



StadiumVision



## **Cisco StadiumVision Director Operations Guide**

**Release 4.1 and Later 5.0 Releases**

**June 1, 2017**

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StadiumVision



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## About This Guide



**NOTE:** Beginning in Release 5.0, Cisco StadiumVision Director is part of a new and expanded solution offer called Cisco Vision. Cisco StadiumVision Director is enhanced to support the new Cisco Vision solution and is renamed to Cisco Vision Dynamic Signage Director.

Where features existed prior to Release 5.0, you will continue to see references to Cisco StadiumVision Director and associated UI illustrations. Where features are introduced in Release 5.0, you will see references to the Dynamic Signage Director naming and newer UI references.

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

## Revision History

[Table 1](#) provides information about changes to this document.

**Table 1. Revision History Table**

Date	Description
June 1, 2017	Revised the default value from 2000 to 120000 (ms) for the <code>dmp.MonitorAPIDelay</code> in <a href="#">Serial Commands for RS-232 TV Control on the SV-4K and DMP-2K Media Players, Page 29</a> .  Added restriction for care when editing a scheduled script in <a href="#">Restrictions for the Scheduler Application, Page 204</a>  Added new topic <a href="#">Troubleshooting Event Scripts, Page 211</a>  Added "Clear a blocked script" task to <a href="#">Troubleshooting Event Operations, Page 227</a> .
December 13, 2016	Added updates for feature support in Release 5.0.
November 1, 2016	Revised <a href="#">Best Practices for Event Scripts, Page 183</a> .

## Revision History

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Date	Description
	Revised <a href="#">Best Practices for Managing Backups, Page 261</a> .
July 26, 2016	Revised several topics to correct and remove the Event Operator role from having access to CCM.  Added updates to restrictions in the <a href="#">"Replacing Content in a Playlist During an Event" on page 153</a> .
July 1, 2016	Moved and updated the topic <a href="#">"Running Database Maintenance " on page 255</a> to clarify the note about requirement for restart of the Cisco StadiumVision Director software, and added a step for it in the task list.
May 16, 2016	Initial version for Cisco StadiumVision Director Release 4.1.0-419 and Cisco StadiumVision Director Remote Release 4.1.0-10.





StadiumVision



## Before You Begin

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

Network administrators and those responsible for the installation and deployment of the Cisco StadiumVision network and Cisco StadiumVision Director system should also refer to the documents in [Table 2](#).



**NOTE:** The links provided in [Table 2](#) are to the cisco.com listing pages for that document type. Be sure to select the document that corresponds to your release.

**Table 2. Related Documentation for Cisco StadiumVision Director**

Document	Purpose
<a href="#">Cisco StadiumVision Release Notes</a>	This document provides information about the Cisco StadiumVision solution including hardware and software requirements, new and changed features, installation and upgrade information, known issues, and defects.
<a href="#">Cisco StadiumVision Video Headend Design and Implementation Guide</a>	This document is available to qualified Cisco StadiumVision partners and provides information about how to design and implement a Cisco StadiumVision video headend. It includes hardware and software requirements, recommended physical layouts, recommended configuration settings, as well as deployment caveats and considerations.
<a href="#">Cisco Connected Stadium Design Guide</a>	This document is available to qualified Cisco StadiumVision partners and provides a detailed description of the Cisco Connected Stadium Solution. This solution provides the wired infrastructure is specifically design 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.
<a href="#">Cisco StadiumVision Director Software Installation and Upgrade Guide</a>	This document describes the requirements and tasks to install and upgrade the Cisco StadiumVision Director software and media player firmware.

Document	Purpose
<a href="#"><u>Cisco StadiumVision Director Remote Installation and Upgrade Guide</u></a>	<p>This document describes the requirements and tasks to install and upgrade the software for Cisco StadiumVision Director Remote. It also includes documentation for hardware installation and configuration on the Cisco UCS C22 server, if using that hardware for your Cisco StadiumVision Director Remote server platform.</p>
<a href="#"><u>Cisco StadiumVision Director Server Administration Guide</u></a>	<p>This document describes the tasks involved in setting up and maintaining the Cisco StadiumVision Director and Cisco StadiumVision Director Remote servers.</p> <p>The content is intended for Cisco StadiumVision system administrators and technical field engineers who are responsible for designing and deploying Cisco StadiumVision solutions. It is expected that readers of this document are familiar with basic IP networking and Linux.</p>
<a href="#"><u>Cisco StadiumVision Video Endpoint (DMP) Design and Implementation Guide</u></a>	<p>This document provides guidelines and techniques for designing, planning, implementing, and operating the video delivery component of Cisco StadiumVision. It includes information on how to deploy the Cisco DMP 4310G in a Cisco StadiumVision venue, best practices for enabling the cable connections that control TVs, and how to configure DMP settings for optimal display.</p>
<a href="#"><u>Cisco StadiumVision SV-4K and DMP-2K Media Player Deployment Guide</u></a>	<p>This document provides information about both the physical installment and initial configuration of the SV-4K and DMP-2K media player with TV displays.</p>
<a href="#"><u>Cisco StadiumVision Local Control Areas Design and Implementation Guide</u></a>	<p>This document provides information about how to design and implement a Cisco StadiumVision 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>



StadiumVision



## **Cisco StadiumVision Director: Operation Basics**





StadiumVision



# Getting Started with Cisco StadiumVision Director Operation

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

- [Introduction to the Cisco StadiumVision Director User Interface, Page 3](#)
- [Introduction to Cisco StadiumVision Director APIs, Page 11](#)
- [Understanding User Roles in Cisco StadiumVision Director, Page 16](#)

## Introduction to the Cisco StadiumVision Director User Interface

This section includes the following topics:

- [Control Panel, Page 4](#)
- [Management Dashboard, Page 7](#)
- [Dynamic Menu Board Application, Page 5](#)
- [Scheduler Application, Page 6](#)
- [Command Center Monitoring, Page 6](#)
- [Turn TVs Off Application, Page 10](#)
- [System State Report Application, Page 11](#)
- [Manage Software Application, Page 11](#)

## Cisco StadiumVision Director Main Menu

When you log into Cisco StadiumVision Director, the Main Menu serves as the entry point to different application interfaces that are used to perform a variety of tasks ([Figure 1](#)).

- Control Panel
- Management Dashboard
- Dynamic Menu Boards

- Scheduler
- Command Center Monitoring
- Turn TVs Off
- System State Report
- Manage Software
- Logout

**Figure 1. Cisco StadiumVision Director Main Menu**



**NOTE:** The Self-Service Content (SSC) feature is the only application that has its own portal that you access independently of the Cisco StadiumVision Director Main Menu. For more information see ["SSC Content" on page 88](#).

## Control Panel

The Cisco StadiumVision Director Control Panel is a web-based portal that is the central point of operation for the following three basic areas:

- System setup and device configuration
- Content deployment
- Event operations

It is used by the Cisco StadiumVision Director Administrator, Content Manager, and Event (and venue) Operator roles.

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The Control Panel allows you to:

- Schedule and create new event scripts and also copy/duplicate them to create additional event scripts for multiple events.



**TIP:** The Scheduler application is introduced in Cisco StadiumVision Director Release 4.0 to ease scheduling of scripts through a calendaring interface available from the Main Menu.

- Create unique content areas for concourses, suites, and restaurants.
- Centrally control the content, video, and ticker placement on TV displays for the designated entitlement areas.
- Centrally control the channels available to each TV as well as remotely control the TV power, volume, input, and closed captioning through the Cisco StadiumVision Director interface.
- Centrally control the display of emergency or delay signage for designated areas.
- Import, export, tag, and log content played on TVs in the venue.
- Change content “ad hoc” on displays during moments of exclusivity such as a touchdown or home run.
- Dynamically control the content on menu boards in the concession stands during an event.

The Control Panel allows you to import and manage content, create event scripts, schedule events, and edit screen templates.

The Control Panel also 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.

## Dynamic Menu Board Application

The Dynamic Menu Board (DMB) Application is a custom application within Cisco StadiumVision 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 items to a menu independently, or you can link to items that are already defined in Cisco or Point of Sale (PoS) stores in Cisco StadiumVision Director. The benefit of linking to items in a store is that you can make a change within the store,

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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.



**NOTE:** The full functionality of the DMB application is supported by the Cisco DMP 4310G only.

Beginning in Release 3.2 and later releases, Cisco StadiumVision Director introduced additional ways to create menu board content using a combination of the DMB application and the External Content Integration feature.

For a summary of these menu board creation methods, see the ["Menu Board Content " on page 86](#).

## Scheduler Application

The Scheduler application is introduced in Release 4.0 to provide a calendar-based script scheduling function that you access from the Cisco StadiumVision Director Main Menu.



**NOTE:** The Scheduler application is available only 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.

## Command Center Monitoring

The Command Center Monitoring (CCM) application is introduced in Release 4.1 to show at-a-glance device status information for media players and their attached TV displays during an event.



Figure 2. CCM Application on Main Menu



### CCM Application Highlights

- Is accessible from the Cisco StadiumVision Director Main Menu.
- 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.

## Management Dashboard

The Cisco StadiumVision Director Management Dashboard application provides a comprehensive interface for managing and monitoring the services and status of the DMPs, TVs, the Cisco StadiumVision Director Server, and DMP-to-switch connections for your Cisco StadiumVision deployment.

Using the Management Dashboard, you can:

- View status, configure settings, and send commands to devices to keep your Cisco StadiumVision 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.

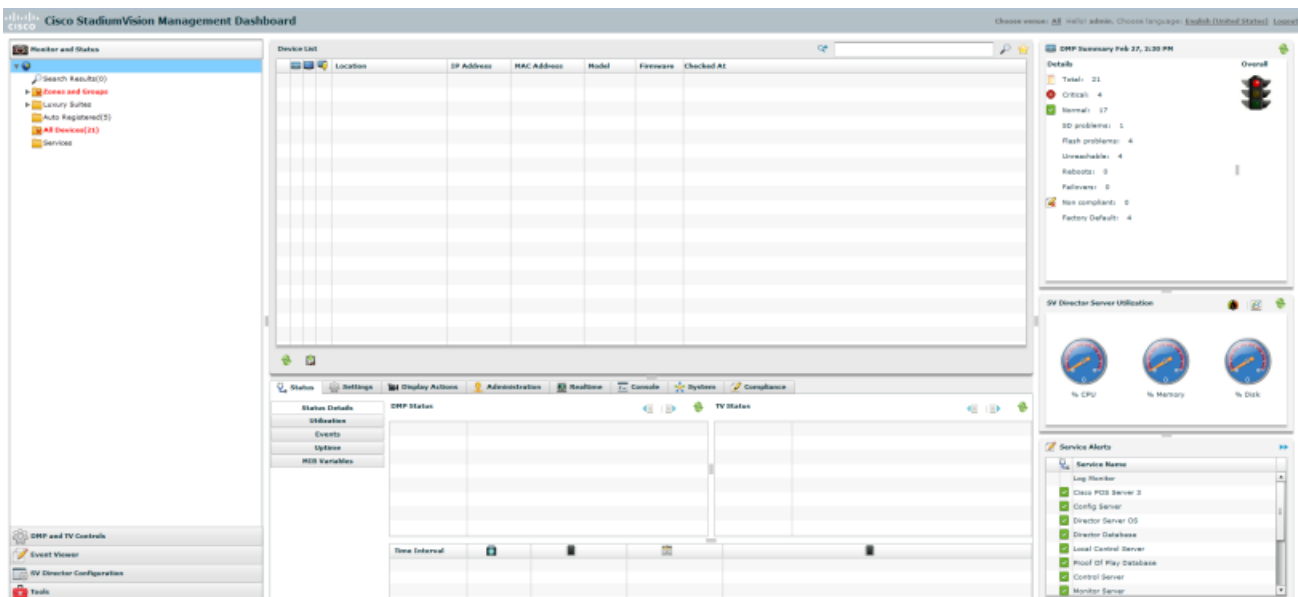
Additionally, detailed status for devices and monitored services is easily accessible from the Management Dashboard interface to help you pinpoint and troubleshoot issues occurring on the network.



**NOTE:** Not all commands or display areas apply to all media players; some commands are unique to a media player type. Therefore, some areas of the Management Dashboard might not report the information for a particular device.

[Figure 3](#) shows the basic layout of the Management Dashboard when you first open the application.

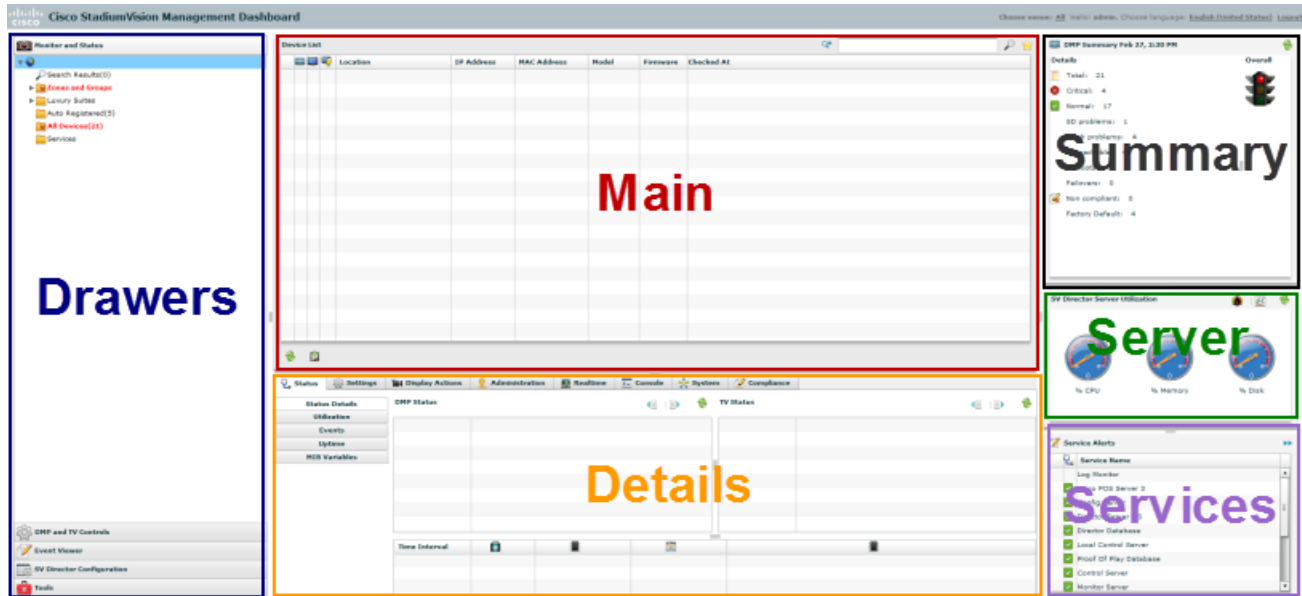
**Figure 3. Management Dashboard Interface**



## Layout of the Management Dashboard

The Management Dashboard includes six primary panels shown in [Figure 4](#).

**Figure 4. Areas of the Management Dashboard**



[Table 3](#) provides a basic description for the information displayed in each panel area.

**Table 3. Management Dashboard Panel Descriptions**

Panel Area	Description
Drawers	The 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 playasers you have and a summary of their overall condition.
Server	Shows utilization statistics for the Cisco StadiumVision Director server.
Services	Displays the status of the services that control the operation of Cisco StadiumVision Director.

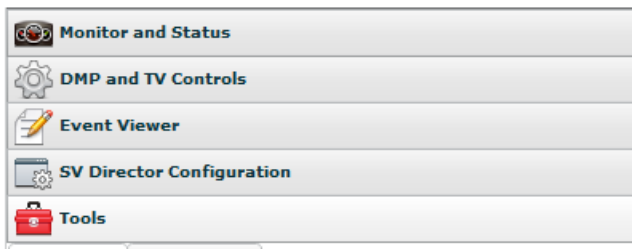
## Management Dashboard Drawers

Selecting and expanding a Management Dashboard *drawer* is generally how you begin working with and navigating the Management Dashboard interface.

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[Figure 5](#) shows the set of drawers available in the Management Dashboard.

**Figure 5. Management Dashboard Drawers**



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

## Turn TVs Off Application

With so many TVs in each Cisco StadiumVision 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.



**NOTE:** Only authorized users can access the Turn TVs Off application.

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 StadiumVision Director.

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## System State Report Application

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

For more information, see the "[System State Reports](#)" module of the [Cisco StadiumVision Director Server Administration Guide](#).

## Manage Software Application

The Manage Software application is used only by the administrator to:

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

For more information about how to use the Manage Software application, see the [Cisco StadiumVision Director Software Installation and Upgrade Guide](#).

## Introduction to Cisco StadiumVision Director APIs

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

- [Event Trigger API, Page 11](#)
- [Media Planner Import API, Page 12](#)
- [POS API, Page 13](#)
- [User Control API, Page 14](#)



**NOTE:** All APIs in Cisco StadiumVision Director are made available by special agreement. Contact your Cisco Systems representative for more information.

## Event Trigger API

Cisco StadiumVision 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 StadiumVision Director software.

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For more information about support for external input triggers, see the [Configuring Cisco StadiumVision Director for External Triggers](#) guide.



**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 StadiumVision 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.

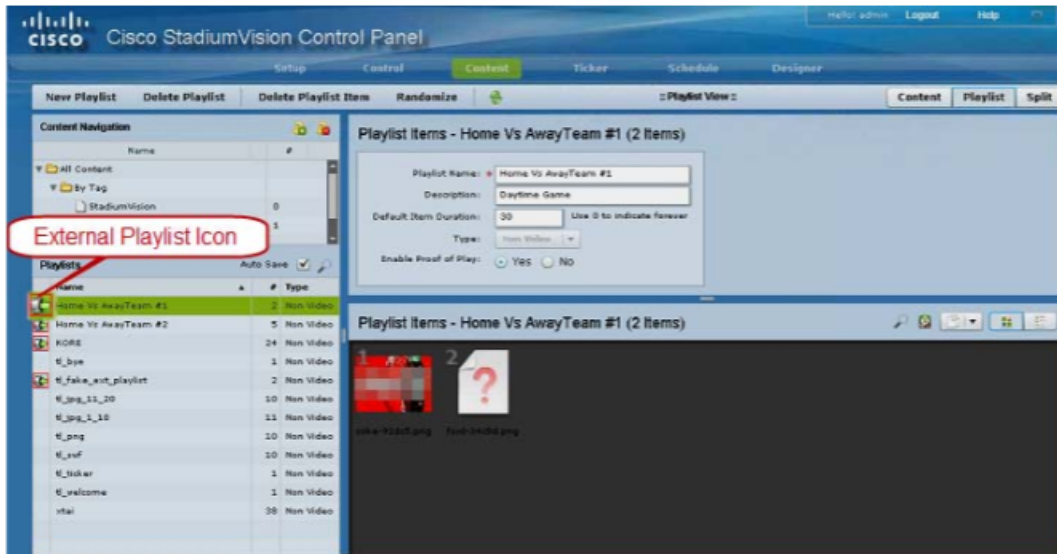
### Proof of Play Addition

- 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 6](#)).

Figure 6. External Playlists in Control Panel Content Screen



The playlist is populated with existing content in Cisco StadiumVision Director, and you are alerted to any missing content in the playlist by a red box around the external playlist icon on the Content screen. 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.

## POS API

In Cisco StadiumVision Director Release 3.2 and later releases, the POS API can be used to support integration of Point of Sale (POS) vendor data for use in the External Content Integration feature. This method of POS data integration provides a more flexible way of creating and updating menu boards using the Widgets tool independent of the legacy Dynamic Menu Board (DMB) application.

The DMB application currently supports a more tightly-coupled integration with Micros and Quest POS vendors that allows for dynamic content updates along with support of in-suite ordering capabilities. The POS API does not support in-suite ordering, but would allow for more open integration of POS data from other POS vendors that can conform to the XML schema supported by Cisco StadiumVision Director.

For more information about how to use the POS integration with External Content Integration, see the [Cisco StadiumVision Director External Content Integration Guide](#).

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## User Control API

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

The API supports the following areas:

- [Album Control, Page 14](#)
- [HDMI-In Control , Page 14](#)
- [Information Retrieval, Page 15](#)
- [Security, Page 15](#)
- [TV Control, Page 15](#)

### Album Control



**NOTE:** The API album control capabilities for Self-Service Content (SSC) are only supported by the Cisco DMP 4310K.

The API album control capabilities for SSC include:

- Retrieve all albums available for play on a specific player.
- Retrieve common albums available for play on a one or more players.
- Retrieve all albums available for play on a one or more players.
- Retrieve the album play duration.
- Set the album play duration.
- Control album loading and unloading of content to the player.
- Control play/pause/stop/next/previous actions of the album.

### HDMI-In Control



**NOTE:** The HDMI-In control capabilities are only supported by the SV-4K media player.

The following API HDMI-In controls are introduced in Cisco StadiumVision Director Release 4.1 on the SV-4K:

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



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## 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 StadiumVision 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 StadiumVision 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.
  - 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 in Cisco StadiumVision Director

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

Cisco StadiumVision 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 StadiumVision Director software.

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The Cisco StadiumVision Director software implements Role-Based Access Control (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 also the "Role-Based Access Control for Hierarchical Management of Multiple Venues" topic in the ["Configuring Cisco StadiumVision Director for Multiple Venue Support"](#) module of the [Cisco StadiumVision Director Server Administration Guide](#).

For more details about RBAC in a multi-venue environment, see also the "Role-Based Access Control for Hierarchical Management of Multiple Venues" topic in the ["Configuring Cisco Vision Dynamic Signage Director for Multiple Venue Support"](#) module of the [Cisco Vision Administration Guide: Dynamic Signage Director \(StadiumVision Director\) Release 5.0](#).

## Administrator Role Overview



**NOTE:** Note: This section describes the primary (or central) Administrator role in a Cisco StadiumVision 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 StadiumVision 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 StadiumVision 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 StadiumVision administrator is the person who is responsible for deploying the Cisco StadiumVision solution throughout the venue.

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



**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 StadiumVision Director administrator.

- Using the Software Manager to install language packs, fonts, or upgrade software on Cisco StadiumVision Director servers.

- Configuring multiple venue support and Cisco StadiumVision Director Remote servers.
- Associating objects to venues.
- Creating additional users and assigning roles.
- Adding devices to Cisco StadiumVision 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 the Self-Service Content (SSC) environment and users.
- Configuring Command Center Monitoring (CCM) and rebooting DMPs from CCM.


## RBAC Roles Overview

[Table 4](#) provides an overview of the roles that can be assigned by the Administrator in Cisco StadiumVision Director.

**Table 4. Cisco StadiumVision Director Roles**

Role	Description
Concessionaire	<p>Concessionaires have access only to the Dynamic Menu Board application, 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 StadiumVision Director to configure event states/scripts, zones, groups, screen templates, playlists, and tickers.</p> <p>Content managers can also assign gadgets for custom menus and create playlists for those menus.</p>
Event Operator	<p>Event Operators run the Cisco StadiumVision Director event scripts during an event. The event operator role has permissions to schedule scripts using the Scheduler application, start and stop scripts and</p>

Role	Description
	<p>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 keeps track of which break states have played 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 StadiumVision 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 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 StadiumVision Director Management Dashboard Guide.</p>
SSC User	<p>(Release 3.0 and later). Self-Service Content (SSC) users are given access only to the SSC portal area of Cisco StadiumVision Director, where they can upload content into albums and publish that content to authorized TVs. This user-specific workspace contains only the content explicitly uploaded by that user, and only that user can see the content. The administrator authorizes each SSC user for the suites and TVs on which they can display their content.</p>
Support	<p>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 StadiumVision network. They also have access to CCM. The support 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 StadiumVision Director Management Dashboard Guide.</p>
Venue Administrator	<p>(Release 5.0) Venue Administrators have limited permissions at the venues authorized by the central Administrator for that user, for the following areas of Cisco StadiumVision Director:</p> <ul style="list-style-type: none"> <li>• Control Panel—Content, Control (Script control and Staging), Schedule.</li> </ul>

Role	Description
	<ul style="list-style-type: none"> <li>• Management Dashboard—Read-only access with limited command support.</li> <li>• Command Center Monitoring—Read-only access.</li> <li>• Setup—Devices (Display specifications only); Read-only access to Zones &amp; Groups, Channels, Luxury Suites.</li> </ul>
Venue Operator	<p>(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 CCM.</p> <div style="background-color: #e6f2ff; padding: 5px;">  <p><b>NOTE:</b> Venue Administrators and Venue Operators are the only roles that have venue-specific permissions. For more information, see <a href="#">"Configuring Cisco Vision Dynamic Signage Director for Multiple Venue Support"</a> module of the <a href="#">Cisco Vision Administration Guide: Dynamic Signage Director (StadiumVision Director) Release 5.0</a>.</p> </div>

## Access Summary by Role

Table 5 provides a summary of the areas of access in the Cisco StadiumVision Director software by each user role.



**NOTE:** “Yes” indicates that the user role has access to the corresponding functional area, and “—” means that the role does not have authorization there.

