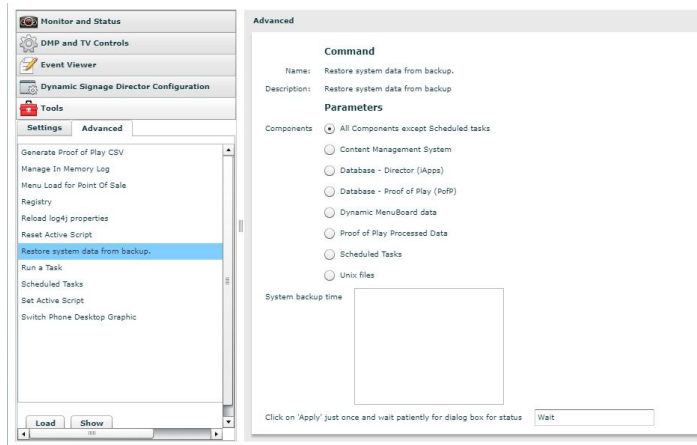
CAUTION: You cannot run a restore while an event script is running. Also, if your venue was running an event script when the backup took place, then those scripts will be running after the restore.

An automated restore always uses the most recent backup file in the restore directory.

To start a restore manually for immediate execution:

1. Go to **Tools > Management Dashboard > Tools** drawer > **Advanced** tab > **Restore system data from backup**.
2. For Components, select **All components except Scheduled tasks** ([Figure 4 on page 262](#)).

Figure 4 Running a Restore Task Manually



3. (Optional) If you do not want to restore the latest backup (the default), then in the " System backup time" box, select the date and time of the backup file that you want to restore instead.

4. Click **Apply**. The restore begins immediately.

Note: If you need to also restore the scheduled tasks, you can rerun the Restore system data from backup and for Components, select Scheduled Tasks.

What to Do Next After Restoring

After the restore completes, restart the Cisco Vision Director software. For more information, see [Restarting Cisco Vision Director Software After a Restore, page 262](#).

Restarting Cisco Vision Director Software After a Restore

User Role: Installer (Administrator)

After you perform any restore on a Cisco Vision Director server, you must restart the Cisco Vision Director software to resume normal operation of the services.

For more information about using the TUI, see the [Cisco Vision Dynamic Signage Director Server Text Utility Interface, page 89](#) module of the [Cisco Vision Administration Guide: Dynamic Signage Director, 6.1](#).

To restart the Cisco Vision Director software:

1. Log into the TUI.
2. Go to **Cisco Vision Server Administration > Restart Dynamic Signage Director software**.



Glossary of Terms

3

3-region L-wrapper template

Fixed screen template provided by Cisco Vision Director to support the display of one video region and two non-video regions. The dimensions of the 3-region Lwrapper template cannot be customized.

A

album

A collection of one or more files of a common content type in an SSC user workspace.

asset

Any digital content that can be added to a playlist or script such as still images, videos, and external URL addresses to aid in creating channels, templates and widgets for your script design.

Asset Library

New feature application providing management of assets (content) in Cisco Vision Director.

B

Batch target

A special target that lets you build and/or publish multiple other targets in a single group (or "batch"). You can schedule batches to run at any time.

Block snippet

A snippet that is created out of one or more paragraphs.

C

category

Label that you can assign to an SSC album to abstract its contents and identify its purpose for selection in a script later by an administrator or content manager, without having to know specific album names.

CEC

Consumer Electronics Control—A feature of HDMI designed to allow users to command and control devices connected through HDMI by using only one remote control.

Cisco store

Collection of manually entered retail items that are not part of a POS system for use on menu boards in the DMB application. Cisco stores consist of family groups, major groups, and items.

Condition tag

A marker that you can apply to different areas of your content so that some sections show up in some of your outputs but not in others.

content

Digital media that is presented on a TV display using a media player in Cisco Vision Director.

Cross-reference

A navigation link that lets you connect text in one topic to another topic (or a bookmark within a topic). Cross-references let you create "automated" links that are based on commands you provide. This allows you to keep links consistent and change them in just one place by using the "xref" style.

D

display specification

Set of TV display criteria and commands that are configured to ensure proper communication between the media player and the TV in the Cisco Vision Director Control Panel.

Drop-down text

A feature that lets you "scrunch up" content in your topic. The content is expanded (and therefore displayed) when the end user clicks a link.