**Table 5. Role Access Summary by Functional Area in Cisco StadiumVision Director**

Functional Area	Admin	Concessionaire	Content Manager	Event Operator	Facility Operator	Help Desk	SSC User	Support	Venue Admin	Venue Operator
<b>Control Panel – Setup Screen</b>										
Channels	Yes	—	Yes	—	—	—	—	—	Read Only	—
Data Integration	Yes	—	Yes	—	—	—	—	—	—	—
Devices	Yes	—	—	—	—	—	—	—	Limited <sup>1</sup>	—
Menus	Yes	—	Yes	—	—	—	—	—	—	—
My Profile	—	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Proof of Play	Yes	—	—	—	—	—	—	—	—	—
Stores	Yes	—	—	—	—	—	—	—	—	—
Suites	Yes	—	—	—	—	—	—	Limited <sup>2</sup>	Read Only	—
Templates	Yes	—	Yes	—	—	—	—	—	—	—
Triggers	Yes	—	—	—	—	—	—	—	—	—
Users	Yes	—	—	—	—	—	—	—	—	—
Venues	Yes	—	—	—	—	—	—	—	—	—
Zones & Groups	Yes	—	Yes	Yes	—	—	—	—	Read Only	—
<b>Control Panel – Other Screens</b>										
Content	Yes	—	Yes	—	—	—	—	—	Limited <sup>3</sup>	—
Control	Yes	—	—	Yes	—	—	—	—	Limited <sup>4</sup>	Limited <sup>4</sup>
Control/Staging	Yes	—	—	Yes	—	—	—	—	Yes	—
Schedule	Yes	—	Yes	—	—	—	—	—	Yes	—
Ticker (legacy)	Yes	—	Yes	Yes	—	—	—	—	—	—
Widgets	Yes	—	Yes	—	—	—	—	—	—	—
<b>Other Applications</b>										
Command Center Monitoring	Yes	—	—	—	—	Read Only	—	Read Only	Read Only	Read Only
Dynamic Menu Boards	Yes	Yes	Yes	—	—	—	—	—	—	—
Management Dashboard	Yes	—	—	—	—	Limited <sup>5</sup>	—	Yes <sup>6</sup>	Limited <sup>7</sup>	Limited <sup>8</sup>
Scheduler	Yes	—	—	Yes	—	—	—	—	—	—
Software Manager	Yes	—	—	—	—	—	—	—	—	—
SSC Portal <sup>9</sup>	—	—	—	—	—	—	Yes	—	—	—

Functional Area	Admin	Concessionaire	Content Manager	Event Operator	Facility Operator	Help Desk	SSC User	Support	Venue Admin	Venue Operator
System State Report	Yes	—	—	—	—	—	—	—	—	—
Turn TVs Off	Yes	—	—	Yes	Yes	—	—	—	—	—

<sup>1</sup>Venue Administrators can only edit the Display Specifications panel.

<sup>2</sup>Support users can set up TV control PINs and channel guides for suites.

<sup>3</sup>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.

<sup>4</sup>Venue Administrators and Venue Operators have script control only, and only for venues authorized by the Administrator for that user.

<sup>5</sup>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.

<sup>6</sup>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.

<sup>7</sup>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.

<sup>8</sup>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.

<sup>9</sup>The 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.





StadiumVision



## **Cisco StadiumVision Director: Venue and Device Setup**





StadiumVision



# Working with TV Displays in Cisco StadiumVision Director



## User Roles

Administrator, Venue Administrator

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

## Information About User TV Control



**NOTE:** Disabling user control of TVs is supported on the Cisco DMP 4310G only.

Support for all methods of user TV control is enabled by default in Cisco StadiumVision Director for all media player types. This includes control of TV displays using local control devices and applications, IP phones, touch screens (Cisco DMP 4310G devices only), 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.

Cisco StadiumVision Director Release 3.1 and later supports two ways for you to disable user control of TVs (Cisco DMP 4310G only):

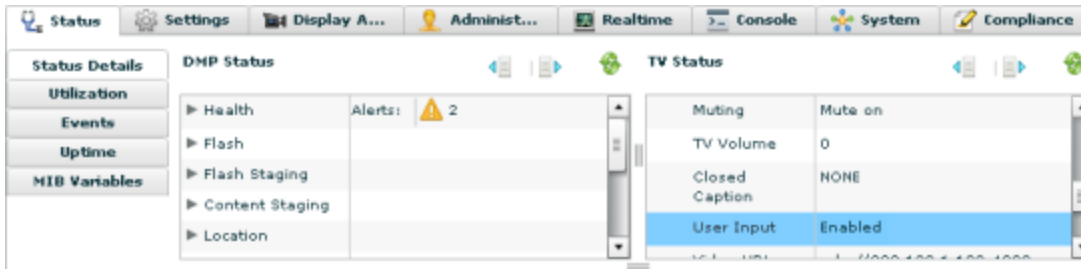
- Defining the “Disable User Control” action in a script.
- Running the “Disable User Control” TV command from the Management Dashboard.

Using one of these two methods, you can disable support for all of the default types of user TV control (excluding TV off control). You can also use these methods to re-enable user TV control using the corresponding “Enable User Control” script action or TV command.

You can verify the user TV control state for a particular Cisco DMP 4310G using the Status Details area of the Management Dashboard. Select the General drop-down

menu under TV Status area and look at the value displayed in the User Input field as shown in [Figure 7](#).

**Figure 7. TV Status User Input Field**



## Information About TV Display Specifications

Cisco StadiumVision 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 StadiumVision Director includes display specifications for several common TV display models. If your TV display model is not included in the default specifications, then you need to add and configure it.

A different display specification is required for each unique TV type, based on how images are centered and stretched (DMP 4310G only), and which serial 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 StadiumVision 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

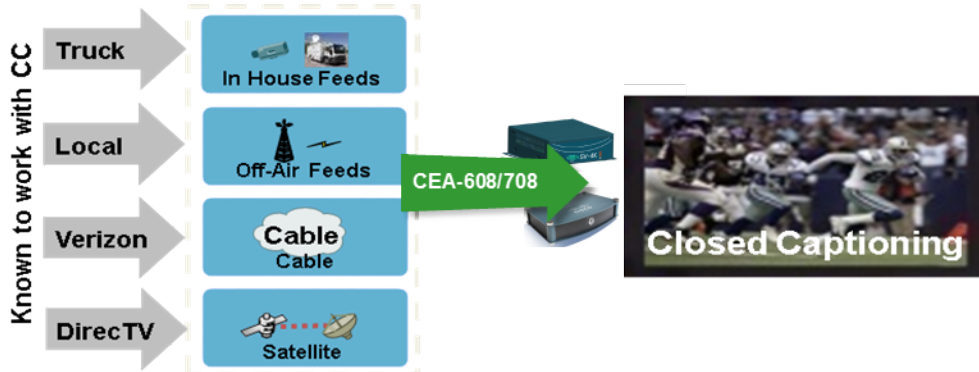


**IMPORTANT:** Closed captioning will not work in Europe or anywhere outside of North America.

---

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 8. Closed Captioning Support in Cisco StadiumVision Director**



This standard is generally supported on all broadcast channels from service providers. Cisco StadiumVision Director is automatically configured to enable closed captioning CC1–CC4 support on the Cisco DMP 4310G and SV-4K devices.

## Content Orientation

The default orientation for all content in Cisco StadiumVision 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 supports auto-rotation of content in portrait mode set in the TV display specification.

## Guidelines for Portrait Mode Auto-Rotation



**NOTE:** Portrait mode auto-rotation is not supported by the Cisco DMP 4310G.

- 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" display parameter when configuring TV display specifications in the Control Panel.

---

## HDMI-CEC



**NOTE:** HDMI-CEC parameters are not supported by the Cisco DMP 4310G.

Support for HDMI Consumer Electronics Control (CEC) is introduced in Release 5.0. It 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 with 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.



**NOTE:** This command is not supported by all TV models, so it is separately configurable.

- **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. It is important that you test the TV models that you plan to install for support of HDMI CEC, and be sure to turn HDMI-CEC on. TV manufacturers refer to CEC by different trade names. (For example: Anynet+ [Samsung], BRAVIA Link [Sony], EasyLink [Phillips], and SimpLink [LG]).

For information about TVs tested successfully for HDMI CEC, see the [Release Notes](#).

## 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 StadiumVision 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 on the SV-4K and DMP-2K Media Players

[Table 6](#) shows a summary of the display parameters and RS-232 commands for the SV-4K and DMP-2K with their default values.



**NOTE:** Different TV display models might support only certain RS-232 commands.

**Table 6. SV-4K and DMP-2K Serial Commands<sup>1</sup>**

Command Name	Value
dmp.Input1response	62203031204F4B303878
dmp.Input2response	62203031204F4B303278
dmp.Input3response	62203031204F4B303478
dmp.Input4response	62203031204F4B303078
dmp.volumeResponseFormat	66203031204F4B5F5F78

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

Command Name	Value
dmp.muteOnResponse	65203031204F4B303078
dmp.monitorAPIDelay	120000
dmp.monitorAVInput	true
dmp.monitorMute	true
dmp.monitorPower	true
dmp.monitorVolume	true
dmp.displayPwrQuery	rs232.tx_hex=6B612030312046460D
dmp.displayAVInputQuery	rs232.tx_hex=6B622030312046460D
dmp.muteQuery	rs232.tx_6B652030312046460D
dmp.volumeQuery	rs232.tx_6B662030312046460D
Input1	rs232.tx_6B622030312030390D
Input2	rs232.tx_6B622030312030320D
Input3	rs232.tx_6B622030312030340D
Input4	rs232.tx_6B622030312030300D

## Volume Control

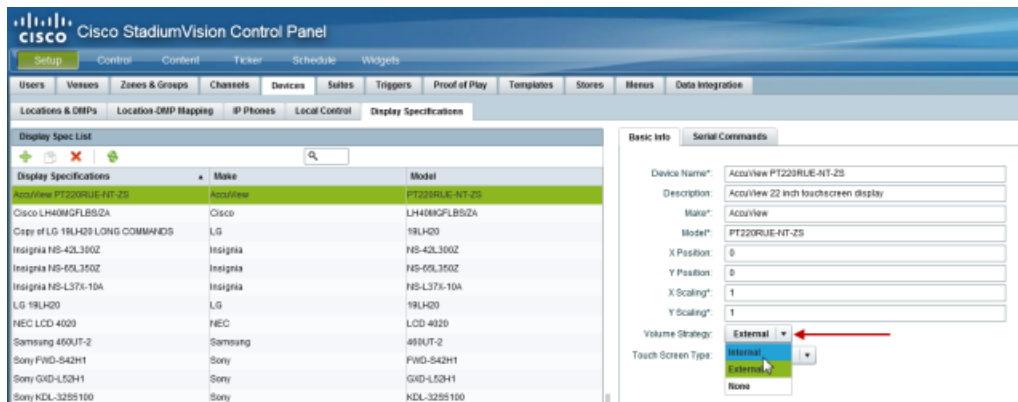
When properly configured in Cisco StadiumVision Director, volume changes can be made from methods such as the IP phone, IR remote, Management Dashboard, or event script state change.

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

## Volume Strategy Option

Cisco StadiumVision Director supports three Volume Strategy settings ([Figure 9](#)):

**Figure 9. Control Panel Display Specifications—Volume Strategy Option**





---

- **Internal**

Internal allows volume change control of the audio feed by Cisco StadiumVision Director (such as by the IP phone, IR remote, Management Dashboard, or event script state).

- **External**

External allows volume change control by sending serial commands from the media player to the TV (via RS-232).



**NOTE:** External volume strategy is recommended because TVs typically have better audio range than the media player, and many TVs provide a visual indicator of the volume level as the volume is being changed. This strategy also avoids problems if someone changes the volume using the TV front panel buttons or IR 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 31](#)
- [Configuring Basic Information for TV Display Specifications , Page 32](#)
- [Configuring HDMI-CEC TV Control in TV Display Specifications , Page 35](#)
- [Configuring Portrait Mode in TV Display Specifications , Page 36](#)
- [Configuring Serial Commands for RS-232 Communication in TV Display Specifications , Page 37](#)
- [Configuring Serial Commands for External Volume Support , Page 38](#)

## Guidelines for RS-232 Command Configuration

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

- Cisco StadiumVision Director supports only one RS-232 command per event state.
- All RS-232 commands configured in Cisco StadiumVision Director must use the prefix **RS-232.tx\_hex=**.

- RS-232 responses are used to retrieve the current status of a TV.
- RS-232 responses are always configured without a prefix.
- CiscoStadiumVision 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. For the Cisco DMP-4310G, this is done by configuring volume and mute commands that start with **sigma=**.

## Configuring Basic Information for TV Display Specifications



### User Roles

Administrator



**IMPORTANT:** The X/Y Position, X/Y Scaling, and Touchscreen options are supported by TV displays connected to Cisco DMP 4310G devices only.

To configure basic information for TV display specifications, complete the following steps:

1. Go to **Control Panel > Setup > Devices > Display Specifications**.
2. Do one of the following:
  - Select an existing display specification ([Figure 10](#)).
  - Click the + icon to add a new display specification.

**Figure 10. TV Display Specifications—Basic Info Panel**


The screenshot shows the 'Basic Info' tab of the TV Display Specifications configuration panel. The fields are as follows:

Device Name*	AccuView PT220RUE-NT-ZS
Description:	AccuView 22 inch touchscreen display
Make*	AccuView
Model*	PT220RUE-NT-ZS
X Position:	0
Y Position:	0
X Scaling*:	1
Y Scaling*:	1
Volume Strategy:	External
Touch Screen Type:	Elo

Red arrows point to the X Position, Y Position, X Scaling, Y Scaling, and Touch Screen Type fields, with the label 'DMP 4310G Only' next to them.

3. Refer to [Table 7](#) to specify the options in the Basic Info panel. Certain options only apply to the Cisco DMP 4310G.

**Table 7. Basic TV Display Specification Options**

Option	Description	DMP 4310G?	SV-4K?
Name	Name that appears in the Display Spec drop-down list when you are adding TV Types to Locations.   <b>TIP:</b> Be sure that this name is unique and easily identifies the type of TV that it defines.	Yes	Yes
Description	Any text string to describe the TV display specification.	Yes	Yes
Make	TV manufacturer/brand name.	Yes	Yes
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.	Yes	Yes
X/Y Position <sup>1</sup>	(Optional) Modify only as required for older TV displays when graphics need to be fit within the visible area.  The X Position and Y Position represent the starting point of the image. If they are not set correctly, the images will appear off-center. The X Position refers to the horizontal placement and the Y Position refers to the vertical placement. 0, 0 is the upper left hand corner, and that is the setting for most TVs. (All numbers are positive numbers, so the Y values represent the distance from Y=0 or the top of the screen).	Yes	No
X/Y Scaling <sup>1</sup>	The X Scaling and Y Scaling	Yes	No

<sup>1</sup>These parameters default to (0, 0) for position and (0, 0) for scaling. The combination of these parameters allows you to position the Flash template application and stretch or shrink it anywhere on the screen to fit on the TV screen.

Option	Description	DMP 4310G?	SV-4K?
	<p>parameters set a scaling factor that can be used to shrink or stretch the Flash template application on the TV screen. A scaling factor of 1.0 (and zero) is equivalent to 100% of the original size, where X Scaling represents the width and Y Scaling represents the height. A scaling factor of 0.5 will shrink the Flash template application down to 50% (or half) of its original size. For most TVs, both scaling factors will be 1. The scaling factors are required for older TVs that do not have settings to control over scan on the TV. By default, some of these TVs suffer from over scan, which causes some of the content to be clipped. This may not be noticeable when displaying a full-screen video channel, but it is very noticeable when displaying graphics (for example, a 3-Region template).</p>		
Volume Strategy	<p>Specifies how the TV volume is controlled. The possible values are:</p> <ul style="list-style-type: none"> <li>• <b>Internal</b>—Volume is controlled using IP phone, IR remote, and so on.</li> <li>• <b>External</b>—Volume is controlled by sending serial commands from the media player to the TV using RS-232.</li> <li>• <b>None</b>—Fixes the volume so that it cannot be adjusted.</li> </ul> <p>For more information, see "<a href="#">Volume Control</a>" on page 30.</p>	Yes	Yes
Touchscreen	Specifies the type of touchscreen display controller.	Yes	No

4. Click **Save**.

5. Apply configuration to the DMPs:

- SV-4K and DMP-2K—Reboot the DMP(s).
- Cisco DMP 4310G—Deploy Global DMP settings. See [Deploying Global DMP Settings on Cisco DMP 4310G Devices, Page 278](#).

## Configuring HDMI-CEC TV Control in TV Display Specifications



### User Roles


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, complete the following steps:**

1. Go to:  
**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	<ul style="list-style-type: none"> <li>• True— Enables powerQuery to get TV power status using HDMI-CEC instead of RS-232.</li> <li>• False—Disables powerQuery using HDMI-CEC.</li> </ul> <p> <b>NOTE:</b> This command is not supported by all TV models.</p>
dmp.TVControlbyCEC	<ul style="list-style-type: none"> <li>• True—Enables TV control using HDMI-CEC instead of RS-232.</li> <li>• False—Disables HDMI-CEC TV control.</li> </ul>
dmp.monitorAPIDelay	Number (in ms) for the frequency of power query command to be sent by

Display Parameter	Value
	Dynamic Signage Director. The default in HDMI/CEC Standard display specification is 12000 ms or 2 minutes)
dmp.monitorPower	<ul style="list-style-type: none"> <li>• True—Enables Dynamic Signage Director to run a power query to the TV using the Get Status command from the Management Dashboard.</li> <li>• False—Disables the option.</li> </ul>



**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 Roles

Administrator, Venue Administrator

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

**To configure the portrait mode display parameter, complete the following steps:**

1. Go to:  
**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.
5. Where prompted to enter a new command, type **dmp.Portrait** in the box.
6. In the Configured Status box, type **true**.

- 
7. Click **Save**.
  8. Reboot the DMPs.
- 

## Configuring Serial Commands for RS-232 Communication in TV Display Specifications



### User Roles

Administrator

All RS-232 commands configured in Cisco StadiumVision Director must use the prefix **RS-232.tx\_hex=**. RS-232 responses are always configured without a prefix.

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**To configure serial commands for RS-232 communication in TV display specifications, complete the following steps:**

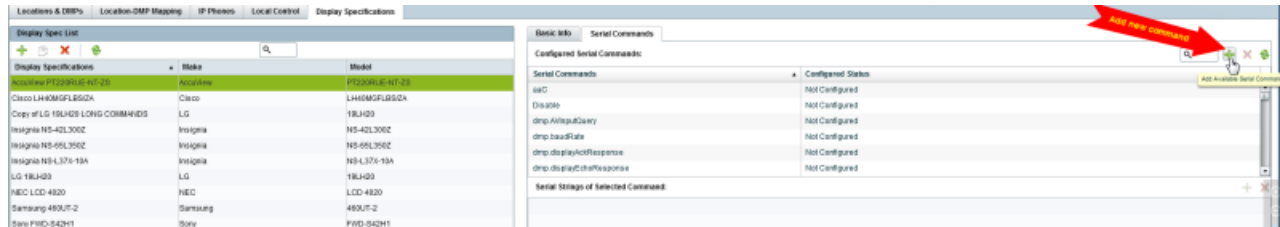
1. Go to:  
**Control Panel > Setup > Devices > Display Specifications**
2. Select an existing display specification or add a new one.
3. Click **Display Parameters**.



**NOTE:** In Release 4.1 and earlier releases, this panel is named **Serial Commands**.

4. Do one of the following to select a command for configuration:
  - To add a new serial command, click the + icon in the upper right corner of the panel and label the new command ([Figure 11](#)).

**Figure 11. Add New Serial Command**



- To modify an existing command in the command list, select the command that you want to configure.
5. To configure the command string for the selected command, click the + icon in the middle part of the panel while the command is selected ([Figure 12](#)).

**Figure 12. Configure Serial Command**



6. Enter the appropriate serial string. This string will now be associated with the highlighted serial command for this device.
7. Click **Save**.
8. Apply configuration to the DMPs:
  - SV-4K and DMP-2K—Reboot the DMP(s).
  - Cisco DMP 4310G—Deploy Global DMP settings. See [Deploying Global DMP Settings on Cisco DMP 4310G Devices, Page 278](#).

## Configuring Serial Commands for External Volume Support

**User Roles**

Administrator



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



**NOTE:** Volume commands do not need to be configured when internal volume strategy is used.

Cisco StadiumVision 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 Cisco DMP 4310G—This is configured in the `VolumeCount` command. The default is 10.

In addition to the `VolumeCount` command, you need to configure a string for each incremental `Volumen` command.

- For the SV-4K—Absolute volume is configured only by the series of `Volumen` commands only.

[Table 8](#) provides information about the serial commands used to configure the Relative and Absolute types of external volume control.

Table 8. Serial Commands for External Volume Support

Serial Command	Volume Type	Description
Volume Count	Absolute	<p>(Cisco DMP 4310G only) Specifies the number of volume intervals to be supported. The default is 10.</p> <p>This command is configured in addition to the corresponding <i>Volume n</i> commands.</p>
Volume n	Absolute	<p>Specifies the volume increment level, where <i>n</i> is a number from 1 to the total number of volume levels supported.</p> <ul style="list-style-type: none"> <li>• Configure multiple <i>Volume n</i> commands for the number of increments being supported. For the Cisco DMP 4310G, this is up to the number specified in the <b>VolumeCount</b> command.</li> <li>• Specify whole numbers for "n." For example specify "1"—not 01.</li> </ul> <p> <b>TIP:</b> 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.
<p> <b>TIP:</b> 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.</p>		
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</p>

Serial Command	Volume Type	Description
		VolumeUp or VolumeDown command sends 8 copies of the RS-232 string.
dmp.SerialDelay	Relative	Specifies the delay between sending repeated serial commands from the media player. The default is 5000 ms.  This command can be used for certain TV displays that discard repeated serial commands that are sent too close together.

[Table 9](#) shows an example of RS-232 command strings defined for Absolute volume control using 12 increments. In this example, a corresponding VolumeCount of 12 is configured for use with the Cisco DMP 4310G.

**Table 9. 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 Display Banner Duration , Page 42](#)
- [Disabling the TV Display Banner , Page 44](#)

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## Modifying the TV Display Banner Duration



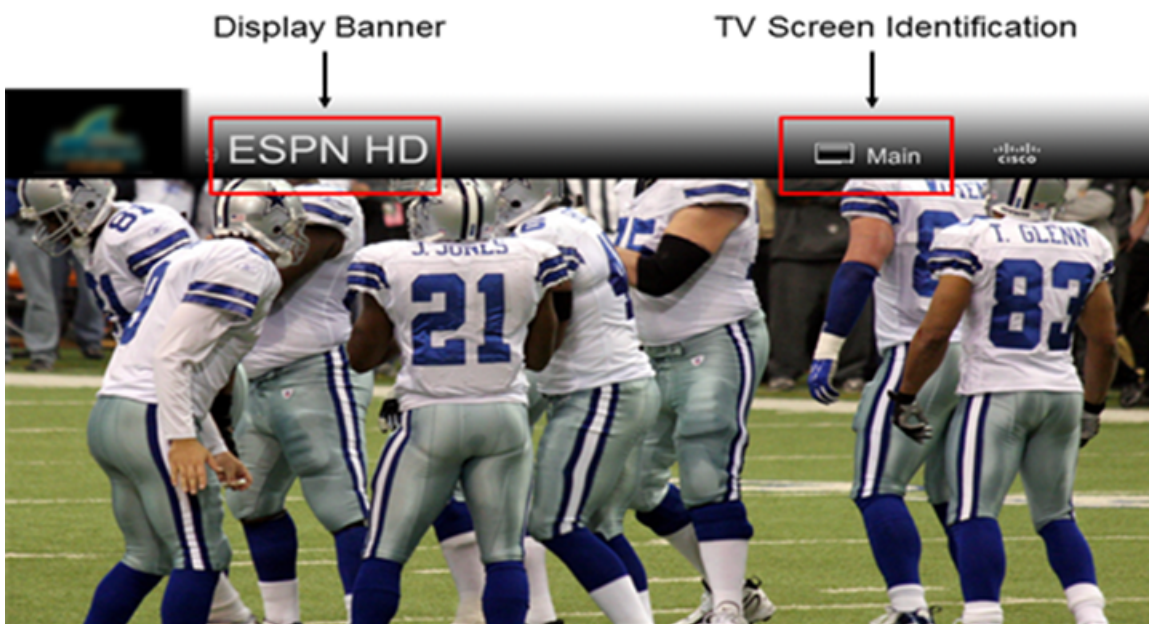
### User Roles

Administrator

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 13](#)).

The display banner is enabled by default with a duration of 5 seconds.