E

event script

Sets where and when the advertisements, video, and graphics will be displayed in the stadium and on a TV display. The event script is typically organized by a timeline of moments in a game or event, called event states, such as pre-game, first quarter, halftime, and game end.

event state

A point in an event script when content changes. Event states generally correspond to a timeline of moments in a game or event (such as pre-game, in-game, post-game, and so on) and define specific actions for a group and zone to perform in sequence during an event. There are two basic types of event states: sequential and adhoc.

F

family group

Entity in a Cisco store in the DMB application that corresponds to the top level options on the menu such as Food, Beverages, Merchandise.

Flash content

Low-motion graphics that are used to enhance advertisements, welcome messages, menu boards, or directional signage for crowds. This type of content is stored locally on the the Cisco DMP 4310G.

Flash template

An Adobe Shockwave Flash (SWF) file that runs only on Cisco DMP 4310Gs as part of the Cisco Vision Director software. It is used for framing and displaying the ad graphics and video on the TV. The canvas size of the template is 1920x1080.

Footnote

A comment that is used to explain a specific area of the text. Both the area in the text and the comment contain a number or symbol that ties the two together. A footnote (or endnote) comment can be placed at the end of a page, document, chapter, section, or book.

full screen templates

Standard templates provided in Cisco Vision Director to display either full-screen video or full-screen graphics in a fixed 1920x1080 region. The dimensions of the full screen templates cannot be customized.

G**gadget**

An Adobe Shockwave Flash (SWF) file in the Cisco Vision Director software that provides communication between an application portlet (such as for the DMB application) and the DMP 4310G, and controls what is displayed on the TV through the DMP.

GAR file

A simple Java jar archive file that contains the XML, flash, and image files, as well as other information that Cisco StadiumVision Director server needs to deploy a menu board using the DMB application and make it available on the Cisco DMP 4310G.

group

Subset of a zone that defines a collection of devices (DMPs) that all display the same content, using the same template. Groups consist of a set of locations in the hierarchy of zones, groups, and locations.

L**location**

Subset of a group that defines a specific place in the venue where devices (DMPs) reside. Locations are the most granular level in the hierarchy of zones, groups, and locations. A location consists of the physical location and display type, as well as the DMP associated with the location and display.

M

Main Menu

Landing page screen (after log-in) in Cisco Vision Dynamic Signage Director 6.0 release. This screen is dependent on user role privileges.

P

playlist

A series of content items (static images, video, widgets) that are grouped together to display in sequential order (one-after-the-other) in a given region for a set duration and then repeat. Each playlist runs independently of other playlists, and multiple playlists can be run in any given event script.

POS store

A point-of-sale store is a collection of items that are configured through integration with a POS system in the DMB application, such as Micros or Quest, which determines the availability, content, and pricing of menu items for sale.

proxy DMP

A DMP with type "Location With Network" that can be set up as a proxy of another location in the venue so that you can view what is going to be displayed on a TV. This helps you to verify that the proper content is assigned for a particular group and location. It is only supported on the Cisco DMP 4310G.

R

RBAC

Role-Based Access Control. Facility in the Cisco Vision Director software that determines which software functions are accessible by defined user roles in the system.

S

scaling

Scaling refers to support of two things: 1) Stretching of the content. 2) Showing only a portion of the content per display in a multi-screen video wall.

screen template

Defines the video and non-video regions and layout of a DMP display. Screen templates are used to create various layouts for the presentation of different types of content. Screen templates are assigned to zones or groups and apply to all locations within them.

sequential state

A state that is associated with a period of time in an event script that can be controlled manually or by a timer.

Single-sourcing

"Single-sourcing" is a fancy term that means something very simple—to produce multiple outputs from one source.

Snippet

A pre-set chunk of content that you can use in your project over and over. Snippets are similar to variables, but snippets are used for longer chunks of content that you can format just as you would any other content in your topic. In snippets, you can also insert tables, pictures, and whatever else can be included in a normal topic.

Span

A tag that is used to group inline elements to format them with styles. A span tag doesn't perform any specific action; it simply holds the attributes (e.g., font size, color, font family) that you apply to inline content.

SSC

Self-Service Content. Feature that provides a way for business users from a variety of functional areas at a venue to independently upload custom content directly to the Cisco StadiumVision Director server and assign it to suites and devices for later presentation. SSC operates as an independent portal for content upload to Cisco StadiumVision Director.

staging content

Pre-positioning and uploading content that is active for a given event script to the media players.

staging Flash template

Uploading the Flash template application (a .swf file) that runs only on the Cisco DMP 4310G. This must be done whenever new Cisco DMPs are installed or when the Flash template application is modified, such as upon upgrade of the Cisco StadiumVision Director software.

static graphics

Images used for advertisements or informational messages that do not require motion. Static graphics are stored locally in Flash memory on the Cisco DMP 4310G.

stores

Collections of items that can be linked to appear on one or more menu boards in the DMB application. Stores can be POS-based or Cisco stores.