Figure 13. TV Display Banner and Screen Identification



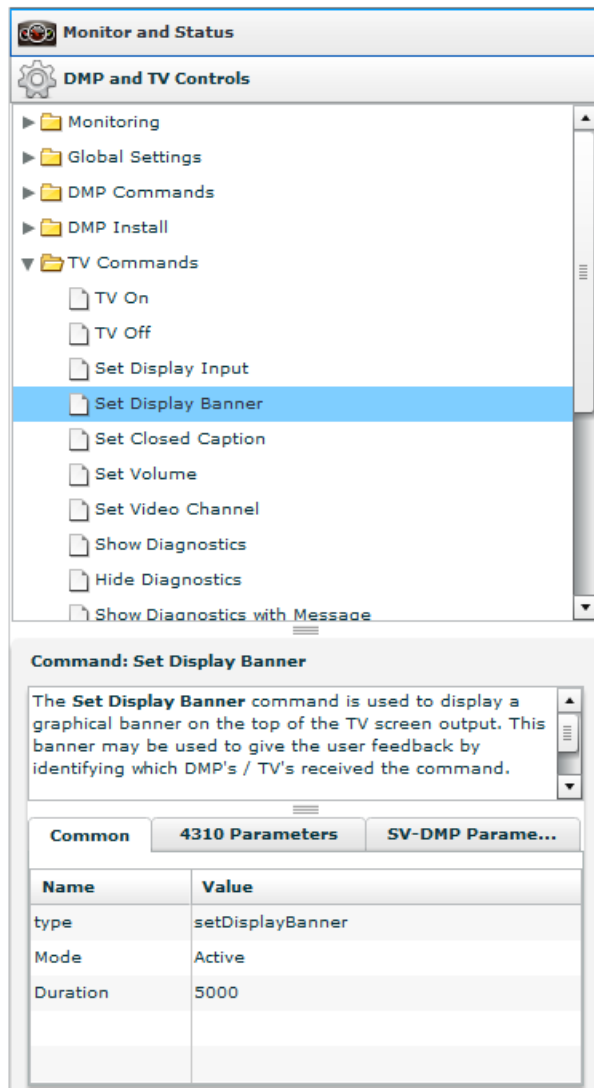
---

To configure the TV display banner duration, complete the following steps:

1. From the Management Dashboard, go to:

**DMP and TV Controls > TV Commands> Set Display Banner**

Figure 14. Set Display Banner—Common Panel



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.

---

## Disabling the TV Display Banner



### User Roles

Administrator

For a better visual experience for video wall displays, you might want to disable the TV display banner.

The TV display banner is enabled by default for all TV displays.

---

**To disable the TV display banner globally, complete the following steps:**

1. From the Management Dashboard, go to:  
**Tools > 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**.
-



StadiumVision



# Working with Zones, Groups, and Locations in Cisco StadiumVision Director

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## User Roles

Administrator / Content Manager

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

## Information About Zones, Groups, and Locations

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

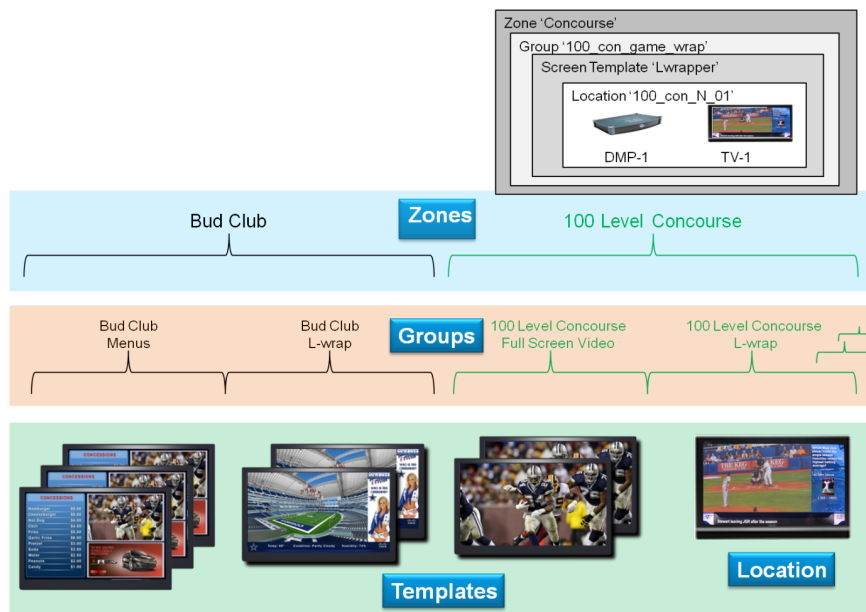
---

# Cisco StadiumVision Hierarchy

To provide a logical way of organizing the hundreds to thousands of endpoints in a venue, Cisco StadiumVision implements a hierarchy of the following entities shown in [Figure 15](#):

- Zones
- Groups
- Screen templates
- Locations

**Figure 15. Zones, Groups, Templates, and Locations Hierarchy**

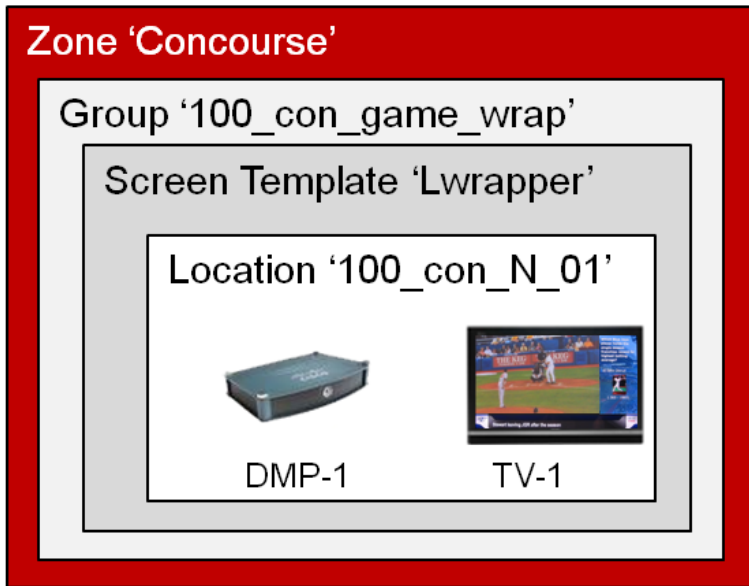


## Zones

A *zone* is typically a physical area in the venue. Examples of zones include concourses, clubs, and team stores. [Figure 16](#) shows the nested hierarchy with a zone named 'Concourse' at the top level.



Figure 16. Nested Hierarchy with Zone at Top Level



## Groups

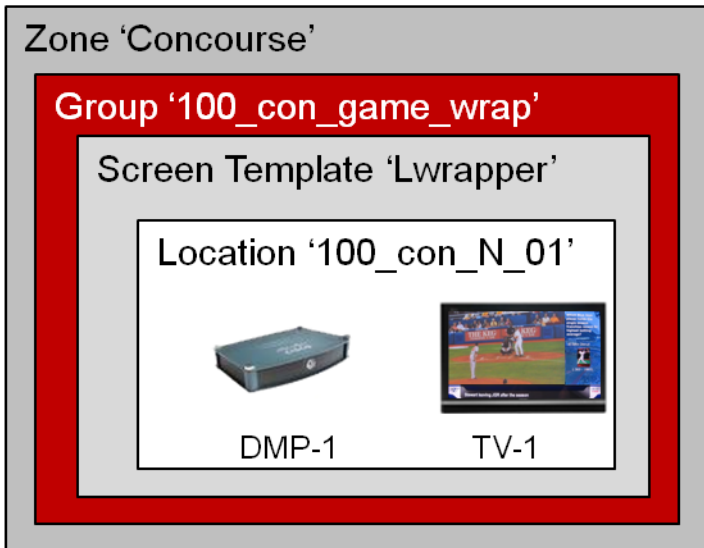
Groups are the second level in the hierarchy. You can think of groups as “children” or subsets of a zone. A *group* defines a collection of devices (DMPs/TVs) that all display the same content, using the same template. Groups consist of a set of *locations* in the hierarchy.

### 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 17](#) 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 17. Group Within a Zone



## Screen Templates

Screen templates are not technically part of the Cisco StadiumVision device hierarchy. They define how a particular TV display is divided into regions to show different arrangements of video, signage, and advertising.

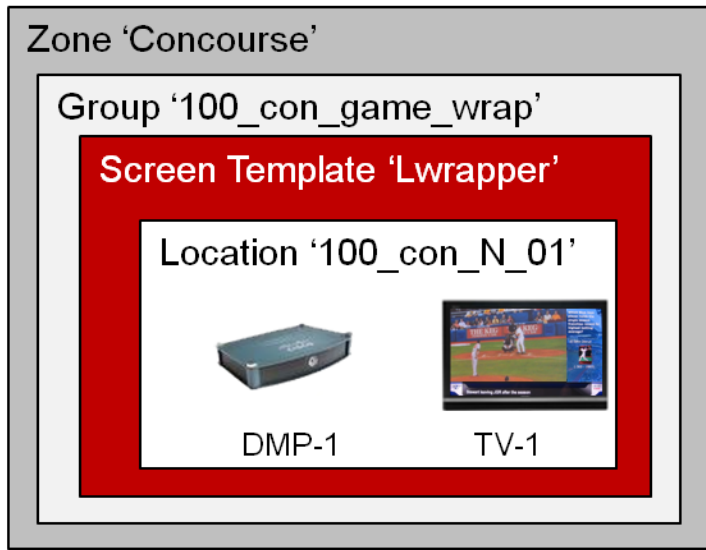
However, screen templates are an important concept to understand within the group-zone hierarchy because they are assigned to groups and zones to define the format of the displays within them.



**NOTE:** Every device belonging to the same group will display the same template.

[Figure 18](#) shows that a screen template named "Lwrapper" is associated with the TV display in location "100\_con\_N\_01," which is part of the "100\_con\_game\_wrap" device group. This example shows only one location, but if there were any number of locations within the group, the same template would apply to all of those TV displays.

Figure 18. Screen Template Associated with All Locations in a Group

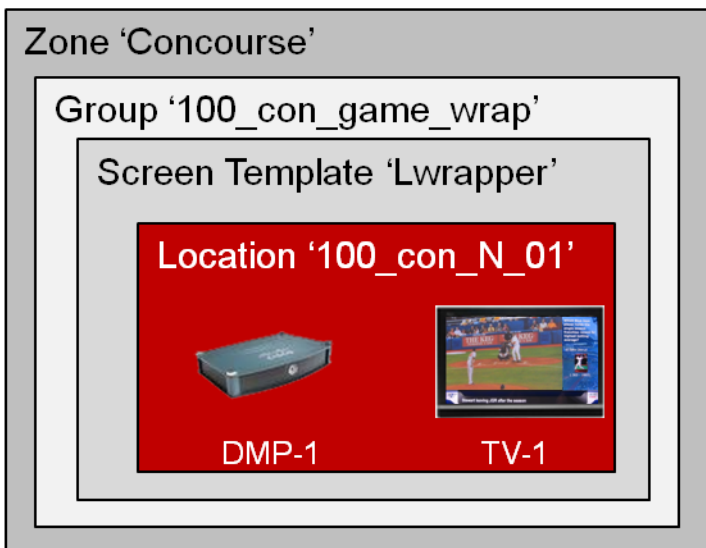


## Locations

Locations are the lowest level in the Cisco StadiumVision hierarchy. A *location* is a subset of a group that defines a specific place in the venue where a TV and DMP reside.

[Figure 19](#) 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 19. 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

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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 StadiumVision Director.

## Default Zones From Legacy Cisco StadiumVision Director Releases



**NOTE:** In older Cisco StadiumVision Director Releases, the following default zones were provided:

- delay\_zone
- emergency\_zone
- nonevent\_zone

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

Consider the following guidelines for these default zones:

- You need to assign a group to each of the default zones.
- Default zones cannot be renamed.
- If you want to assign all media players to one of these zones, you should 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 StadiumVision Director identifies three object types for DMPs and Locations.

- DMP
- Location
- DMP+Location

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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 StadiumVision Director web interface or uploaded using the Bulk Administration Tool (BAT). For more information about BAT, see the [Cisco StadiumVision Director Bulk Administration Tool](#) document.

For information about adding Locations, see ["Adding Locations Manually in Control Panel Setup" on page 57](#)

## 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., Unassigned-00-0f-44-01-a5-ec or AUTO-00-0f-44-01-a5-ec).
- 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.
- Disabled—Device status. A value of "Yes" disables the device.
- DMP Model—Type of media player model.

## Location Type

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

- Name—Location of the media player in the venue.  
Best practice is to use a naming convention that allows an operator to easily identify where the media player 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 media player in Ready state. For more information, see ["Linking DMPs to Locations for Ready"](#)

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[State" on page 58](#)



**NOTE:** The "Automatically map DMP to location" configuration property under Auto Registration Settings in the Management Dashboard can be used only with the Cisco DMP 4310G.

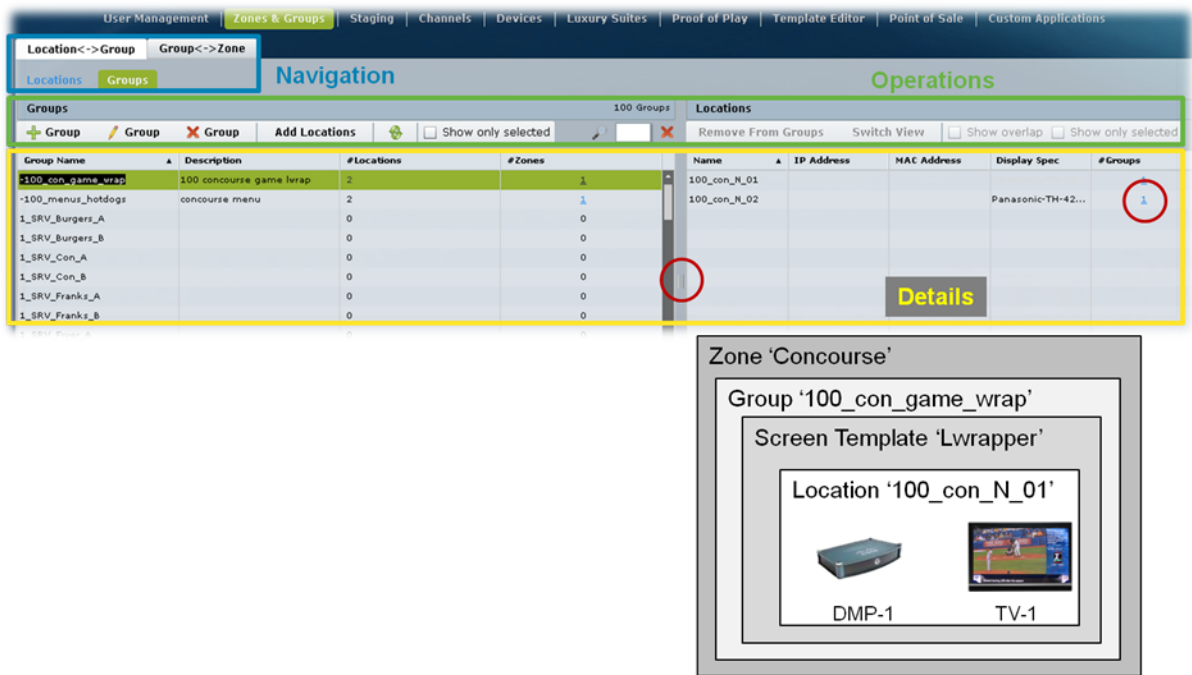
## Zones & Groups Screen

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.

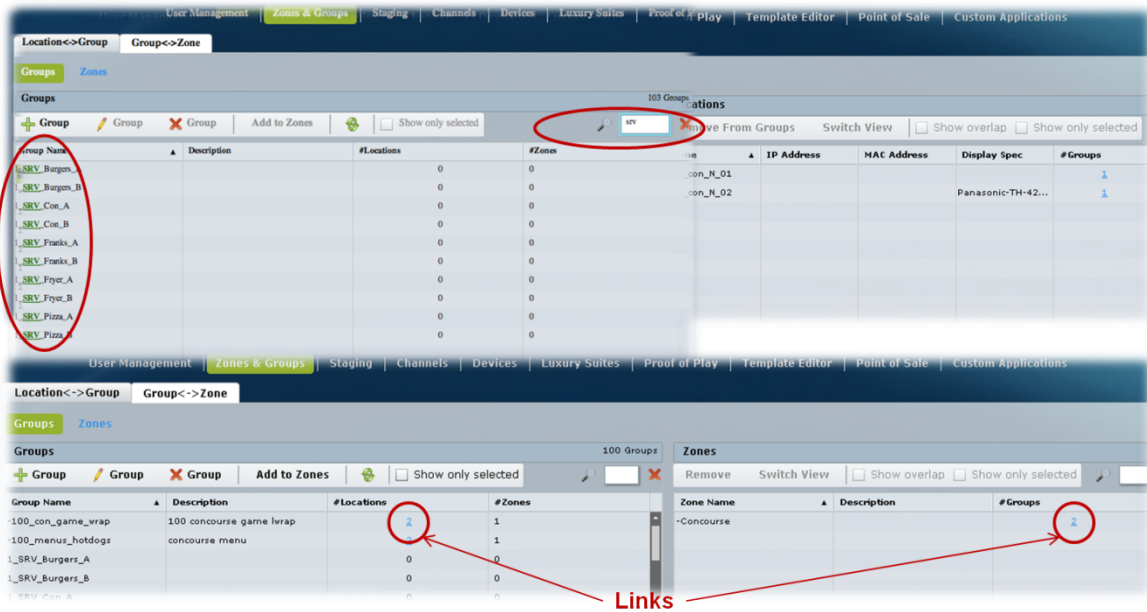
The Zones & Groups screen contains navigation tabs at the top of the screen, operations controls below the navigation tabs, and a details area in the middle of the screen ([Figure 20](#)).

Figure 20. Zones & Groups Screen



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 21).

Figure 21. Zones & Groups Screen Layout



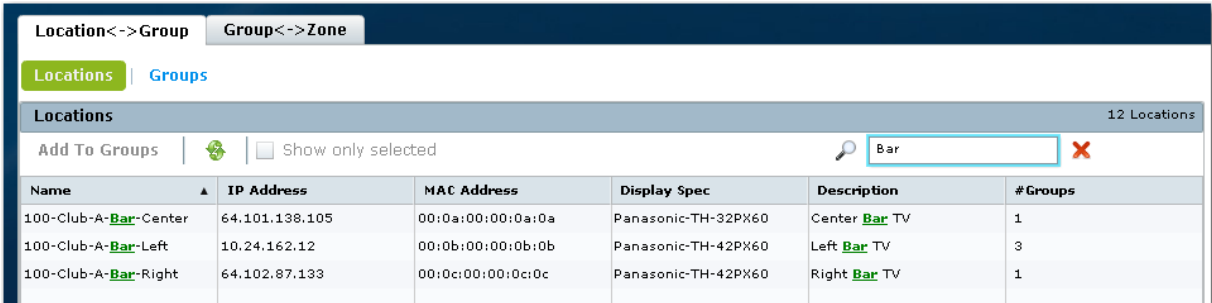
## Search and Show Selected Functions

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 ([Figure 22](#)).

**Figure 22. Search and Show Functions**



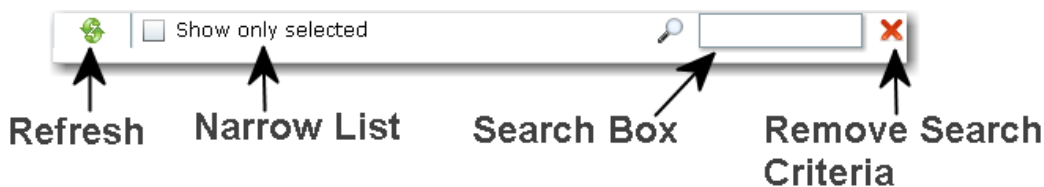
The screenshot shows the 'Locations' panel in a web interface. At the top, there are tabs for 'Location<->Group' and 'Group<->Zone'. Below these are 'Locations' and 'Groups' sub-tabs. The 'Locations' sub-tab is active, showing a table with 12 locations. A search box at the top right contains the text 'Bar' and a magnifying glass icon. A checkbox labeled 'Show only selected' is checked. The table below has columns for Name, IP Address, MAC Address, Display Spec, Description, and # Groups. The first three rows of the table are highlighted in blue, indicating they are selected. The first row is '100-Club-A-**Bar**-Center' with IP 64.101.138.105 and description 'Center **Bar** TV'. The second row is '100-Club-A-**Bar**-Left' with IP 10.24.162.12 and description 'Left **Bar** TV'. The third row is '100-Club-A-**Bar**-Right' with IP 64.102.87.133 and description 'Right **Bar** TV'.

Name	IP Address	MAC Address	Display Spec	Description	# Groups
100-Club-A- <b>Bar</b> -Center	64.101.138.105	00:0a:00:00:0a:0a	Panasonic-TH-32PX60	Center <b>Bar</b> TV	1
100-Club-A- <b>Bar</b> -Left	10.24.162.12	00:0b:00:00:0b:0b	Panasonic-TH-42PX60	Left <b>Bar</b> TV	3
100-Club-A- <b>Bar</b> -Right	64.102.87.133	00:0c:00:00:0c:0c	Panasonic-TH-42PX60	Right <b>Bar</b> TV	1

You can narrow the list and display only selected entries using the CTRL-click and SHIFT-click keyboard functions. Simply select the entries and then enable the checkbox next to 'Show only selected'.

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

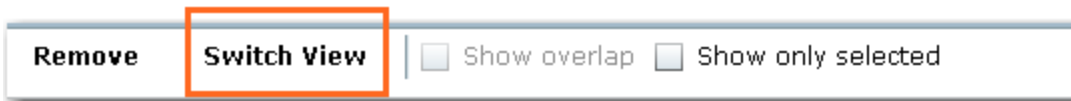
To clear the search criteria and display all items on the screen, click the red X. To refresh the list, click the refresh icon.





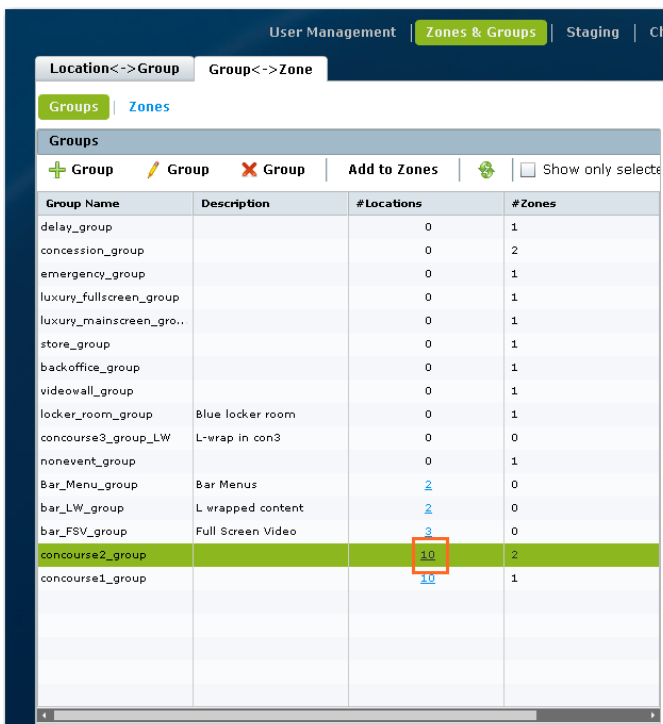
## Switching the View

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.



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 23. Switching the View on the Zones & Groups Page



The screenshot shows the 'Zones & Groups' page with a table of groups. The table has columns for Group Name, Description, #Locations, and #Zones. The 'concourse2\_group' row is highlighted in green, and the number '10' in the #Locations column is underlined and circled in red.

Group Name	Description	#Locations	#Zones
delay_group		0	1
concession_group		0	2
emergency_group		0	1
luxury_fullscreen_group		0	1
luxury_mainscreen_gro..		0	1
store_group		0	1
backoffice_group		0	1
videowall_group		0	1
locker_room_group	Blue locker room	0	1
concourse3_group_LW	L-wrap in con3	0	0
nonevent_group		0	1
Bar_Menu_group	Bar Menus	<a href="#">2</a>	0
bar_LW_group	L wrapped content	<a href="#">2</a>	0
bar_FSV_group	Full Screen Video	3	0
concourse2_group		<a href="#">10</a>	2
concourse1_group		<a href="#">10</a>	1

## 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 an overlap between the Boulder\_Group and SUITES:

Group Name	Description	#Locations	#Zones
backoffice_group		0	1
Boulder_Group		1	1
concession_group		0	0
concourse#1_group		0	1
concourse#2_group		0	1
delay_group		0	1
emergency_group		0	1
GROUP-SUITES		0	0
luxury_fullscreen_group		0	1
luxury_mainscreen_group		0	1
nonevent_group		0	1
store_group		0	1
SUITES		1	0
videowall_group		0	1

Name	IP Address	MAC Address	Display Spec	#Groups
BOULDER-4310-A	10.10.99.11	00:0F:44:01:57:B7	LQ-LQ	2

## How to Configure Locations

This section includes the following topics:

- [Guidelines for Naming Locations, Page 56](#)
- [Adding Locations Manually in Control Panel Setup, Page 57](#)
- [Linking DMPs to Locations for Ready State, Page 58](#)

## 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: % \* , : ? = / \ " ' [ ] ( ) +

- If Ethernet wall jacks are already labeled, use the wall jack label as the Location name.
- 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.
  - Avoid use of sponsor names in the Location name.



**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 the Location Name to each TV in the venue.

This simplifies identifying a problem TV and searching for it in the Cisco StadiumVision 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 timesaver, you can use the Bulk Administration Tool (BAT) to manage multiple configuration changes at once. For more information, see the [Cisco StadiumVision Director Bulk Administration Tool](#) document.

---

**To add Locations manually in Control Panel Setup, complete the following steps:**

1. Go to **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.  
Names should only use “A-Z”, “a-z”, “0-9”, space ( ), underscore(\_) and dash (-)



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

For more information, see ["Guidelines for Naming Locations" on the previous page](#).

- 
- 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 is typically not used.
  - 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.

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## Linking DMPs to Locations for Ready State



### User Roles

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 "Ready" 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 StadiumVision Director Bulk Administration Tool](#) document.



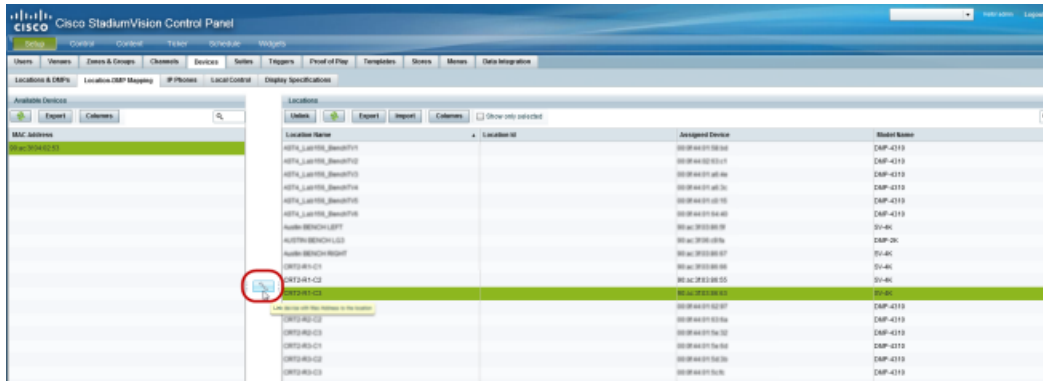
**NOTE:** The "Attempt to map to location during GetStatus" option under Auto Registration Settings in the Management Dashboard is only supported by the Cisco DMP 4310G.

---

**To manually link DMPs to Locations, complete the following steps:**

1. Go to **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).



## Unlinking DMPs From Locations



### User Roles

Administrator / Content Manager / Event Operator

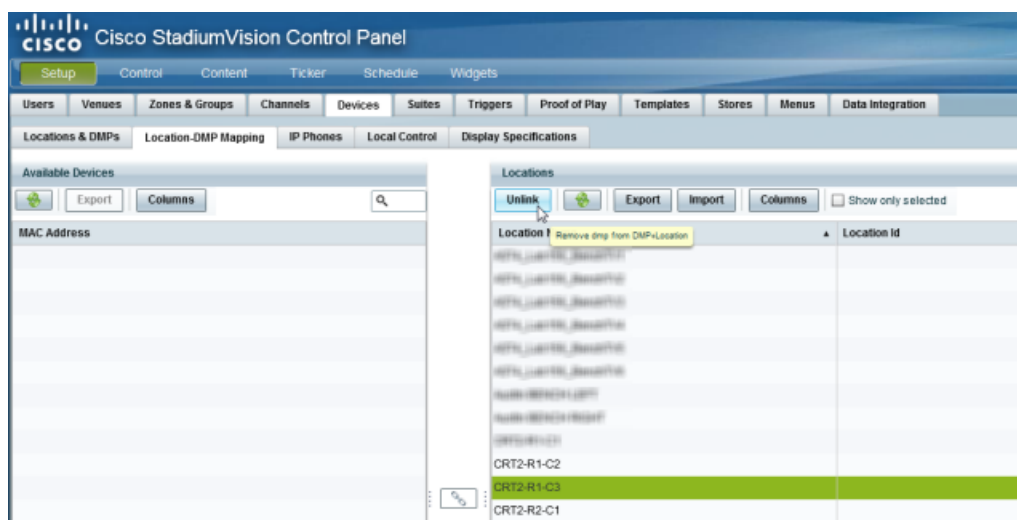
Unlinking DMPs from their assigned locations is required when you need to replace a failed device. For details about how to replace a failed device during an event, see ["Replacing a Failed Media Player While an Event Script is Running" on page 285](#)

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 StadiumVision Director Bulk Administration Tool](#) document.

**To manually unlink DMPs from Locations, complete the following steps:**

1. Go to **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**.



## Associating Venues to Locations for Multiple Venue Support



### User Roles

Administrator

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

For details about configuring multiple venue support in Cisco StadiumVision Director, including associating locations to venues, see the ["Configuring Cisco StadiumVision Director for Multiple Venue Support"](#) module of the [Cisco StadiumVision 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 StadiumVision 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 61](#)
- [Guidelines for Zones and Groups, Page 63](#)
- [Guidelines for Naming Zones and Groups, Page 63](#)

- 
- [Limits for Deploying Zones and Groups, Page 65](#)
  - [Accessing the Zones & Groups Screen, Page 66](#)
  - [Adding Zones, Page 66](#)
  - [Adding Groups, Page 67](#)
  - [Adding Groups to Zones, Page 67](#)
  - [Removing Groups From Zones, Page 68](#)
  - [Adding Locations to Groups, Page 69](#)

## Best Practices for Zones and Groups

- 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 4310Gs 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.



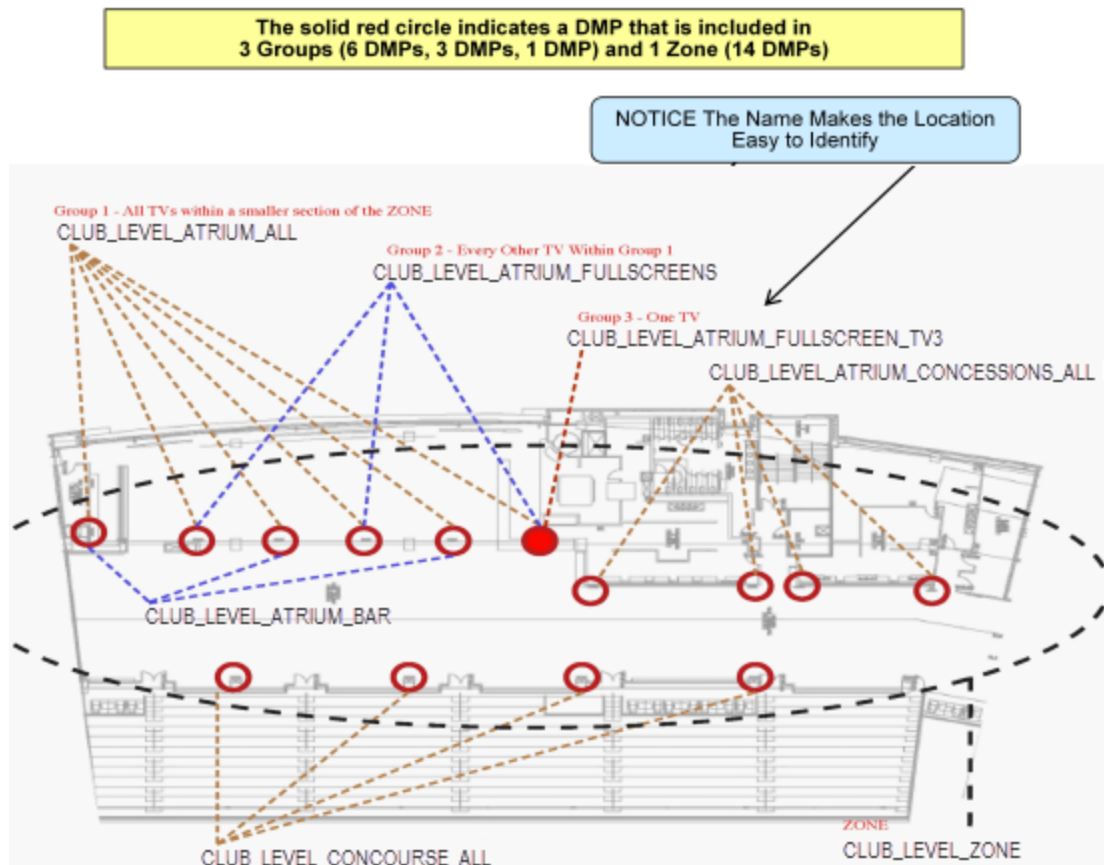
**NOTE:** If you find you must mix model groups in a zone, then be sure that the content reflects the lowest common denominator of support for the devices that you are mixing. Be sure to test your content for expected behavior. Many things have to be taken into account such as dual video, SWF support, and video walls.

[Figure 24](#) shows an example of how a DMP (indicated by the solid red circle) can fit into three different groups within one zone.



**IMPORTANT:** Use careful judgment when creating single-DMP groups to reduce any extra processing for Cisco StadiumVision Director. Some good cases for single-DMP groups are for video walls or suites where you might need to control the content on individual TV displays.

Figure 24. 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" in [Cisco StadiumVision Director Operations Guide](#) (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.

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 StadiumVision 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 25](#) shows abbreviations for identifying the different types of screen templates.

**Figure 25. Example of Abbreviations for Identifying Templates in Groups**



## Limits for Deploying Zones and Groups

[Table 10](#) defines the limits for deploying zones and groups.

**Table 10. 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 <sup>1</sup>
Maximum number of items per playlist.	1200

<sup>1</sup>The maximum of 5000 total media players was qualified on a Platform 3 server.

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## Accessing the Zones & Groups Screen



### User Roles

Administrator / Content Manager / Event Operator

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

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**To access the zones & groups screen, complete the following steps:**

1. Go to **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, complete the following steps:**

1. Go to **Control Panel > Setup > Zones & Groups**.
2. Go to the **Group<->Zone** tab.
3. Click **Zones**.
4. Click the green "plus" + icon.
5. In the New Zone dialog box, do the following:
  - a. Type a name for the group.
  - b. Type a description for the group.



**TIP:** You can leave the description blank and go back and edit it later.

- c. (SV-4K only) To configure zone-based video wall synchronization, select the **Use as Video Wall** checkbox.  
For more information, see the ["How to Configure Video Walls with the SV-4K and DMP-2K Media Player" on page 171](#).
6. Click **OK**.  
The new zone appears in the Zone Name list.
-

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## Adding Groups



### User Roles

Administrator / Content Manager / Event Operator

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**To add a group, complete the following steps:**

1. Go to **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**.



**TIP:** Do not use spaces in group names.

The screenshot shows a 'New Group' dialog box with two input fields. The 'Name' field is filled with 'concourse3\_group\_LW' and the 'Description' field is filled with 'L-wrap in con3'. Below the fields are 'OK' and 'Cancel' buttons.

The new group appears in the Group Name list.

---

## Adding Groups to Zones



### User Roles

Administrator / Content Manager / Event Operator

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**To add groups to zones, complete the following steps:**

1. Go to **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.
- Use Ctrl-click or Shift-click keyboard/mouse sequence to select multiple items in the list.

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, complete the following steps:**

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



**NOTE:** You also can 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 **Control Panel > Setup > Devices**.
- If you are migrating deployed devices from a single venue to a multi-venue system, be sure to follow the required steps for proper location association in the "[Configuring Cisco StadiumVision Director for Multiple Venue Support](#)" module in the [Cisco StadiumVision Director Server Administration Guide](#).

---

**To add locations to groups, complete the following steps:**

1. Go to **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.
- Use Ctrl-click or Shift-click keyboard/mouse sequence to select multiple items in the list.

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 StadiumVision Director, you can use the Zones & Groups screen to display, manage, and edit information the selected zone, group, or location as described in this section.

### Assigning a Proxy DMP to a Location for the Cisco DMP 4310G



#### User Roles

Administrator / Content Manager

A location 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.



**NOTE:** Only Cisco DMP 4310G devices with type 'Location With Network' can participate in proxy activities.

---

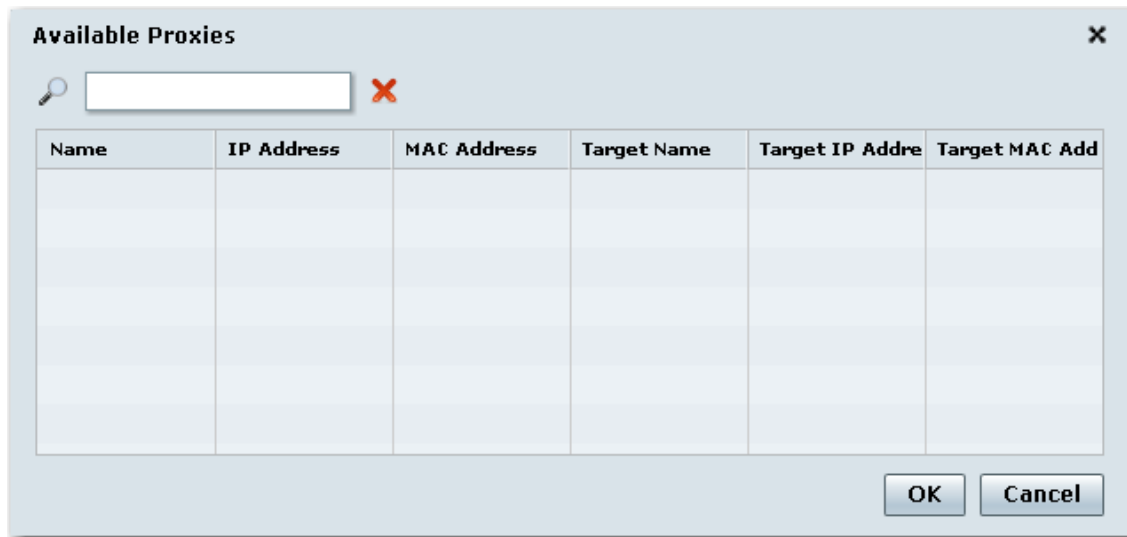
**To assign a proxy DMP to a location, complete the following steps:**

1. Open the Location<->Group tab and click the Location button.
2. Select a location from the list.
3. Click Assign Proxy.


A screen showing the list of available proxy locations appears.

4. Select a location from the list and click OK.





## Editing the Name and Description of Zones and Groups

 **User Roles**  
Administrator / Content Manager / Event Operator

To edit the name and description of a zone and group, complete the following steps:

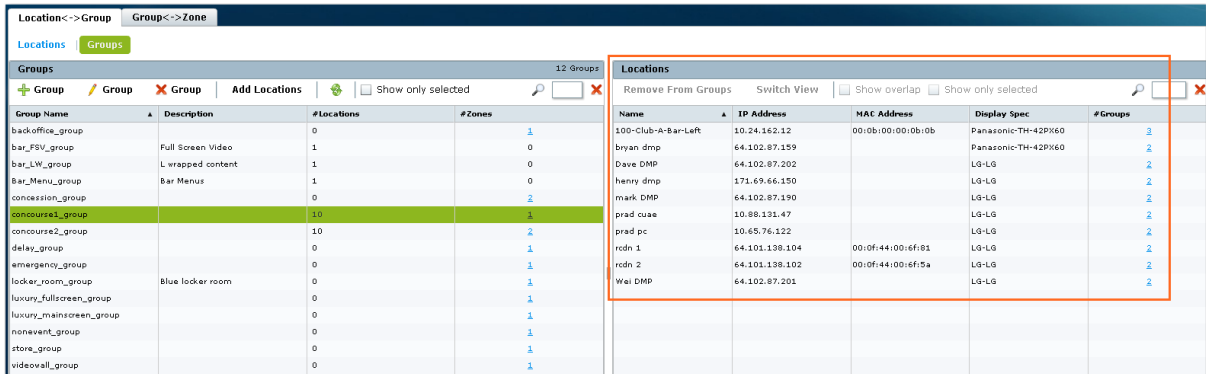
1. Go to **Control Panel > Setup > Zones & Groups**.
2. Click **Group<->Zone**.
3. Do one of the following:
  - a. To edit a group, click **Groups**.
  - b. To edit a zone, click **Zones**.
4. In the left panel view, select the group or zone that you want to edit.
5. Select the pencil icon to open the Edit dialog box.
6. Change the name and description as needed.
7. Click **Save**.

## Viewing Zone, Group, and Location Associations

Click the Zones, Groups, and Locations buttons on the Zones & Groups tabs to display the zones, groups, and location lists in the left column of the Zones & Groups screen. To view information about an item in the list, simply select it. The associated information will display in the right column on the screen. The numbers in each column

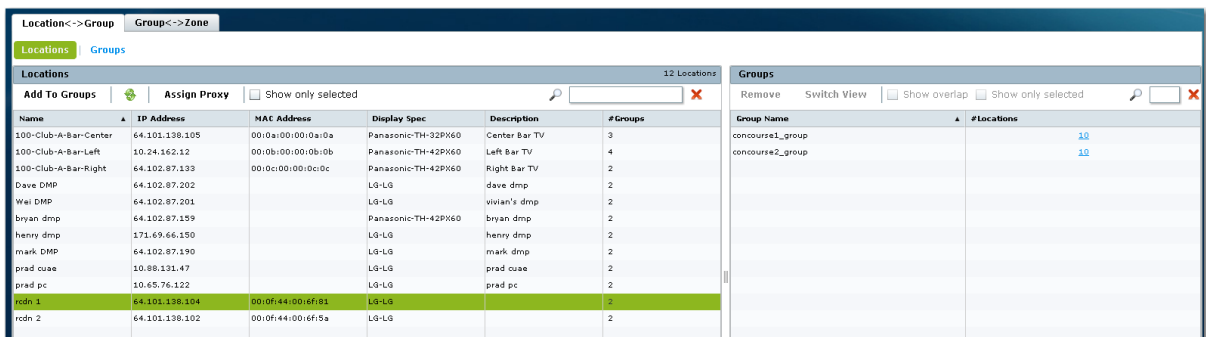
indicate the number of zones, groups, and locations are associated with the selected item. Numbers that are underlined in blue are hot links that you can click to display more details about the selected item. The details display in the opposite side of the screen.

In the example shown below, there are 10 locations for the `concourse1_group`. When you click the number '10' link, the screen displays the DMP Name, IP Address, MAC Address, TV Display Spec, and the number of groups for each of the 10 locations for the `concourse1_group`. The information displays in the Locations panel on the right.



## Finding the Group and Zone to Which a TV Belongs

1. Select the Location <-> Group tab and click the Locations button.
2. Select a location name. In this example, `rcdn-1` is selected. The number of groups to which this location belongs shows under the `#Groups` column (in this example, there are 2 groups). The names of the groups to which this location belongs displays in the Groups panel at the right.



3. Select a group from the Groups panel and click Switch View. The number of zones for the selected group displays under `#Zones` (in this example, there is 1 zone):

Group Name	Description	#Locations	#Zones
delay_group		0	1
concession_group		0	2
emergency_group		0	1
luxury_fullscreen_group		0	1
luxury_mainscreen_group		0	1
store_group		0	1
backoffice_group		0	1
videowall_group		0	1
locker_room_group	Blue locker room	0	1
concourse3_group_LW	L-wrap in con3	0	0
nonevent_group		0	1
Bar_Menu_group	Bar Menus	2	0
bar_LW_group	L wrapped content	2	0
bar_FSV_group	Full Screen Video	3	0
concourse2_group		10	2
concourse1_group		10	1

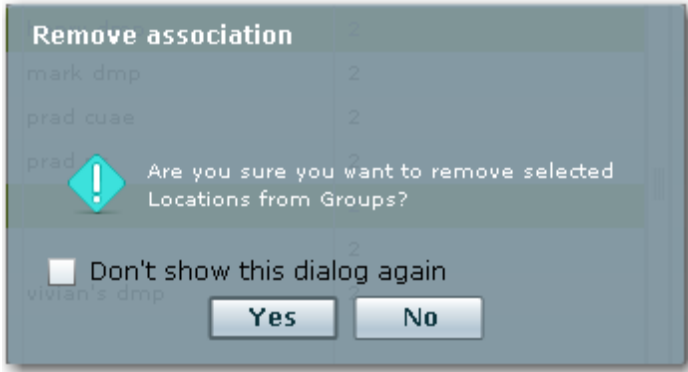
- With the Group name selected, click on the number link in the #Zones column to show the zones to which the selected group belongs (in this example, concourse1\_group belongs to 1 zone).

Zone Name	Description	#Groups
concourse1_zone		1

- Open the Location<->Group tab and click the Locations button.
- Select the locations from the left column and the groups from the right column and click Remove.

Name	IP Address	MAC Address	Display Spec	Description	#Groups
100-Club-A-Bar-Center	64.101.138.105	00:0a:00:00:0a:0a		Center Bar TV	1
100-Club-A-Bar-Left	10.24.162.12	00:0b:00:00:0b:0b	Panasonic-TV-42PX60	Left Bar TV	3
100-Club-A-Bar-Right	64.102.87.133	00:0c:00:00:0c:0c		Right Bar TV	1

A confirmation dialog displays for your to confirm or cancel the operation.

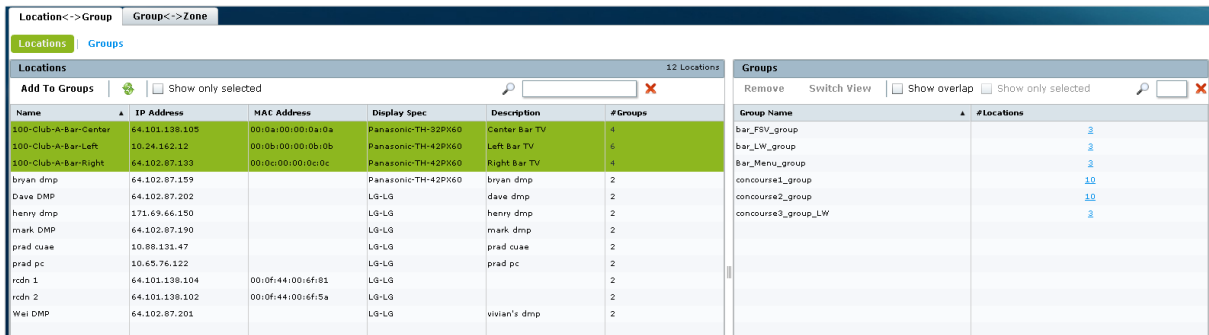


3. Click Yes to remove the locations from the selected groups. Once removed, they will no longer show in the groups list for those locations.

## Regrouping and Rezoning Locations

Once you have added and 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. Select the Location<->Group tab and click the Locations button.
2. Select the locations that you want to re-group. The Groups panel on the right will display the groups assigned to the selected DMPs.

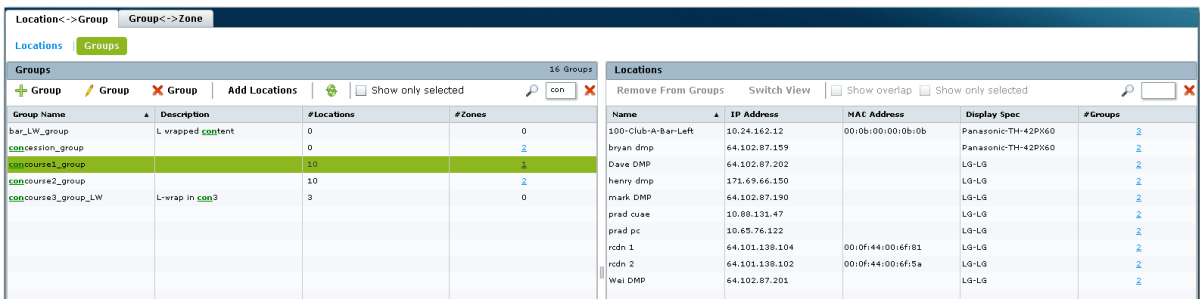


3. Select the groups from the Groups panel. You can use the shift click keyboard function to select a block of groups. The selected groups and locations are highlighted in green on both the Locations and the Groups panels.
4. Click Remove to remove all the locations from the selected groups. A warning dialog displays for you to confirm or cancel the operation.