Style

An element that contain pre-set formatting properties. You can apply style classes to your content to change the way it looks. Using style classes instead of direct (or "inline") formatting helps you work faster, more efficiently, and with more consistency in your topics. If you need to make changes to the formatting in the future, you do not need to change the formatting in each topic (as you would with direct formatting). Instead, you only need to change the formatting properties for that style in the appropriate stylesheet.

suites

Physical or logical area in a venue.

T**Table**

A group of intersecting columns and rows that you can add to a topic for various purposes, such as comparing one thing with another or giving field descriptions for a software dialog.

tag

A label that can be applied to content items in the Cisco Vision Director Control Panel Content screen to ease organization and filtering of content items available in the CMS. A good practice can be to name tags according to groups and zones in the venue and teams.

Target

One "instance" of an output type. When you build your final output, you are essentially building one or more of the targets in your project.

template

See "Screen template" and "Flash template".

Text snippet

A snippet that is created out of a portion of one paragraph.

ticker

Region that displays content received from an RSS feed (news, weather, or other dynamic information) over a customizable background. RSS feeds can come from external or internal sources.

Topic

A chunk of information about a particular subject. Topics are the most important part of a project. Everything else is contained within topics (e.g., hyperlinks, text, pictures) or points toward topics (e.g., table of contents, index, browse sequences). The very reason end users open a Help system is to find information, a little direction. They find that help within individual topics.

TV-based tile matrix

A video wall design that uses the native tile-matrix capabilities of the TV using RS-232 commands to control the display.

V**Variable**

A pre-set term or content that you can use in your project over and over. Variables are similar to snippets, but variables are used for brief, non-formatted pieces of content (such as the name of your company's product or your company's phone number). There are different kinds of variables: (1) those you create, (2) system variables, (3) Heading variables, or (4) Running HF variables for page headers and footers in printed output.

video wall

Group of multiple displays that show synchronized content and convey a single, much larger screen.

W

widget

Content object for external data. A widget is created using the Widgets layout tool for the External Content Integration feature, which is used to map real-time statistics or content from external data sources for output display in Cisco Vision Director.

X

XML Editor

The window in the Flare interface where you can add content and formatting to elements such as topics and snippets.

Z

zone

Physical area of a Cisco Vision venue. Zones help classify broader sections of a venue to associate content and contain groups and locations.

¹Venue Administrators can only edit the Display Specifications panel.

²Support users can set up TV control PINs and channel guides for suites.

³Venue Administrators can delete content associated (tagged) to the venues for which that venue admin is authorized. External content, channels, and Dynamic Menu Board (DMB) content items are global to all venues. Therefore, these global content items also can be deleted by the venue admin.

⁴Venue Administrators and Venue Operators have script control only, and only for venues authorized by the Administrator for that user.

⁵Help Desk users can view and monitor information on the Management Dashboard with read-only access. They also can run Get Status, Ping, Display IP, and Ping Test commands for DMPs in the Management Dashboard.

⁶Support users can run Get Status, Ping, Display IP, Ping Test, TV On/Off, Set Display Input, Set Display Banner, Set Closed Captions, Set Video Channel, Cabling Test using TDR, and Show TDR Test Results commands.

⁷Venue Administrators can view and monitor information on the Management Dashboard with read-only access to the venues for which permissions are granted. They also can run Get Status, Ping, Display IP, and Ping Test commands in the Management Dashboard for the DMPs in the venues at which that Venue Administrator is authorized.

⁸Venue Operators can view and monitor information on the Management Dashboard with read-only access to the venues for which permissions are granted. They also can run Get Status, Ping, Display IP, and Query Syslog commands in the Management Dashboard for the DMPs in the venues at which that Venue Operator is authorized.

⁹The SSC portal cannot be accessed directly from the Cisco Vision Dynamic Signage Director main menu or Control Panel. Access to the user-specific portal is opened only by logging into Cisco Vision Dynamic Signage Director as an SSC user.

¹⁰Synchronization applies only to video and still images. Synchronization cannot be guaranteed for other content such as tickers, external URLs, or widgets.