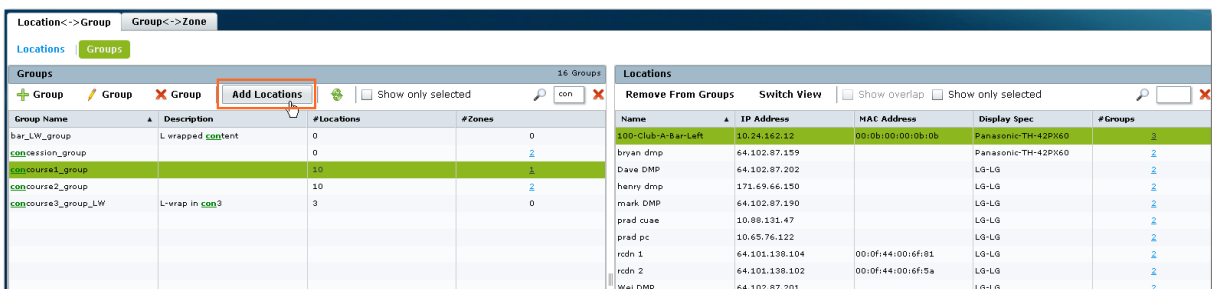




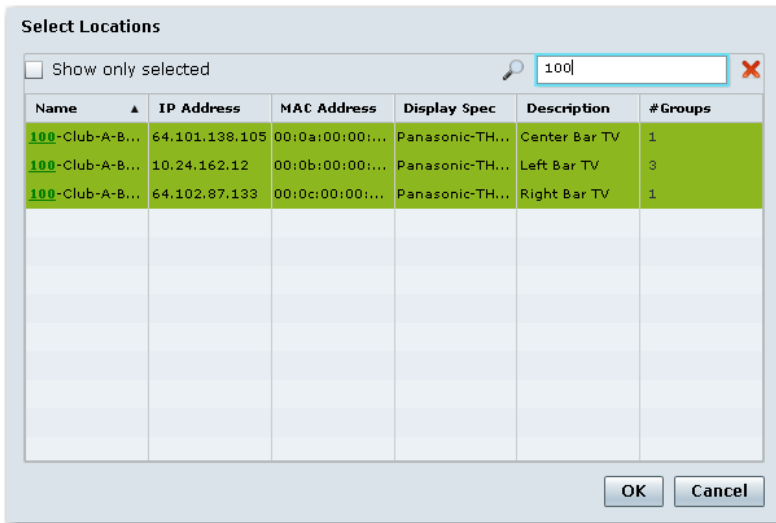
5. Click Yes. The selected groups will be removed from the Groups panel.
6. Select the Location<Group> tab and click Groups. Optional: click the switch view button so you can see the groups on the left and the locations on the right.
7. Select a group. You can use the search function to quickly find the group you are looking for.



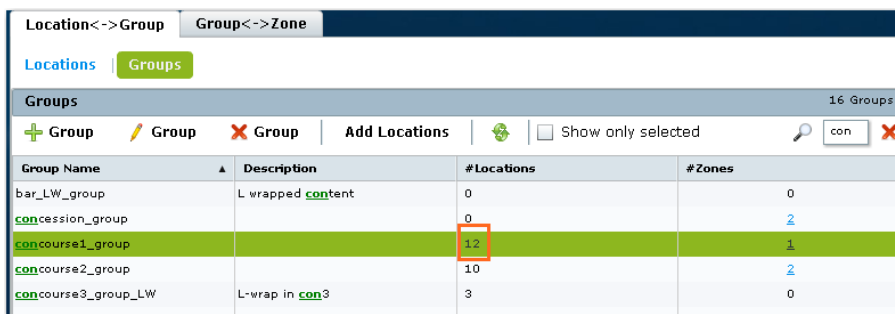
8. Select the locations you want to add to the selected group from the Locations panel.
9. Click Add Locations.



10. 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.



## 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 StadiumVision Director.

For more information, see the topics in the ["Configuring Cisco StadiumVision Director for Multiple Venue Support"](#) module in the [Cisco StadiumVision Director Server Administration Guide](#).



StadiumVision



## **Cisco StadiumVision Director: Content Deployment and Operations**







StadiumVision



# Getting Started with Content Deployment

Cisco StadiumVision 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 StadiumVision 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 StadiumVision. 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.

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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 SV-4K media player, you can override the negotiated signal resolution by configuring a requested signal resolution in the Cisco StadiumVision Director Control Panel. See the ["Configuring Resolution Under Control Panel Display Specifications" on page 82](#).

## 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 StadiumVision Director. To be visible on the display, the template resolution must be able to fit within the canvas resolution.

## Cisco StadiumVision Director Template Resolution

Cisco StadiumVision Director Release 4.0 supports the same template resolution on both media players:

- Cisco DMP 4310G—1920x1080
- SV-4K—1920x1080

## Canvas and Template Resolution Behavior on the Cisco DMP 4310G

For the Cisco DMP 4310G, the canvas resolution and template resolution always match at 1920x1080.

In addition, the Cisco DMP 4310G shrinks its canvas to fit the signal resolution. Therefore, if you have a TV that has 720p signal resolution, the DMP shrinks the template canvas to fit 720p. This is not true for the SV-4K media player.

## 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" on the previous page](#)

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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 SV-4K and DMP-2K Media Player

The SV-4K and DMP-2K is 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 StadiumVision Director to attempt to optimize the display. In some cases these TVs might cut off an area of the screen, rather than resize the graphics to the area as the Cisco DMP 4310G does.

The quality and expected resolution for video and graphics display for the SV-4K and DMP-2K 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 StadiumVision Director Control Panel:
  - When set to a resolution, this value specifies the SV-4K and DMP-2K signal resolution.
  - If the resolution is set to auto-detection, then the TV negotiates the signal resolution with the SV-4K and DMP-2K 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 StadiumVision Content Creation Design and Specification Guide](#).

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## Restrictions for Control Panel TV Display Specifications with the SV-4K and DMP-2K Media Player

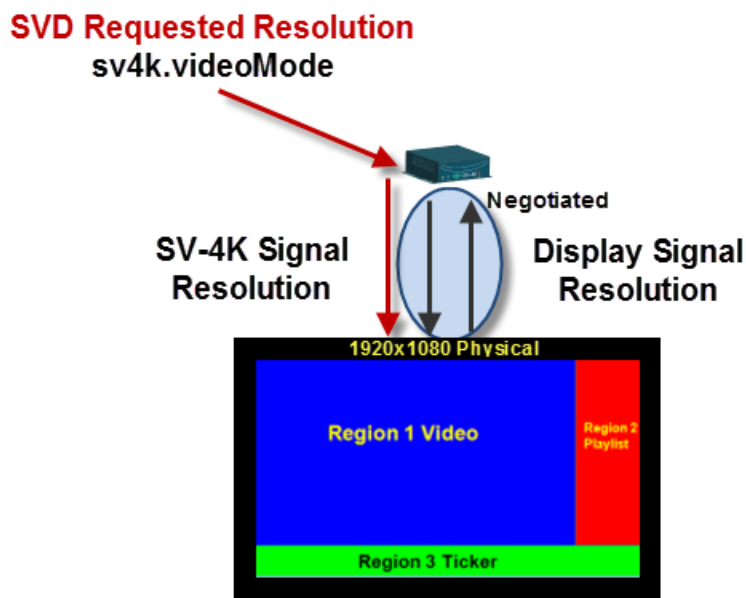
Before you configure TV display specifications for use with the SV-4K and DMP-2K media player, consider the following restrictions:

- 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 StadiumVision Director Control Panel.

Figure 26. SV-4K and Display Signal Resolution



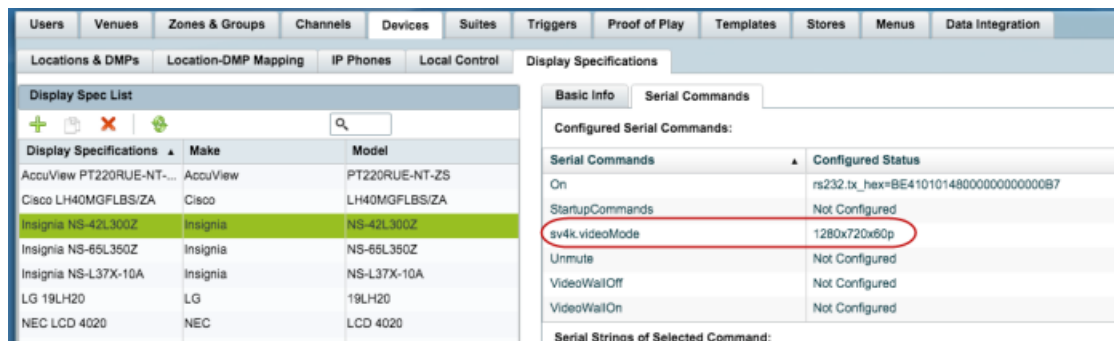
- If the resolution is set to auto-detection, then the TV and the SV-4K negotiate the signal resolution, as long as the TV supports auto-negotiation ([Figure 26](#)).
- If a resolution is specified in the Control Panel, then the content is resized according to that setting. This is the requested SV-4K signal resolution shown in red in [Figure 26](#).

- 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, complete the following steps:**

1. Go to **Control Panel > Setup > Devices > Display Specifications**.
2. Select the TV that you want to configure.
3. Click **Serial Commands**.
4. Find the sv4k.videoMode command ([Figure 27](#)).

**Figure 27. SV-4K Resolution Setting in Display Specifications**



5. Specify one of the values in [Table 11](#) according to the desired resolution behavior.

**Table 11. SV-4K Resolution Values**

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

6. Click **Save**.
7. Reboot the SV-4K device.

<sup>1</sup>This specification is required for 4K TV displays in Release 4.1.

---

# Understanding Content Types and Sources in Cisco StadiumVision Director

*Content* is defined as any digital media that is presented on a TV display using a digital media player in Cisco StadiumVision Director.

Cisco StadiumVision 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 StadiumVision Director.

For more information, see the *Cisco StadiumVision Director External Content Integration Guide*.

## Data Feeds

- Atom Feed
- RSS Feed (RSS 2.0)

## Generic Data Sources

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

- Database  
Supports automatic translation of MySQL and SQL Server database formats to XML data in Cisco StadiumVision 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 StadiumVision 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 and hockey only)
- OES ISC9000 Intelligent Scoreboard Controller (basketball and hockey only)

## Flash Content



**NOTE:** Flash content is not supported on the SV-4K and DMP-2K media player. Only Flash Player 7 with Action Script 2.0 is supported on the Cisco DMP 4310G, but it is not recommended due to implementation limitations.

---

Flash content includes low-motion graphics that are used to enhance advertisements, welcome messages, menu boards or directional signage for crowds. Flash content is stored locally on the Cisco DMP 4310G.

## HTML Pass-Through Content

Cisco StadiumVision Director allows you to render simple HTML browser content (with some restrictions) on the Cisco DMP and SV-4K media players by including an external URL in a playlist and scheduling it in a script.

The content is not actually stored in the Cisco StadiumVision Director content repository (CMS), and any changes to the content on the external site page are dynamically updated on the DMP or SV-4K when the script restarts.

## Menu Board Content



**IMPORTANT:** The SV-4K does not support deployment of menu board data using the DMB gadget archive (GAR) or for in-suite ordering. However, stores data and DMB menu theme data can be deployed on the SV-4K using data integration and widgets.

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

- **DMB Only**—(DMP 4310G only) POS Integration (NCR/Quest and Micros) using the Dynamic Menu Board (DMB) application gadget.
- **Hybrid DMB and External Content Integration**—POS Integration (NCR/Quest and Micros) using internal DMB data integration and widgets.
- **External Content 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 StadiumVision Director External Content 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.



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## 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.

Cisco StadiumVision Director currently supports two methods of ticker implementation.

### External Content Integration Method



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

The External Content Integration method was introduced in Cisco StadiumVision Director Release 3.1 to add RSS data sources and modify their layout using the Widgets tool.

For more information, see the *Cisco StadiumVision Director External Content Integration Guide*.

### Legacy Ticker Method (DMP 4310G Only)

A legacy method of ticker configuration that uses a Flash region on the Cisco DMP 4310G.

In the legacy interface, the source for the ticker can be multiple RSS feeds, but they are all aggregated into one ticker stream. Therefore, all screens with a ticker will show the same information.

Ticker backgrounds are Flash files (.swf) that are stored as content in Cisco StadiumVision Director. Example ticker files are provided for use with the standard templates provided by Cisco StadiumVision Director.

For more information, see the “Differences Between Legacy Ticker Feature and External Content Integration for RSS Support” in the [Cisco StadiumVision Director External Content Integration Guide, Release 3.1](#).

The [Configuring Legacy Tickers in Cisco StadiumVision Director](#) document describes how to configure the legacy ticker interface beginning in Cisco StadiumVision Director Release 2.2 through Cisco StadiumVision Director Release 3.1.

---

## SSC Content



**NOTE:** SSC content is only supported on the Cisco DMP 4310G.

Business users at a venue can be given Self-Service Content (SSC) user role permissions to allow independent upload of custom content (images and videos). This content can be played directly on authorized TV displays controlled by the Cisco DMP 4310G only.

SSC content is uploaded using a separate application portal. This content does not appear in the Cisco StadiumVision Director content library, but it can be controlled by event scripts.

For more information about SSC, see the following documents:

- [Cisco StadiumVision Director Self-Service Content Configuration Guide](#)
- [Cisco StadiumVision Director Self-Service Content User Guide](#)

## Static Graphic Sources

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

Static graphics can be added to Cisco StadiumVision Director in two ways:

- Using the **Import** button on the Control Panel Content screen.
- Using SSC to upload images to an album.



**TIP:** Images or video content uploaded to an SSC album cannot be seen in the Control Panel Content screen.

## Video Sources

Cisco StadiumVision 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 (SV-4K media player only beginning in Release 4.1).

---

## Video Content Sourced Using HDMI-In on the SV-4K

Cisco StadiumVision supports two ways to source local video content using the HDMI-In port on the SV-4K media player:

- Encoding streamed video as a channel in Cisco StadiumVision Director.  
Encoded HDMI-In video on the SV-4K can be started and stopped using multiple local control methods, as well as within Cisco StadiumVision 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 SV-4K 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 StadiumVision Director

[Table 12](#) provides a summary of the tasks and related information to deploy content in Cisco StadiumVision Director.

**Table 12. Content Deployment Task Summary**

Content Deployment Task	For more information see:
Plan the type of content that you want to create.	<a href="#">"Understanding Content Types and Sources in Cisco StadiumVision Director" on page 84</a>
Plan where it will be deployed.	<a href="#">"Working with Zones, Groups, and Locations in Cisco StadiumVision Director" on page 45</a>
Understand the content guidelines and best practices.	<a href="#">Cisco StadiumVision Content Creation Design and Specification Guide</a>  Also refer to the related content-specific guides for the content types that you plan

Content Deployment Task	For more information see:
	<p>to support, including:</p> <p><a href="#">Cisco StadiumVision Director Dynamic Menu Board and Stores Configuration Guide</a></p> <p><a href="#">Cisco StadiumVision Director External Content Integration Guide</a></p> <p><a href="#">Cisco StadiumVision Director Self-Service Content Configuration Guide</a> (DMP 4310G only)</p> <p><a href="#">Cisco StadiumVision Director Self-Service Content User Guide</a> (DMP 4310G only)</p>
Plan and create the screen template and region sizes for your content.	<a href="#">"Working with Screen Templates in Cisco StadiumVision Director" on page 91</a>
Create your content and get it into Cisco StadiumVision Director.	<a href="#">"Getting Content Into Cisco StadiumVision Director" on page 139</a>
Create a playlist for your content.	<a href="#">"Working with Playlists in Cisco StadiumVision Director" on page 145</a>
Create a script to define when your content is displayed.	<a href="#">"Working with Event Scripts in Cisco StadiumVision Director" on page 179</a>



StadiumVision



# Working with Screen Templates in Cisco StadiumVision Director



## User Roles

Administrator / Content Manager

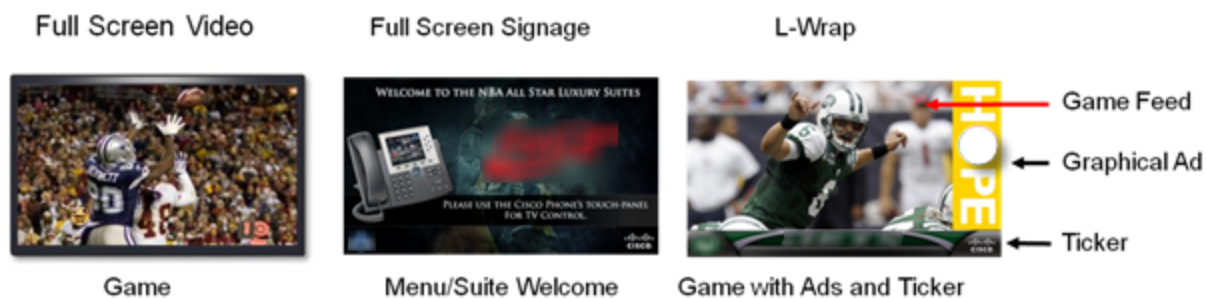
This module provides information about how to set up the layout of content on a TV display by defining regions for the screen using predefined or custom templates.

## 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 28](#) 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 28. Three Basic Templates



Cisco StadiumVision 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.


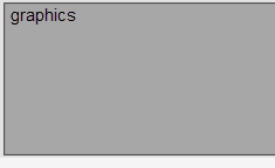


## Default Screen Template Dimensions

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 13](#) defines the default screen templates that are included with Cisco StadiumVision Director 4.0 and later. Installing a full ISO image would remove previously available templates.

**Table 13. 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.	Video 1: 1920x1080  Video 2: 1920x1080	

Template Name	Content Type	Dimensions	Region Layout
	The Full Screen Dual Video template is only available to use on the SV-4K and DMP-2K media players.		



**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 StadiumVision Director software are used to display full-screen video (or mixed media) or full-screen graphics. [Figure 29](#) shows an example of a video (or mixed media) in the full screen template. [Figure 30](#) shows an example of a graphic in the full screen template. Both are fixed screen templates and cannot be customized.

**Figure 29. Full Screen Video (or Mixed Media) Template Example**



**Table 14. 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 30. Full Screen Graphic Template Example



Table 15. Full Screen Graphic Template Dimensions

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

## 3-Region L-Wrapper Default Template

Figure 31 shows an example of the content for the 3-Region L-wrapper template that comes standard with Cisco StadiumVision Director. This is a fixed screen template and cannot be customized.

Figure 31. 3-Region L-Wrapper Template







**Table 16. 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 17](#) lists the characteristics of the 3-Region L-wrapper screen template.

**Table 17. 3-Region L-wrapper screen template characteristics**

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

---

## Full Screen Dual Video Default Template (SV-4K and DMP-2K Media Players Only)

A full screen dual video default template is available for the SV-4K and DMP-2K 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 SV-4K and DMP-2K media players.

For video content with 4K resolution on the SV-4K media player, 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 18](#) lists the specifications of the dual video regions.

**Table 18. Full Screen Dual Video Template Specifications**

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



**NOTE:** The luma key default is set to #ff2000. To enable luma keying, click the checkbox. To change the global luma key value from the **Management Dashboard**, go to **SV Director Configuration > System Configuration > Global DMP Settings > SV-4K Settings**.

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## 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 32](#)

Figure 32. 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 SV-4K and DMP-2K media player, you can also create a custom template that allows for [dual video regions](#) or you can use the [default full screen dual video template](#).

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 SV-4K and DMP-2K 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

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make the pixels transparent for the full-size video region. JPG files are not recommended because they do not preserve transparency.



**NOTE:** The Global MIB Variable on the Cisco DMP 4310G needs to be changed to “Color Key Off” or you will not be able to create graphics with 00 Black (R:0 G:0 B:0) or anything black will appear transparent. Graphics always overlay video—you cannot put video over graphics.

## How to Configure Screen Templates

This section includes the following topics:

- [General Guidelines for All Screen Templates, Page 98](#)
- [Guidelines for Custom Screen Templates, Page 99](#)
- [Understanding the Templates Screen , Page 101](#)
- [Creating Custom Screen Templates, Page 102](#)
- [Naming Screen Templates, Page 103](#)
- [Setting the Size and Position of a Region on the Template Canvas, Page 103](#)

## 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

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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 Cisco DMP 4310G and DMP-2K media players only support HD/SD content. Review the list of supported content in the ["Content Rules and Specifications" on page 1](#).

## 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 19](#) provides the number of content regions that you can have when creating custom templates.

**Table 19. Number of Allowed Content Regions When Creating Custom Templates**

Region Type	SV-4K and DMP-2K	DMP 4310G
Non-Video (Graphics)	Zero or more	Zero or more
Video Region 1 or Mixed Media	Up to one	Up to one
Video Region 2 or Mixed Media	Up to one	Not Supported

- A custom template designed for SV-4K and DMP-2K media players can contain up to two video regions.



**NOTE:** The SV-4K media player does not support dual 4K video regions. Refer to the ["Restrictions for 4K Video Content on the SV-4K Media Player" on page 1](#) for additional information.

- 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 SV-4K and DMP-2K, 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.

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 SV-4K and DMP-2K 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.

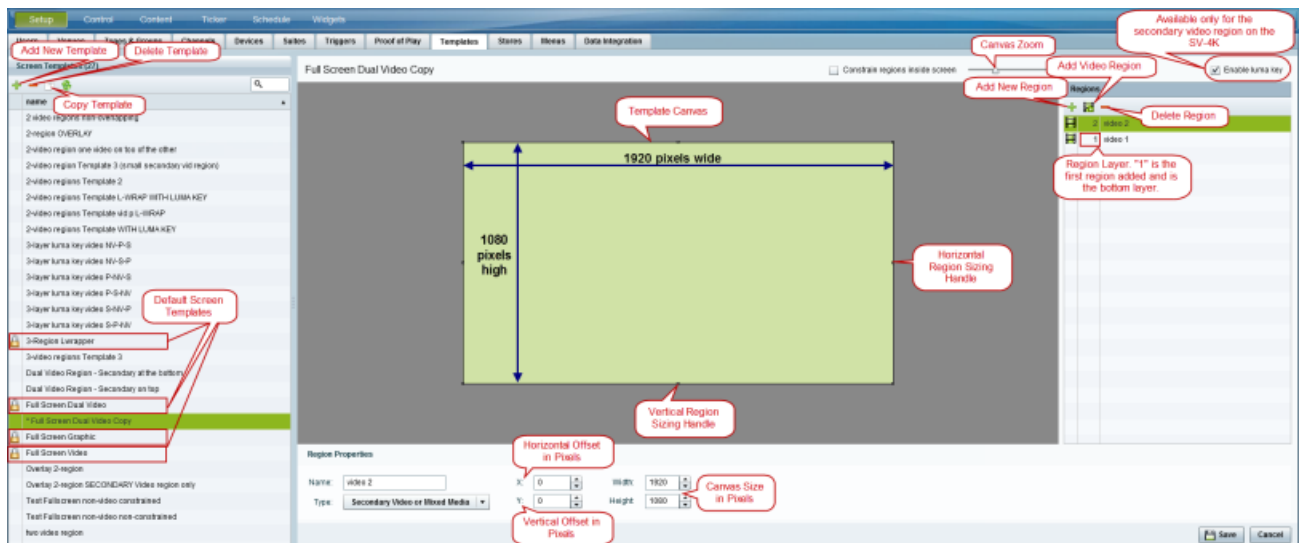


**NOTE:** SV-4K and DMP-2K media players support negotiation to many resolutions, however when the negotiated resolution is less than 1920x1080, the template will be cropped to that lower resolution.

## Understanding the Templates Screen

Figure 33 identifies several key areas of the Templates screen that you should be familiar with when creating and modifying templates.

Figure 33. Templates Screen Navigation



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## Creating Custom Screen Templates



### User Roles

Administrator / Content Manager

There are two ways that you can create new custom screen templates in Cisco StadiumVision 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 gold lock icon to the left of the template name) can be copied but not modified.



#### IMPORTANT:

If supporting video for a template to be used on the Cisco DMP 4310G, be sure to only configure a single video region. Dual video regions are supported only on the SV-4K media player.

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## Adding a New Template

**To add a new template, complete the following steps:**

1. From the Control Panel, go to **Setup > Templates**.
2. At the top of the Screen Templates list, click the “+” icon.  
A new template is opened in the screen with the name “\* **new template**.”
3. Double-click the template name and type a new name.  
For suggestions on naming conventions, see the ["Naming Screen Templates" on the facing page](#).
4. Add one or more regions (up to 5).
5. Specify the region properties.
6. Save the template.

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## 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.

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**To copy an existing template, complete the following steps:**

1. From the Control Panel, go to **Setup > Templates**.
2. At the top of the Screen Templates list, click the copy icon.  
A new template is opened in the screen with the name "*\* copied-template-name Copy*."
3. Double-click the template name and type a new name.  
For suggestions on naming conventions, see the ["Naming Screen Templates" below](#).
4. (As required) Modify the region properties and layers.
5. Save the template.

---

## Naming Screen Templates

When naming screen templates, use meaningful abbreviations or 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 Roles

Administrator / Content Manager

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

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## Resizing a Region



**IMPORTANT:** For the SV-4K, the Width and Height of the template canvas must match the signal resolution. For more information, see ["Canvas and Template Resolution" on page 80](#).

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 will display 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 only supported by the SV-4K media player.

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This section includes the following topics:

- [Understanding How the Luma Key Works, Page 105](#)
- [Modifying the Default Luma Key Value, Page 106](#)

## Understanding How the Luma Key Works



**NOTE:** The Luma key property is available only for the SV-4K and DMP-2K media player.

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 34](#) shows an example of overlaying "GOAL" to highlight a moment of exclusivity during a game.

**Figure 34. Goal Overlaying Game Stream**



[Figure 35](#) shows an example of a hockey puck moving over the game stream to highlight a goal during the game.

Figure 35. Flying Hockey Puck Overlaying Game Stream After Goal



## Modifying the Default Luma Key Value



### User Roles

Administrator

The Luma key property is set globally for all SV-4K and DMP-2K 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 20](#) shows the format of the hexadecimal key and how the bits are interpreted.

**Table 20. Luma Key Format**

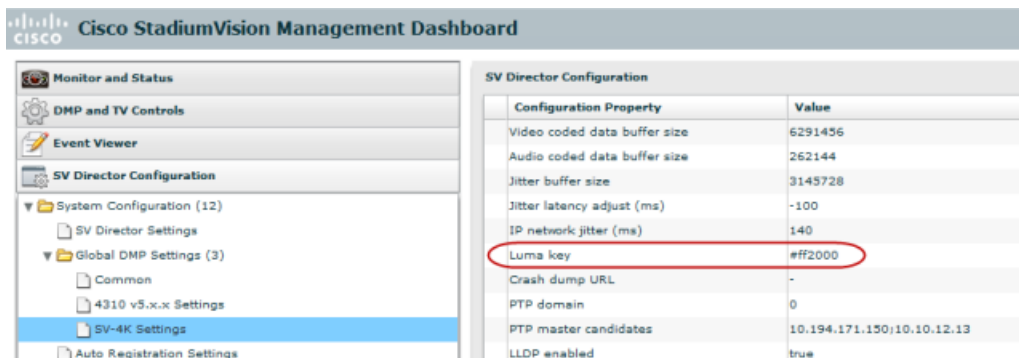
8-Bit Mask	8-Bit High Range	8-Bit Low Range
0xff	0x20	0x00

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 SV-4K and DMP-2Ks, 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, complete the following steps:**

1. From the Management Dashboard, go to **SV Director Configuration > System Configuration > Global DMP Settings > SV-DMP Common Settings**.
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 SV-4K and DMP-2K media player retrieves the global settings.





# Working with Content in Cisco StadiumVision Director

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## User Roles

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 StadiumVision Director.

## How to Configure Channels

This section includes the following topics:

- [Configuring the Default Video Channel, Page 109](#)
- [Tuning Selected Media Players to a Multicast URL, Page 110](#)
- [Defining Channels and Channel Guides, Page 110](#)

## Configuring the Default Video Channel

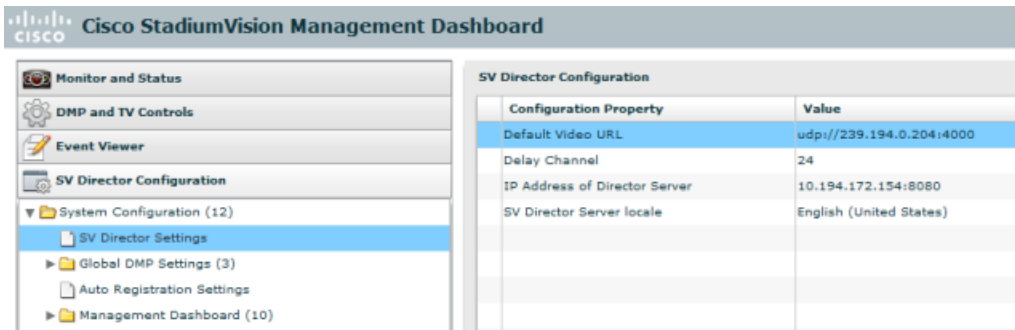
Specifying a default video channel allows you to quickly verify that video transmission is working after provisioning a media player without running an event script.

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, complete the following steps:**

1. Log into Cisco StadiumVision Director as an administrator.
2. Go to the Management Dashboard.
3. Go to **SV Director Configuration > System Configuration > SV Director Settings**.
4. In the **Default Video URL** property, type the URL for the video stream.

Figure 36. Configuring the Default Video Channel



5. Save the changes.
6. Reload the media players.

## Tuning Selected Media Players to a Multicast URL



### User Roles

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, complete the following steps:**

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

## Defining Channels and Channel Guides



### User Roles

Administrator / Content Manager

Cisco StadiumVision 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 37. 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 StadiumVision Director, each unique multicast group/UDP port number pair is assigned a StadiumVision channel number and a channel name.
- Cisco StadiumVision 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 StadiumVision partners.

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## Defining the Master Channel List

Once channels have been defined at the headend, you need to define a master channel list on the Setup > Channels page in the Cisco StadiumVision Director Control Panel.

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 3<sup>rd</sup> Party Guide” field on the Channels panel to Yes.

## Adding Channels to the Master Channel List



### User Roles

Administrator / Content Manager

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**To add channels to the master channel list, complete the following steps:**

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 21](#). The description and source ID are optional.



**NOTE:** The Channel name configured in StadiumVision 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 21. 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 StadiumVision headend.
Port	The multicast port used to communicate with this channel as designated at the StadiumVision 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 <sup>rd</sup> 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 StadiumVision.

## 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.

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## 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. This is achieved by creating two channels 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 hence is automatically assigned to all other DMPs.

You can designate one channel guide as the default channel guide. StadiumVision 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.

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## Creating a Channel Guide



### User Roles

Administrator / Content Manager

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**To create a channel guide, complete the following steps:**

1. Add channels to the Master Channel List.  
For more information, see ["Adding Channels to the Master Channel List" on page 112](#).
  2. Open the Control Panel and select Setup > Channels.
  3. Click the Channel Guide tab (next to the Master Channel List tab).
  4. Click the plus (+) above the Channel Guide and type a name and description for the new channel guide.
  5. (Optional) Enable "Default Channel Guide for All Suites" to make this the default channel guide.
  6. Click **Save**.
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## Assigning Channels to a Channel Guide



### User Roles

Administrator / Content Manager

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**To assign channels to a channel guide, complete the following steps:**

1. Create a channel guide.  
For more information, see the ["Creating and Assigning Channel Guides" on the previous page](#).
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**.



**TIP:** You can use the keyboard Shift-click and Ctrl-click functions to select multiple channels.

The channels you add display in the Channel Guide window.

5. Click **Save**.
-

---

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



### User Roles

Administrator / Content Manager

This task should be done after the master channel list and per area channel guide has been created.

---

### To assign a channel guide to a luxury suite, complete the following steps:

1. On the Setup > Channels page, select the per-area channel guide.
2. 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.

3. 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 keyboard functions.

4. 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 StadiumVision Director Management Dashboard Registry. See ["Controlling the Behavior of the Channel Guide" on page 120](#).

---

## 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.

### Uploading a Phone Channel Icon

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

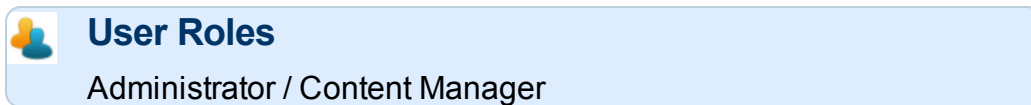
---

### To upload a phone channel icon, complete the following steps:

1. Copy the icon graphic(s) to your local drive.

- 
2. Select **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



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

---

### To assign a phone channel icon, complete the following steps:

1. In the icon list, select the channel for which you want to assign an icon.  
The channel number displays in the Assigned Icons box.
  2. Select the icon you want to assign to the channel.
  3. Click **Assign Icon**.
  4. Click **Save**.  
A message displays confirming the icon assignment was successful.
-

## Displaying a Custom Logo in the TV Channel Guide (Cisco DMP 4310G Only)



### User Roles

Administrator / Content Manager

The channel guide that appears on the TV is a Flash file that is displayed on the TVs in luxury suites, bars, clubs and restaurants. If desired, this guide can include a venue or team logo in the upper left corner on the TV screen, as shown in [Figure 38](#). The logo must be uploaded to the Cisco StadiumVision Director content library using a specific keyword tag. Then, when the channel guide is displayed, the flash application pulls in the graphic with this file name and places it at the upper left of the screen.

The recommended best practice for displaying a logo on the TV channel guide is to store each logo using a file name that makes it easy to locate. Then, for the event, apply the required keyword tag to the appropriate logo. Remember to remove the keyword tag after the event.

**Figure 38. Logos on the Channel Guide**



**NOTE:** Logos are not supported on the channel guide displayed on the Cisco IP Phone.

### To display a custom logo in the TV Channel Guide, do the following:

Upload a logo file to the Cisco StadiumVision Director content library.

The file must have the exact with the exact resolution, file type, and keyword tag as shown in [Table 22](#).



---

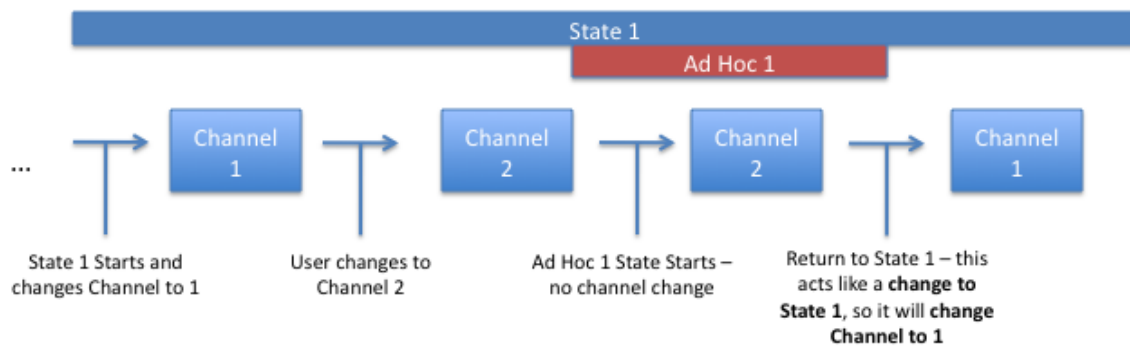
**Table 22. Specifications for Displaying a Custom Logo on the TV Channel Guide**

DMP Model	Resolution	File Type	Keyword Tag
4310G	300x180	PNG or JPEG	Icon_Team_4310_ SYS

## 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 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 StadiumVision 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 StadiumVision 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 Roles

Administrator

**To configure channel guide settings in the registry, complete the following steps:**

1. From the Management Dashboard, go to:

**Tools > Advanced > Registry**

2. 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 Roles

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, complete the following steps:

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 Roles

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, complete the following steps:

- 
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**.
- 

## How to Configure HDMI-In Video Sources on the SV-4K

This section includes the following topics:

- [Guidelines for Using HDMI-In on the SV-4K, Page 122](#)
- [Prerequisites for Using HDMI-In on the SV-4K, Page 123](#)
- [Restrictions for Using HDMI-In on the SV-4K, Page 123](#)
- [Configuring HDMI-In as a Video Source in a Region on the SV-4K Media Player, Page 124](#)
- [Configuring a DMP-Encoded Multicast Channel on the SV-4K in Cisco StadiumVision Director, Page 127](#)

### Guidelines for Using HDMI-In on the SV-4K

When using HDMI-In on the SV-4K, consider the following guidelines:

- If using video with 4K resolution, be sure to observe the guidelines for 4K content in the [Cisco StadiumVision Content Creation Design 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, you need to 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—create 10 separate DMP-encoded channels with unique multicast addresses, create 10 different channel guides for each DMP-encoded channel, and assign each suite to a different channel guide.

## Prerequisites for Using HDMI-In on the SV-4K

Before you use HDMI-In on the SV-4K, be sure that the following conditions are met:

- You have purchased a separate encoder software license. For more information, see the [Release Notes for Cisco StadiumVision Director](#).
- Test the devices that you plan to connect to the SV-4K 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 Connected Stadium network.

## Restrictions for Using HDMI-In on the SV-4K

Before you use HDMI-In on the SV-4K, consider the following restrictions:



**IMPORTANT:** The HDMI-In port on the SV-4K 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.

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

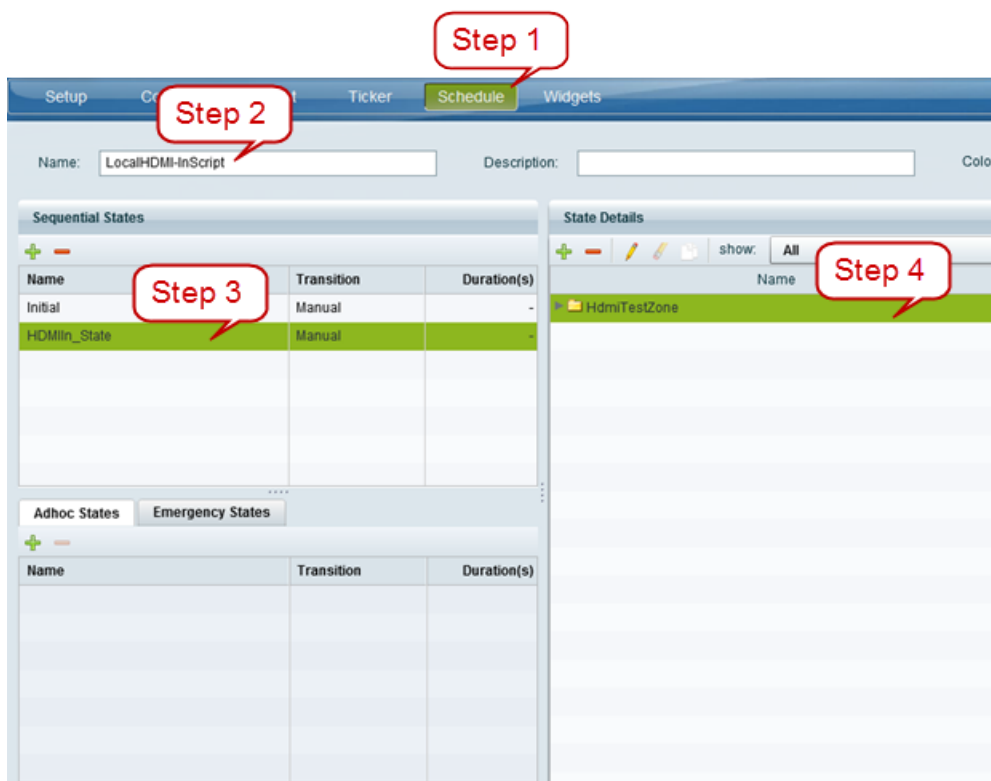
- The SV-4K playing HDMI-In encoded video stops streaming if the DMP is rebooted, even though the script is running. Start Streaming is a direct command, which is sent when the svd server changes state (like RS232 commands or tv on /off type commands). It is only executed when the state is changed, so it is not re-executed on reboot.

## Configuring HDMI-In as a Video Source in a Region on the SV-4K Media Player

 **User Roles**  
Administrator / Content Manager

To configure HDMI-In as a video source in a region, complete the following steps:

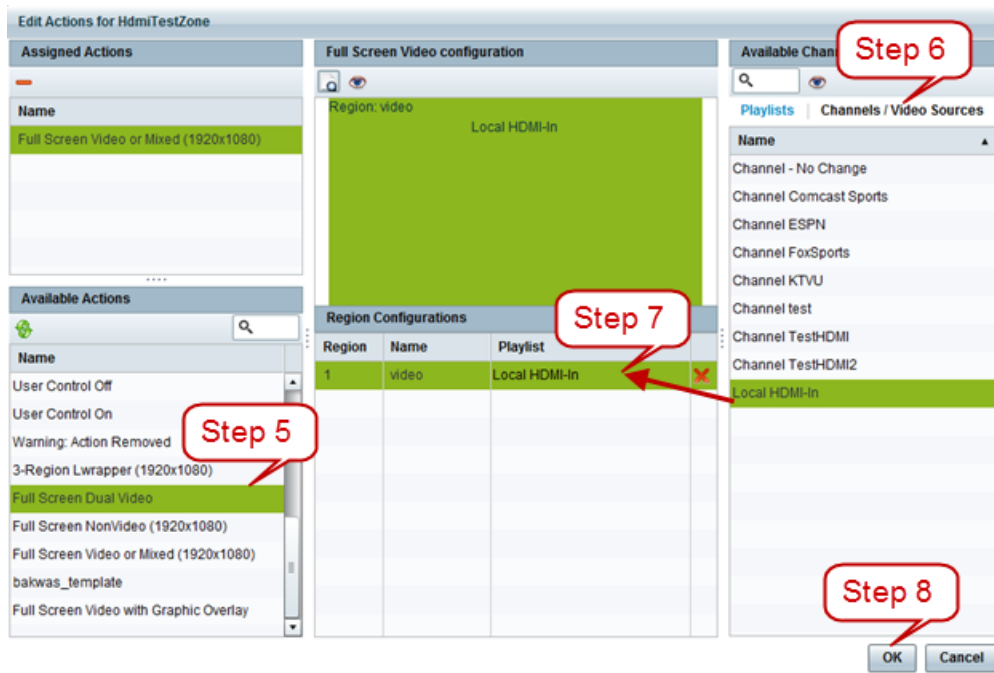
Figure 39. Control Panel Schedule Screen Workflow



1. From the Cisco StadiumVision Director Main Menu, go to:  
**Control Panel > Schedule**
2. Create a new script by typing a name.
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 40. Script State Actions Workflow**

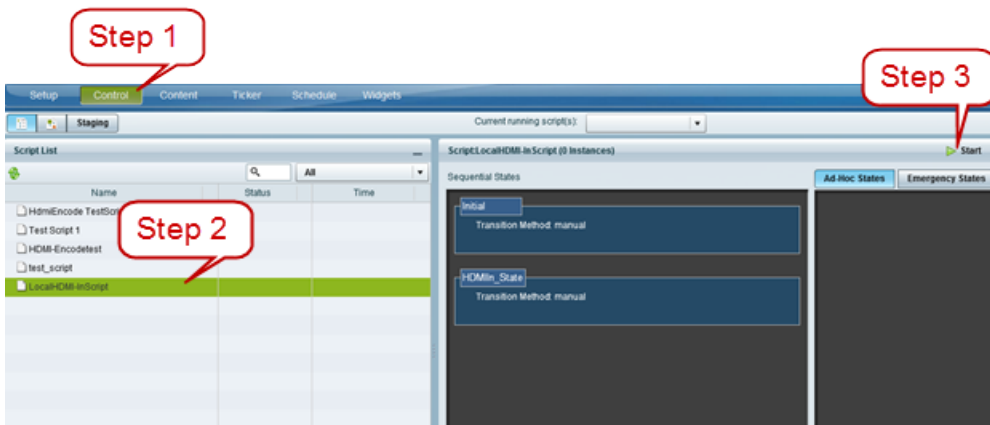


5. Select a video/mixed media template.
6. Click **Channels/Video Sources**.
7. Drag **Local HDMI-In** to a template region.
8. Click **OK** to save the script.

## Verifying the Script Plays Local HDMI-In Content

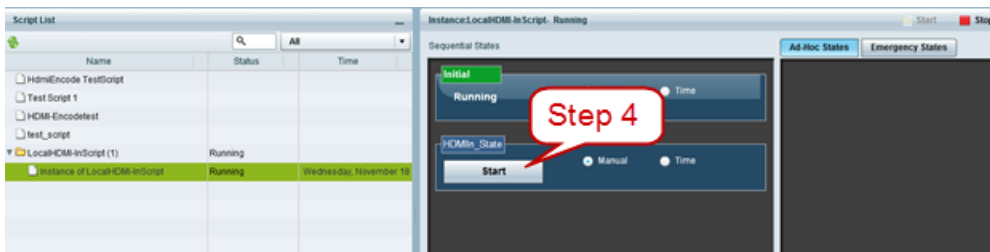
To verify that the script plays the local HDMI-In content, complete the following steps:

**Figure 41. Script Verification Workflow**



1. From the Cisco StadiumVision Director Main Menu, go to:  
**Control Panel > Control**
2. Select the Local HDMI-In script that you created.
3. Click **Start**.

**Figure 42. HDMIIN\_State Verification**



4. 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 in Cisco StadiumVision Director



## User Roles

Administrator / Content Manager

---

To configure a DMP-encoded multicast channel on the SV-4K, complete the following steps:

1. From the Cisco StadiumVision Director main menu, go to:  
**Control Panel > Setup**
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 43](#) and described in [Table 23](#)

**Figure 43. DMP-Encoded Multicast Channel Example**

TestHDMI2

**Basic Info** **Icon**

Channel Name\*:

Description:

DMP-Encoded:

Maximum Bit Rate:  Kbps

Video Mode:

TTL:

Display Encode Bitrate:  Kbps

Protocol:

Multicast Address\*:

Port\*:

Channel Number\*:

Long Name:

Short Name:

Source ID:

Favorite:  Yes  No

**Table 23. 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 Media Player

[Table 24](#) summarizes the methods of starting and stopping streaming for HDMI-In video sources on the SV-4K.

**Table 24. 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 the Management Dashboard is used 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 StadiumVision: 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



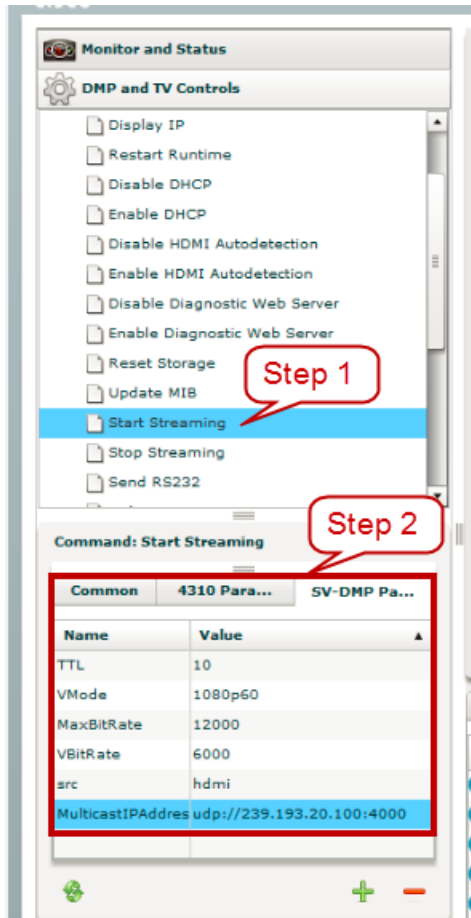
### User Roles

Administrator

---

To start and stop streaming in the Management Dashboard, complete the following steps:

Figure 44. 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 SV-4K 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.

---

# How to Manage Content

This section includes the following topics:

- [Information About the Content Screen, Page 132](#)
- [Creating and Assigning Content Tags, Page 137](#)
- [Removing a Tag From Content, Page 138](#)
- [Getting Content Into Cisco StadiumVision Director, Page 139](#)

## Information About the Content Screen

The Control Panel Content screen allows you to both manage content as well as create and modify playlists.

Use the Content screen to do the following tasks:

- Import static graphics or local video 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 and manage playlists.

## Content Screen Views

The Content screen has three views:

- [Content View, Page 132](#) (default)
- [Playlist View, Page 133](#)
- [Split View, Page 134](#) (content and playlist panels displayed)

The menu bar is organized based on the selected view.

## Content View

[Figure 45](#) identifies the content-related layout and task options available from the Content view.

Several areas of the Content view also appear in the other screen views.

Figure 45. Content View Navigation



## Content Items Panel

Content items can be displayed as thumbnails or as a file list with details.

By default, the Content Items panel shows thumbnails of the following items stored in the Content Management System (CMS) library:

- Dynamic Menu Board (DMB) gadgets
- Images (static graphics)
- Pass-through URLs
- Videos
- Widgets

## Items Not Displayed in Content Items Panel

Certain content types and applications in Cisco StadiumVision Director are not directly visible from the main Content screen in the Control Panel, including the following:

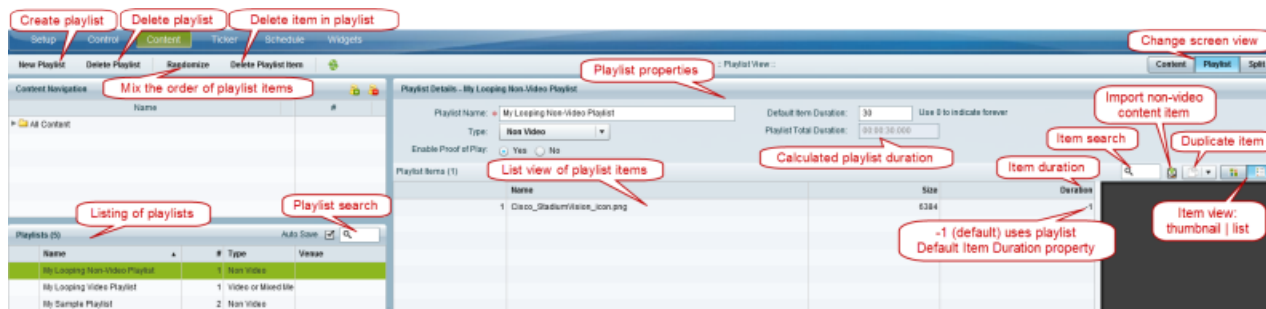
- Data integration sources (RSS feeds, generic data sources, other).
- Dynamic Menu Board (DMB) default images and themes.
- Self-service content (SSC) albums (images or videos).
- Uploaded fonts.

## Playlist View

[Figure 46](#) identifies the playlist-related layout and task options available from the Content view.

Several areas of the Playlist view also appear in the other screen views.

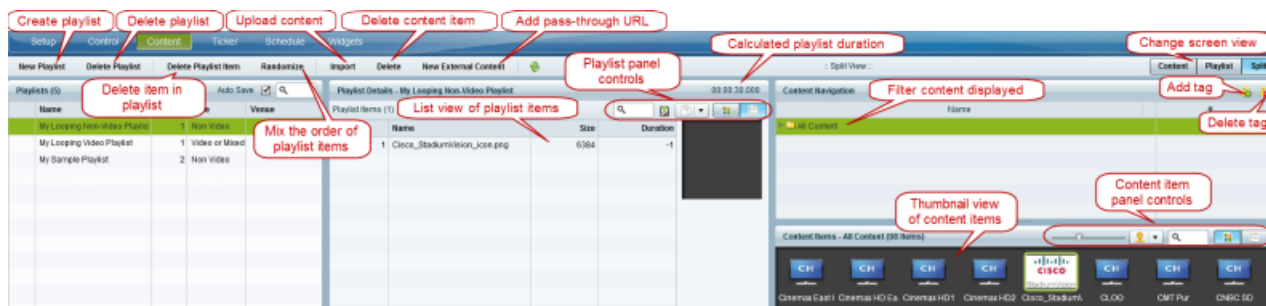
**Figure 46. Playlist View Navigation**



## Split View

Figure 47 identifies the layout and task options for the combined views for content and playlists on the same screen.


**Figure 47. Split View Navigation**



## Content Search Methods

You can use the Control Panel Content screen to find your content items or playlists in multiple ways:

- Search for content items assigned with a particular tag name by selecting the tag in the Content Navigation panel.
- Search for content items by name or file type using the Search box on the Content Items 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.

- In the Content Items panel, sort the content by name, type, or size to locate content.



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

## Content File Information

You can use the Control Panel Content screen to get file information about your uploaded content in either thumbnail or list view.

### Thumbnail View File Information

From thumbnail view, you can select a content item and click the arrow in the lower right corner and select **Get Info** (Figure 48).

**Figure 48. Get Info for Content Item in Thumbnail View**

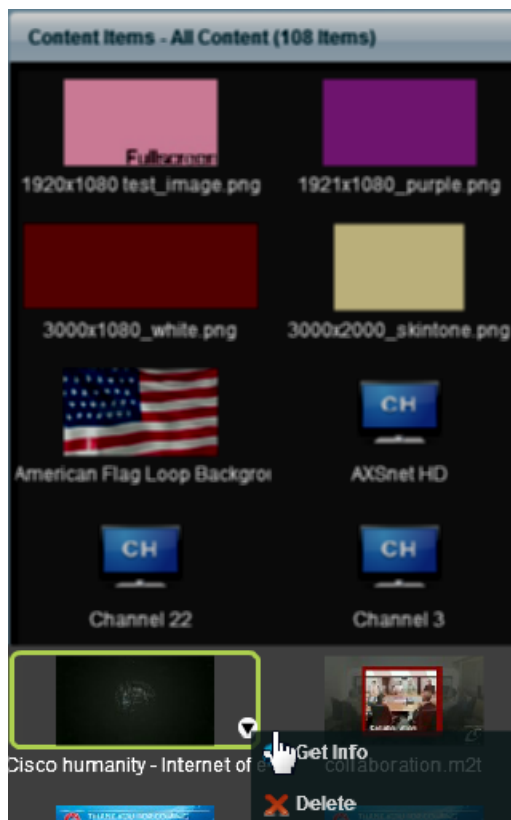


Figure 49 shows an example of the file information that is displayed for the selected video file in the Content Details window.

**Figure 49. Content Details Window for Video Content**



## List View File Information

[Figure 50](#) shows an example of the file information available in list view for the same selected content item shown in [Figure 48](#) thumbnail view.

**Figure 50. File Information in List View**




## Guidelines for Content Tags


Consider the following guidelines to create content 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 Content Navigation window next to the tag name.


## Creating and Assigning Content Tags

 **User Roles**  
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.”

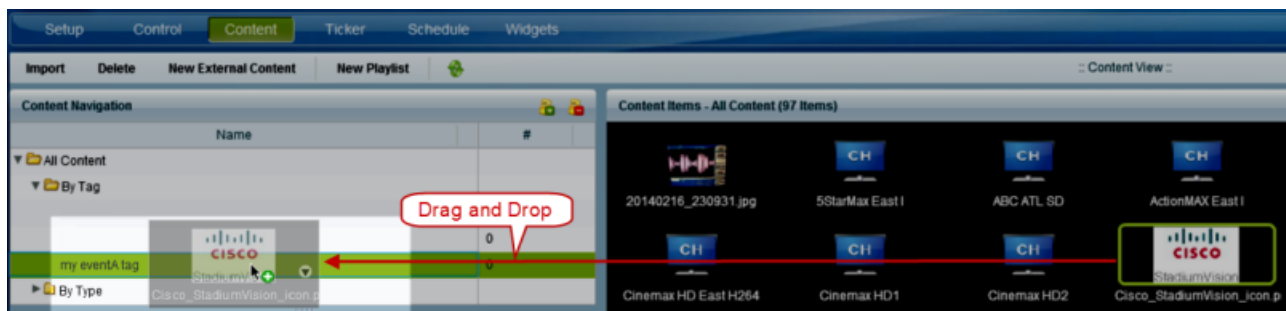
**To create and assign content tags, complete the following steps:**


1. Go to **Control Panel > Content**.
2. In the Content Navigation panel, click the "Add new tag" icon.
3. In the name box, type a new name for the tag.

 **IMPORTANT:** The following characters are not supported in tag names: / ? < > \ : \* | ".  
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 StadiumVision Director Proof of Play](#) document.

4. To assign a tag to content, drag and drop content items from the content library to the tag name in the Content Navigation panel ([Figure 51](#)).

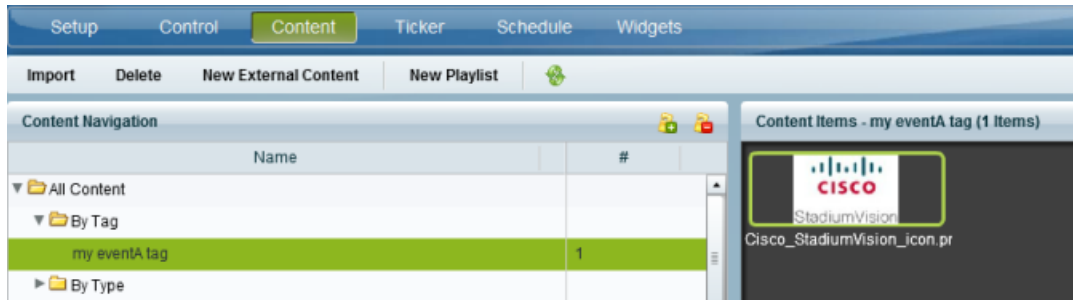
**Figure 51. Assigning a Content Tag**



 **TIP:** Content can also be assigned to tags when you first upload the content to the library.

5. To verify that the content has been assigned to the tag, click the tag name. The content assigned to the selected tag will display in the Content Items area ([Figure 52](#)).

**Figure 52. Viewing Tagged Content**



## Removing a Tag From Content



### User Roles

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 content library.

[Figure 53](#) summarizes the steps to remove a tag from selected content.

**Figure 53. Workflow Summary to Remove a Tag From Content**



**To remove a tag from content, complete the following steps:**

1. In the Content Navigation panel, select the tag name.  
The content items for that tag display in the Content Items 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 "Remove selected tag from content" icon with the red "x".  
There is no confirmation prompt. The tag is immediately removed from the content.

---

## Getting Content Into Cisco StadiumVision Director

Cisco StadiumVision 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 StadiumVision. 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 StadiumVision Director, be sure that you refer to the [Cisco StadiumVision Content Creation Design and Specification Guide](#) 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 25](#) summarizes the different content types supported by Cisco StadiumVision 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 25. Content Ingestion Methods by Type of Content**

Type of Content	Method	For more information see:
Channel Guide	Control Panel > Setup > Channels	<a href="#">"How to Configure Channels" on page 109</a>
Content Feeds (Atom, RSS)	Control Panel > Setup > Data Integration	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
Database (MySQL or SQLServer)	Control Panel > Setup > Data Integration > Generic Data Source	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
FTP Data	Control Panel > Setup > Data Integration > Generic Data Source	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
HTML Pass-Through	Control Panel > Content > New External Content	<a href="#">"Adding a URL for HTML Pass-Through Content" on page 141</a>
HTTP/HTTPS Data	Control Panel > Setup > Data Integration > Generic Data Source	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
JSON Data	Control Panel > Setup > Data Integration > Generic Data Source	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
Menu Boards Using DMB	Main Menu > DMB Application	<a href="#">Cisco StadiumVision Director Dynamic Menu Board and Store</a>

Type of Content	Method	For more information see:
		<a href="#">Configuration Guide</a>
Menu Boards Using POS Data Sources	Control Panel > Setup > Data Integration	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
NFL Data	Control Panel > Setup > Data Integration	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
RSS Ticker Feeds (legacy)	Control Panel > Ticker	"RSS Ticker Feeds" on page 87.
Scoreboard Controllers	Control Panel > Setup > Data Integration	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
Static Graphics (SSC)	SSC Portal (DMP 4310G only)	<a href="#">Cisco StadiumVision Director Self-Service Content User Guide</a>
Static Graphics (Content screen)	Control Panel > Content > Import	"Importing Local Video and Images to the Content Library" below
Static Graphics (Direct upload to non-video playlist)	Control Panel > Content > Playlist view	"Adding Static Graphics to a Non-Video Playlist by Direct Upload" on page 151
TCP Data	Control Panel > Setup > Data Integration > Generic Data Source	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
UDP Data	Control Panel > Setup > Data Integration > Generic Data Source	<a href="#">Cisco StadiumVision Director External Content Integration Guide</a>
Video (Headend)		<a href="#">Cisco StadiumVision Video Headend Design and Implementation Guide</a> (Available to qualified Cisco StadiumVision partners.)
Video (Local)	<ul style="list-style-type: none"> <li>Control Panel &gt; Content &gt; Import</li> <li>SSC Portal (DMP 4310G only)</li> </ul>	<ul style="list-style-type: none"> <li>"Importing Local Video and Images to the Content Library" below</li> <li><a href="#">Cisco StadiumVision Director Self-Service Content User Guide</a></li> </ul>

## Importing Local Video and Images to the Content Library



### User Roles

Administrator / Content Manager

To import local video and images from the Content screen, complete the following steps:

1. Go to **Control Panel > Content**.

---

2. Click **Import**.



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

3. 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.

4. Click **Open**.

5. From the Import Content dialog box, do the following:

- a. (Optional) Add or delete available tags.
- b. (Optional) Select available tags to be assigned to the content that you are uploading.
- c. Click **Upload**.

---

## Adding a URL for HTML Pass-Through Content



### User Roles

Administrator / Content Manager

For HTML content guidelines, see the [Cisco StadiumVision Content Creation Design and Specification Guide](#).

---

**To add a URL for HTML pass-through content, complete the following steps:**

1. Go to **Control Panel > Content**.
2. Click **New External Content**.
3. Type the name and URL for your content.
4. Click **Save**.

---

## Staging Content to the Media Player

Once you have content uploaded to Cisco StadiumVision 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:

- 
- (SV-4K and DMP-2K only) 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.



**NOTE:** Changes to widgets or External Content Integration data sources do not require content staging.

There are two ways that you can stage content from the Control screen in the Control Panel:

- Staging content manually

Manual content staging is performed outside the actual running of the script using the Staging button on the Control 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 just before a script starts.

## Staging Content Manually



### User Roles

Administrator / Event Operator

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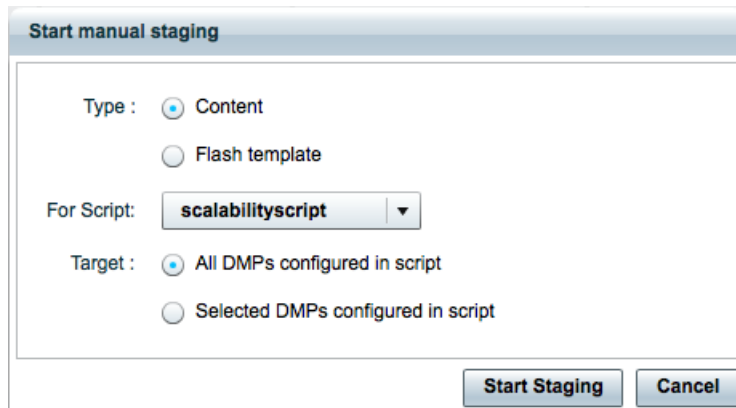
**To stage content manually, complete the following steps:**

1. Go to **Control Panel > Control**.
2. Select the script whose content you need to update on the media players.
3. Click **Staging**.
4. In the Staging screen, click the arrow to start manual staging.

The Start Manual Staging dialog box appears ([Figure 54](#)).



**Figure 54. Start Manual Staging Dialog Box**



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

---

## Scheduling Content Staging with Script Start



### User Roles

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 from the Control Panel" on page 197](#).

---

**To schedule content staging with script start, complete the following steps:**

1. Go to **Control Panel > Control**.
2. Select and start the script.

The Start Script dialog box appears ([Figure 55](#)).

**Figure 55. Start Script Dialog Box**

---

**Start Script**

Instance Name:

Start Time:  Now  
 in:  Minutes ←

Duration:

Staging:  Yes  No

Start Staging:  Minutes ahead of script start: ←

Proof of Play:  Yes  No

3. To delay the start of a script, specify the **Start Time in:** option.
  4. To configure the staging options, do the following:
    - a. Set Staging to **Yes**.
    - b. In the **Start Staging** spinner box, specify the number of minutes ahead of the scheduled script start time to stage content to the media players.  
To run staging immediately before running the script, specify a value of 0.  
The script will not start until staging is complete.
  5. Click **Start**.
-



StadiumVision



# Working with Playlists in Cisco StadiumVision Director

---



## User Roles

Administrator / Content Manager

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

## Information About Playlists

A *playlist* is a series of content items (static images, video, widgets) 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*.

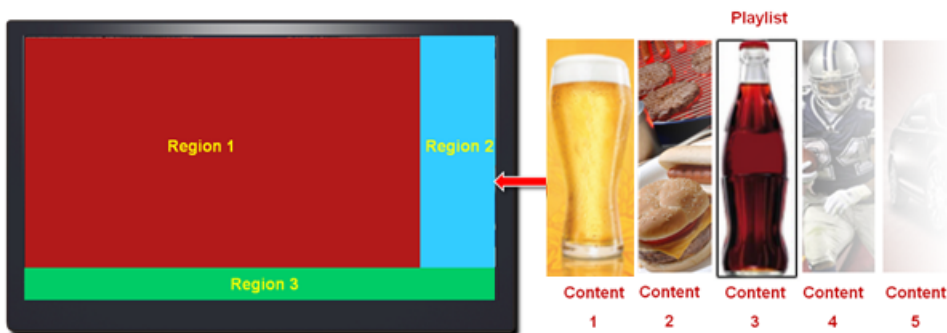
Each playlist runs independently of other playlists, and multiple playlists can be run in any given event script in separate regions.

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 56](#) 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 56. 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 or SV-4Ks prior to the event from the **Control Panel > Control** screen.

## Content Screen Playlist View

[Figure 57](#) shows the Content screen playlist view and the options available there.

Figure 57. Playlist View Navigation



## How to Set Up Playlists

This section includes the following topics:

- [Guidelines for Creating Playlists, Page 147](#)
- [Prerequisites for Playlist Creation, Page 149](#)
- [Creating a Playlist, Page 149](#)
- [Adding Content Items to a Playlist, Page 150](#)
- [Changing the Order of Content Items in a Playlist, Page 153](#)
- [Replacing Content in a Playlist During an Event, Page 153](#)
- [Creating a Playlist with Looping Content, Page 155](#)
- [Setting the Item Duration in a Playlist, Page 156](#)
- [Copying Content From One Playlist to Another, Page 158](#)

- 
- [Deleting Content Items From a Playlist, Page 159](#)
  - [Deleting a Playlist, Page 160](#)

## 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 StadiumVision 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 higher, Cisco StadiumVision Director can support Flash (DMP 4310G only), static graphics, and video in mixed media playlists.



**IMPORTANT:** The SV-4K and DMP-2K media player do not support Flash content. The Cisco DMP 4310G supports Flash but it is not recommended or supported. 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 26](#) provides some guidelines for general playlist support in Cisco StadiumVision Director.



**NOTE:** While these limits have been tested with basic Cisco StadiumVision 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 26. Playlist Guidelines and Limitations**

Playlist Guideline	Limit
Number of playlists (any type) in the Cisco StadiumVision 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. <sup>1</sup>	1,200
Number of characters in a playlist name (including spaces).	22

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

---

<sup>1</sup>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 StadiumVision 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.

---

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.
- 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 Content library.
- You have determined a naming convention to ease identification and management of your playlists.

## Creating a Playlist



### User Roles

Administrator / Content Manager



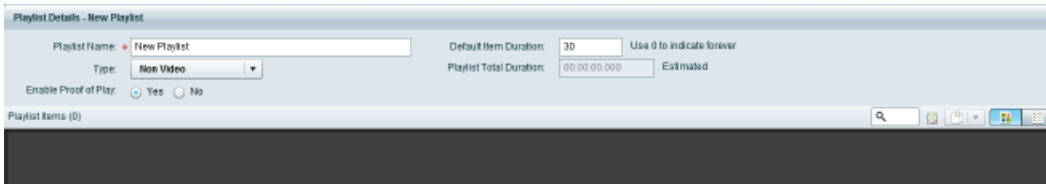
**IMPORTANT:** For video walls, the playlist must have the same number of items, and the same duration for each content item. Each list item must be of the same type. For more information, see ["Prerequisites for Video Walls" on page 171](#)

---


**To create a playlist, complete the following steps:**

1. Go to **Control Panel > Content**.
2. Click **New Playlist**.

**Figure 58. New Playlist Dialog Box**



3. Specify the 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: <ul style="list-style-type: none"> <li>• <b>Non Video</b>—(Default) Static graphics (images) only.</li> <li>• <b>Video or Mixed Media</b>—Video content or combination of video and images.</li> </ul>
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. <p> <b>NOTE:</b> See the <a href="#">"Guidelines for Creating Playlists" on page 147</a> topic for information about how to properly use an item duration of 0 to loop content.</p>
Playlist Total Duration	(Display field only) Estimates the length of time for all content items to play.

4. 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.

## Adding Content Items to a Playlist



### User Roles

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" on page 171](#)



---

## Adding Content Items from the Content Library to a Playlist

---

To add content items to a playlist, complete the following steps:

1. Go to **Control Panel > Content**.

The Content view is displayed by default.

2. In the Playlists pane, select the Name of the playlist where you want to add content items.
3. In the Content 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**.

---

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

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

---

To directly upload static graphics to a non-video playlist, complete the following steps:

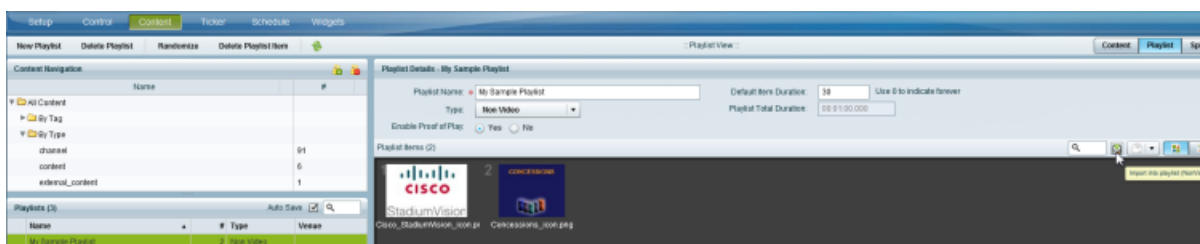
1. Go to **Control Panel > Content**.
2. In the Playlists listing, select the name of the playlist where you want to add images.



**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 59](#)).

**Figure 59. Import Images Directly to Non-Video Playlist**



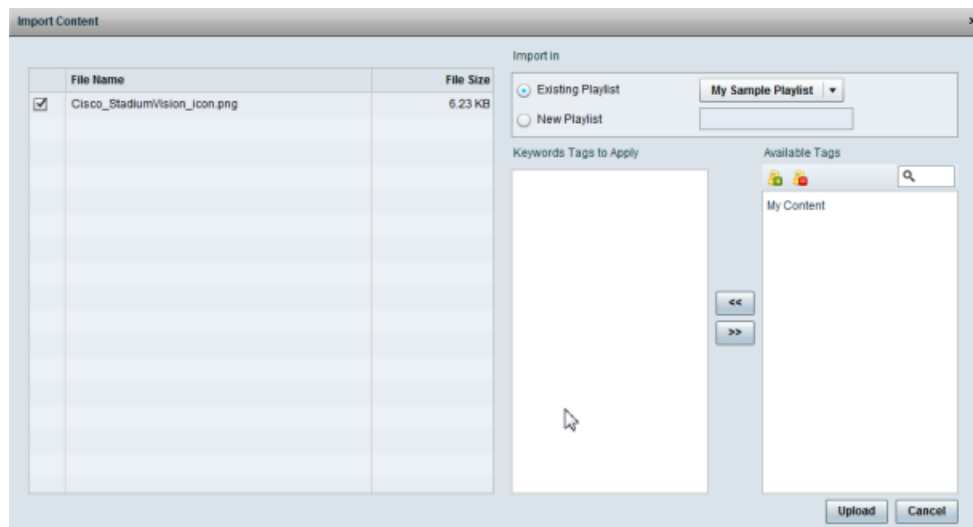
4. In the Open dialog box, select the images that you want to upload.



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

5. Click **Open**.
6. In the Import Content dialog box ([Figure 60](#)), do the following:

**Figure 60. 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 **Upload**.
- 

## Changing the Order of Content Items in a Playlist



### User Roles

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, complete the following steps:**

1. Go to **Control Panel > Content**.
  2. Click **Playlist**.
  3. Go to List view.
  4. 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.
- 

## Replacing Content in a Playlist During an Event



### User Roles

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. The cost-benefit of replacing content versus PoP impact should be weighed. Once an updated event script has stopped running, the PoP will operate normally upon re-running of the script.

---

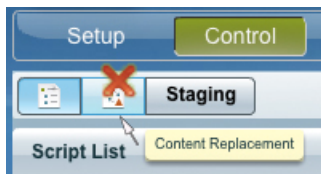
Before replacing content in a playlist during an event, consider the following restrictions:

- 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 61](#) 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.
- Content replacement for the SV-4K is only supported through an update of the playlist. Performing content replacement from the Control screen using the content replacement icon is not supported on the SV-4K.

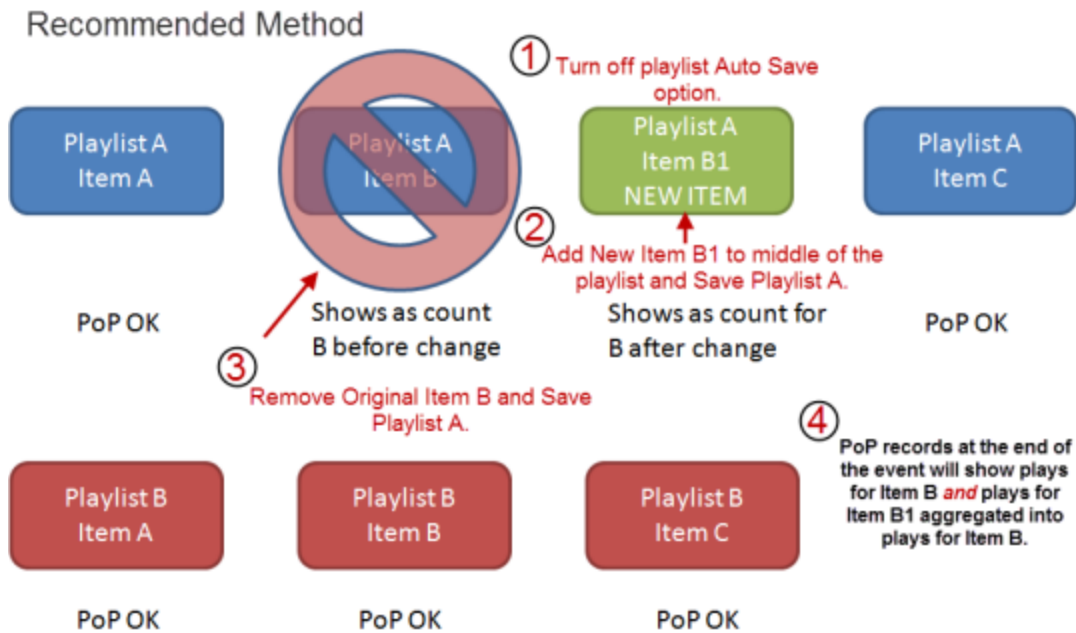


- The replacement content file name must be unique. Do not re-import content using the same file name as any existing playlist content item.

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 61](#) for an illustration of the recommended workflow for event-time content replacement to minimize impact to PoP reporting.

Figure 61. Replacement of Existing Content Item



## Creating a Playlist with Looping Content



### User Roles

Administrator / Content Manager

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, complete the following steps:**

1. Go to **Control Panel > Content**.
2. Click **Split**.
3. Select an existing playlist or create a new one.
4. Add content items to the playlist.

For more information, see ["Adding Content Items to a Playlist" on page 150](#)

5. In the Playlist Items panel, select the list icon so that you can see the content items detail, including the item Duration.
6. 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. [Figure 62](#)

**Figure 62. Duration Values to Loop Single-Item Non-Video Playlist**

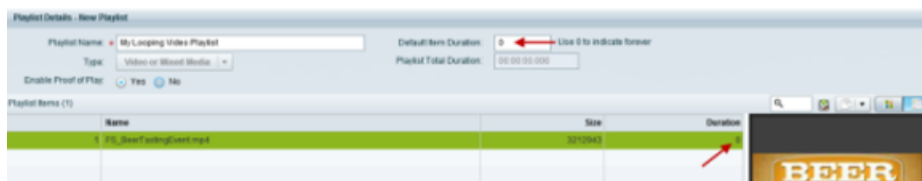


- c. **To loop a playlist with a single, video item**—Set both the Default Item Duration and item Duration to a value of 0 ([Figure 63](#)).



**IMPORTANT:** When looping a single video item of 0 duration, be aware that content synchronization is lost on the SV-4K media player.

**Figure 63. Duration Values to Loop Single-Item Video Playlist**



7. Click **Update** for an existing playlist, or **Save** for a new one.

## Setting the Item Duration in a Playlist



### User Roles

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.

---

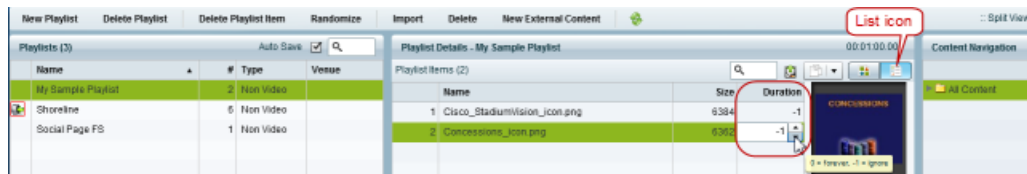
**To set the item duration in a playlist, complete the following steps:**

1. Go to **Control Panel > Content**.
2. Go to Playlist or Split view.
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" on page 150](#)

5. In the Playlist Items panel, select the list icon so that you can see the content items detail, including the item Duration ([Figure 64](#)).

**Figure 64. 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 ["Creating a Playlist with Looping Content" on page 155](#).

## Copying Content From One Playlist to Another



### User Roles

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, complete the following steps:**

1. Go to **Control Panel > Content**.
2. Click **Playlist**.
3. Create the new playlist if it does not already exist.
4. Select the name of the playlist that you want to copy content items from.




**TIP:** Use the Search box to find a playlist.

5. In the Playlist Items panel, select all of the items.
6. Drag and drop the content items to the target playlist in the Playlists panel where you want to copy the content.



---

7. Specify the 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: <ul style="list-style-type: none"><li>• <b>Non Video</b>—(Default) Static graphics (images) only.</li><li>• <b>Video or Mixed Media</b>—Video content or combination of video and images.</li></ul>
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.  <b>NOTE:</b> See the <a href="#">"Guidelines for Creating Playlists" on page 147</a> 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.

8. 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 Roles

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, complete the following steps:**

1. Go to **Control Panel > Content**.
2. In the Playlist listing, select the playlist where you want to delete a content item.
3. In the Playlist Items panel, select the content item that you want to delete.
4. 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.

5. In the confirmation dialog box, click **Delete** to remove the item.

---

## Deleting a Playlist



### User Roles

Administrator / Content Manager

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, complete the following steps:**

1. Go to **Control Panel > Content**.
  2. In the Playlist listing, select the playlist that you want to delete.
  3. In the Playlist Items panel, select the content item that you want to delete.
  4. Click **Delete Playlist**.
  5. In the confirmation dialog box, click **Yes** to remove the playlist.
-



StadiumVision



# Working with Video Walls



## User Roles

Administrator / Content Manager

This module provides information about how to design and deploy video walls using the Cisco DMP 4310G and SV-4K media players.

## Information About Video Walls

A *video wall* is a group of displays that show synchronized content and convey a single, much larger screen. Cisco StadiumVision 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



**NOTE:** Multicast video scaling is not supported on the Cisco DMP 4310G.

- 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.

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## Video Wall Design Methods

Cisco StadiumVision Director supports the following different video wall design methods, depending on whether you are using the Cisco DMP 4310G or the SV-4K and DMP-2K media players:

- TV-based tile matrix
- DMP-to-DMP content synchronization (SV-4K and DMP-2K only)
- Zone-based video wall synchronization (SV-4K and DMP-2K only)



**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 (SV-4K and DMP-2K only)

The DMP-to-DMP Content Synchronization feature for the SV-4K and DMP-2K media player synchronizes content rendering of playlist items on the displays.

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.

Improved content synchronization was first introduced in Cisco StadiumVision Director Release 3.2 on the DMP 4310G through the use of the Network Time Protocol (NTP).

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Cisco StadiumVision Director Release 4.0 and later supports enhanced content synchronization methods for the SV-4K and DMP-2K only, with close synchronization of playlist item transition using the Precision Time Protocol (PTP).

## Zone-Based Video Wall Synchronization (SV-4K and DMP-2K only)

Zone-based video wall synchronization is an alternative form of synchronization available for SV-4K and DMP-2K devices participating in a video wall.

The primary benefit of this form of synchronization is that if any SV-4K and DMP-2K 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 an SV-4K and DMP-2K 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 SV-4K and DMP-2K


[Table 27](#) provides a comparison of the configuration guidelines and behavior for device reboot in an SV-4K and DMP-2K video wall for the two content synchronization methods.



**NOTE:** Both content synchronization methods use single device cabling per TV display. See ["Video Wall Cabling" on the next page](#).

Constant Bit Rate (CBR) is recommended for best performance.

Table 27. SV-4K and DMP-2K Video Wall Synchronization Summary<sup>1</sup>

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	<ul style="list-style-type: none"> <li>• Video content syncs with current item being played by the device leader.</li> <li>• Still images sync at next content item in the playlist.</li> </ul> <p> <b>NOTE:</b> If the leader reboots, all SV-4K and DMP-2Ks will display black and resync when the leader has completed its reboot.</p>

## 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 165](#)
- [DMP Connection Per TV Display in a Video Wall , Page 166](#)

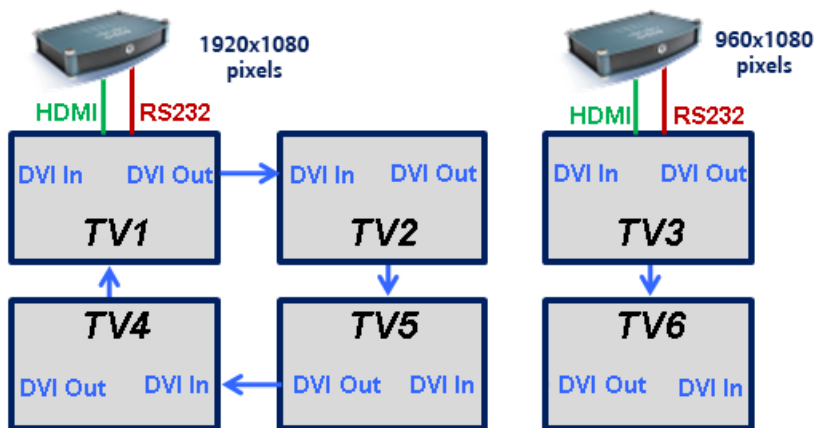
## Daisy-Chained TV Displays for TV-Based Tile Matrix Video Walls

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 65](#) shows an example of a 2x3 tile matrix configuration supported by the Cisco DMP 4310G. This example shows one DMP controlling 4 displays in the 2x2 portion of the video wall, and another DMP controlling 2 displays in the 2x1 portion of the video wall.

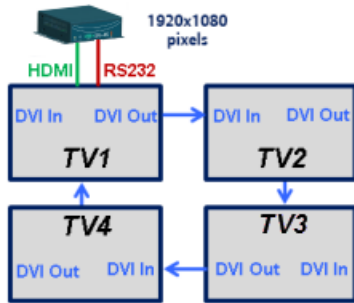
Figure 65. Daisy-Chained 2x3 Tile Matrix Example with the Cisco DMP 4310G



**IMPORTANT:** The SV-4K and DMP-2K media players have different behavior than the Cisco DMP 4310G in this example. For the 2x1 portion of the video wall, the Cisco DMP 4310G shrinks its canvas to fit the signal resolution. However, the SV-4K and DMP-2K media player crops a 1920x1080 canvas to the 960x1080 signal resolution rather than shrinks it. Therefore, for the SV-4K and DMP-2K 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" on page 79](#)

[Figure 66](#) 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 SV-4K media player. In this example, notice that all displays are using 1920x1080 format.

Figure 66. Daisy-Chained 2x2 Tile Matrix Example with the SV-4K



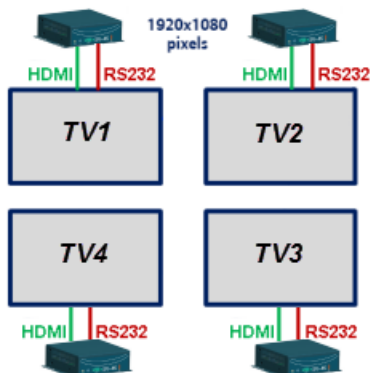
## DMP Connection Per TV Display in a Video Wall

For display of synchronized local content (video or images) in your video wall, this method is only supported by the SV-4K and DMP-2K media player. However, if you should want to support different types of content on each display in the video wall, such as four different TV channels, then you also can use a direct connection per TV display using the Cisco DMP 4310G.

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 67](#)). 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 67. Video Wall with Single SV-4K Per TV Display





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This cabling method also is required for zone-based synchronization using the SV-4K and DMP-2K, 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 StadiumVision 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 68](#) 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 68. 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.

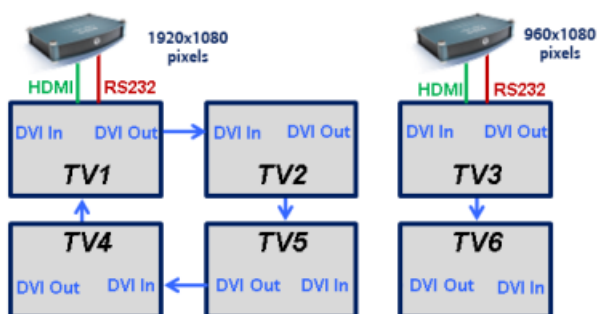
[Figure 69](#) shows the cabling for the 2x3 video wall example, where two Cisco DMP 4310Gs are used to break the wall into different display areas.

The first DMP provides the 2x2 game feed and the second DMP provides the 2x1 sponsor ads.



**NOTE:** This cabling design is best suited for the Cisco DMP 4310G, and is not the recommended design for the SV-4K and DMP-2K media player. 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 " on page 166](#). In addition, use of any resolution other than 1920x1080 is not technically supported on the SV-4K and DMP-2K (although it might work).

**Figure 69. 2x3 Video Wall Cabling Example for the Cisco DMP 4310G 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, then you need to connect a Cisco DMP 4310G behind each TV.

## Other Video Wall Configurations

While the 2x3 video wall is the most commonly used video wall configuration, using the information and concepts for the ["2x3 TV-Based Tile Matrix Video Wall Example " on](#)

[the previous page](#), 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 70. 4x4 Video Wall Example



Figure 71. 3x5 Video Wall Example



Figure 72. 2x7 Video Wall Example



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## Best Practices for Video Walls

When implementing video walls, consider the following best practices:

- Use the same media player model (either all DMP 4310G, all SV-4K, or all DMP-2K 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.

- 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).
- 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 with the SV-4K and DMP-2K, 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 is 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 SV-4K and DMP-2K media player.
- 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.

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# How to Configure Video Walls with the SV-4K and DMP-2K Media Player

This section includes the following topics:

- [Prerequisites for Video Walls, Page 171](#)
- [Workflow Summary to Configure SV-4K and DMP-2K Video Walls , Page 172](#)
- [Configuring Zone-Based Video Wall Synchronization for the SV-4K and DMP-2K, Page 174](#)

## 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.

Local video or image content to be played in an SV-4K or DMP-2K 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.

- For SV-4K or DMP-2K content synchronization:
  - Each SV-4K or DMP-2K 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 28](#) 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 28. 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 StadiumVision Director UI, the content playback will be truncated.

- For SV-4K or DMP-2K 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 SV-4K or DMP-2K groups.

## Workflow Summary to Configure SV-4K and DMP-2K Video Walls

[Table 29](#) provides a summary of the tasks and guidelines for you to complete when configuring a video wall using SV-4K or DMP-2K media players.

**Table 29. SV-4K and DMP-2K Video Wall Task Workflow**

Step	Task	Guidelines
1	Determine the type of content that you want to display on the video wall.	<p><a href="#">"Restrictions for Video Walls" on page 170.</a></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><a href="#">"Video Wall Design Methods" on page 162.</a></p> <p><a href="#">"Best Practices for Video Walls" on page 170.</a></p> <p><a href="#">"Video Wall Cabling" on page 164.</a></p> <p>Be sure that the layout is designed to accommodate 1920x1080 screen formats. See <a href="#">"Understanding Content and TV Resolution" on page 79.</a></p>
3	Configure groups/zones.	<p><a href="#">"Configuring Zone-Based Video Wall Synchronization for the SV-4K and DMP-2K" on the next page</a></p>
4	Create (or verify) templates.	<p>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.</p>
5	Create content.	<p>Consider the content changes for different times over the course of the event.</p> <p><a href="#">"Prerequisites for Video Walls" on page 171.</a></p> <p><a href="#">"Restrictions for Video Walls" on page 170</a></p> <p><a href="#">Cisco StadiumVision Content Creation Design and Specification Guide</a></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.	<p>Determine the states that you need to vary the video wall layout and content over the course of an event.</p>

Step	Task	Guidelines
9	Test the video wall.	—
10	Schedule the event.	<a href="#">"How to Run and Schedule Event Scripts and Series" on page 197.</a>

## Configuring Zone-Based Video Wall Synchronization for the SV-4K and DMP-2K

Zone-based video wall synchronization provides enhanced recovery for video walls if an SV-4K or DMP-2K 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 SV-4K and DMP-2K



#### User Roles

Administrator

To enable system support for zone-based video wall synchronization, complete the following steps:

1. Change the setting for zone-based video wall synchronization to true:
  - a. From the Management Dashboard, go to **SV Director Configuration > System Configuration > Global DMP Settings > SV-DMP Common Settings**.
  - b. In the Configuration Property box, locate the Zone Based Video Wall Synchronization property.
  - c. In the value box, type **true**.
  - d. Click **Apply**.
2. To verify the multicast configuration for zone-based video wall synchronization:
  - a. From the Management Dashboard, go to **SV Director Configuration > System Configuration > Global DMP Settings > SV-DMP Common Settings**.
  - b. 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



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## Configuring Groups and Zones for Zone-Based Video Wall Synchronization for the SV-4K and DMP-2K



### User Roles

Administrator / Content Manager

**To configure zone-based video wall synchronization for the SV-4K and DMP-2K, complete the following steps:**

1. Go to **Control Panel > Setup > Zones & Groups > Groups**.
2. Create a new group for each media player that is part of the video wall.
3. Add only one SV-4K or DMP-2K location per group.
4. Create a new zone and select the **Use as Video Wall** checkbox.
5. Add all SV-4K or DMP-2K groups in the video wall to the zone.

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<sup>1</sup>Synchronization applies only to video and still images. Synchronization cannot be guaranteed for other content such as tickers, external URLs, or widgets.





StadiumVision



## **Cisco StadiumVision Director: Event Operations**





StadiumVision



# Working with Event Scripts in Cisco StadiumVision Director

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## User Roles

Administrator / Content Manager

This module describes how to create and schedule event scripts in Cisco StadiumVision Director.

## Information About Event Scripts

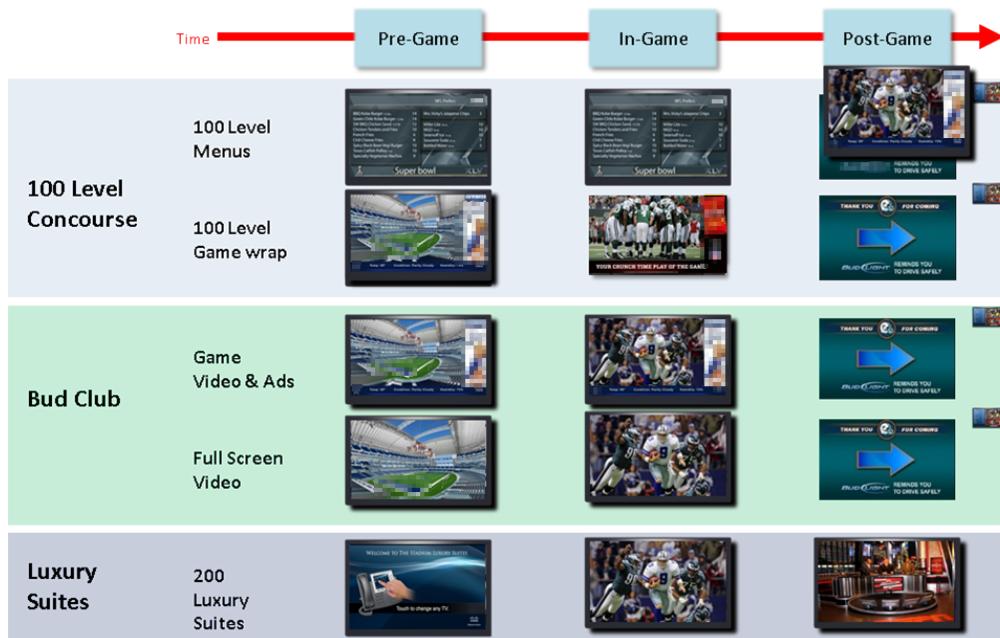
Event scripts and event states control what, when, and where content displays on the TV screens in a venue over the course of an event.

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 73](#). 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 StadiumVision Director to further manage the ads, content, graphics, and video displayed throughout the course of the event.

[Figure 73](#) 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.

Figure 73. 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 stadium 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 StadiumVision. 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 DMPs 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

StadiumVision 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.

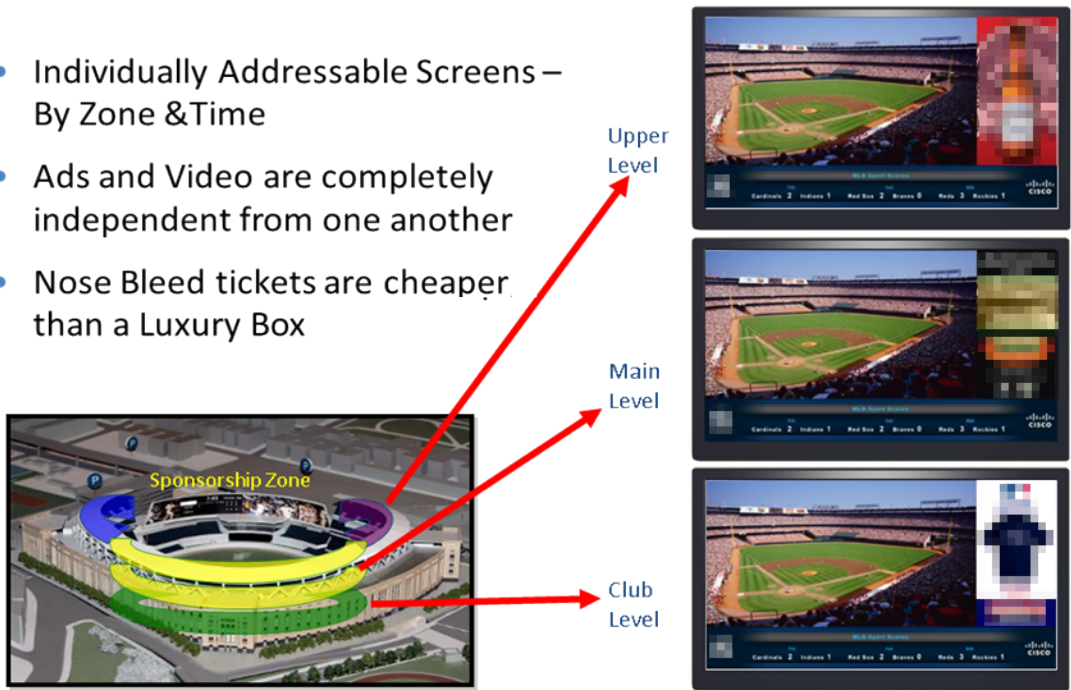
## Targeted Advertising

Because each TV screen/DMP in StadiumVision 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 74](#), you might have a script that plays ads for cheap beer near the cheap seats and plays ads for expensive beer near the expensive seats. All this adds up to a better fan experience while providing more revenue opportunities for sponsors and the stadium.

**Figure 74. Using Targeted Event Scripts**

- Individually Addressable Screens – By Zone & Time
- Ads and Video are completely independent from one another
- Nose Bleed tickets are cheaper than a Luxury Box

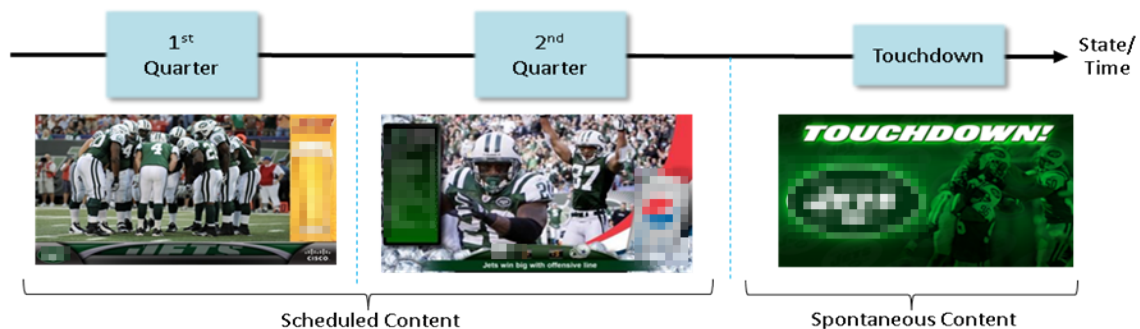


## Dynamic Content Management

In addition to providing the ability to segment content by location, Cisco StadiumVision 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 75](#).

**Figure 75. Using an Event Script for Spontaneous Content**





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# 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, and when 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 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.

- 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 StadiumVision 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" on page 61](#).

- 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
  - DMP 4310G: 60 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 185](#)
- [Prerequisites for Event Script Creation, Page 185](#)
- [Creating a New Event Script, Page 186](#)
- [Creating Event States, Page 188](#)
- [Adding an Event State to a Zone / Group, Page 189](#)
- [Assigning Actions and Content to an Event State, Page 190](#)
- [Editing an Event Script, Page 192](#)
- [Deleting an Event Script, Page 193](#)
- [Copying Event State Actions, Page 194](#)
- [Changing an Event Script Color, Page 195](#)

---

## Guidelines for Event States and Event Scripts

Consider the following guidelines when creating event states and event scripts:

- Cisco StadiumVision 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 StadiumVision 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 StadiumVision Director supports only one RS-232 command per event state.

[Table 30](#) describes some guidelines for general script support in Cisco StadiumVision Director.



**NOTE:** While these limits have been tested with basic Cisco StadiumVision 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 30. 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 SV 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 (DMP 4310G only).
- 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

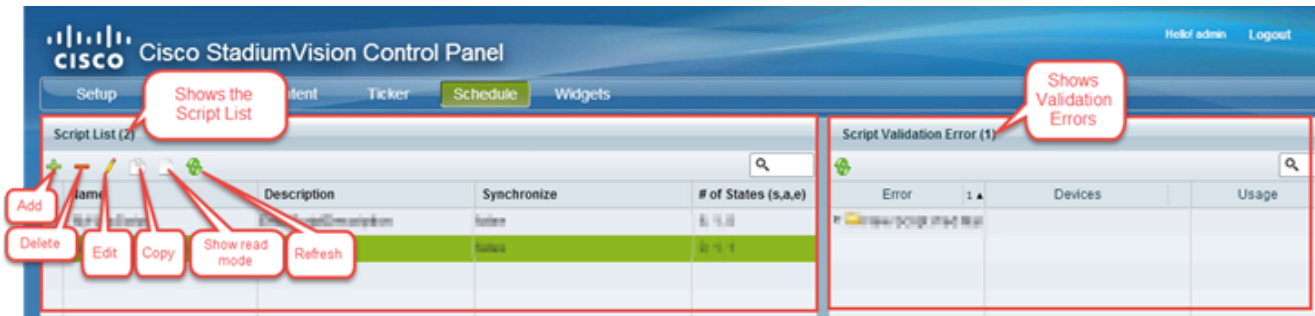


**User Roles**  
Administrator / Content Manager

To create a new event script, complete the following steps:

1. Go to **Control Panel > Schedule**. [Figure 76](#) shows the Schedule screen script view and the options available there.

Figure 76. Schedule Script View Navigation



2. Click the '+' icon located under **Script List**.

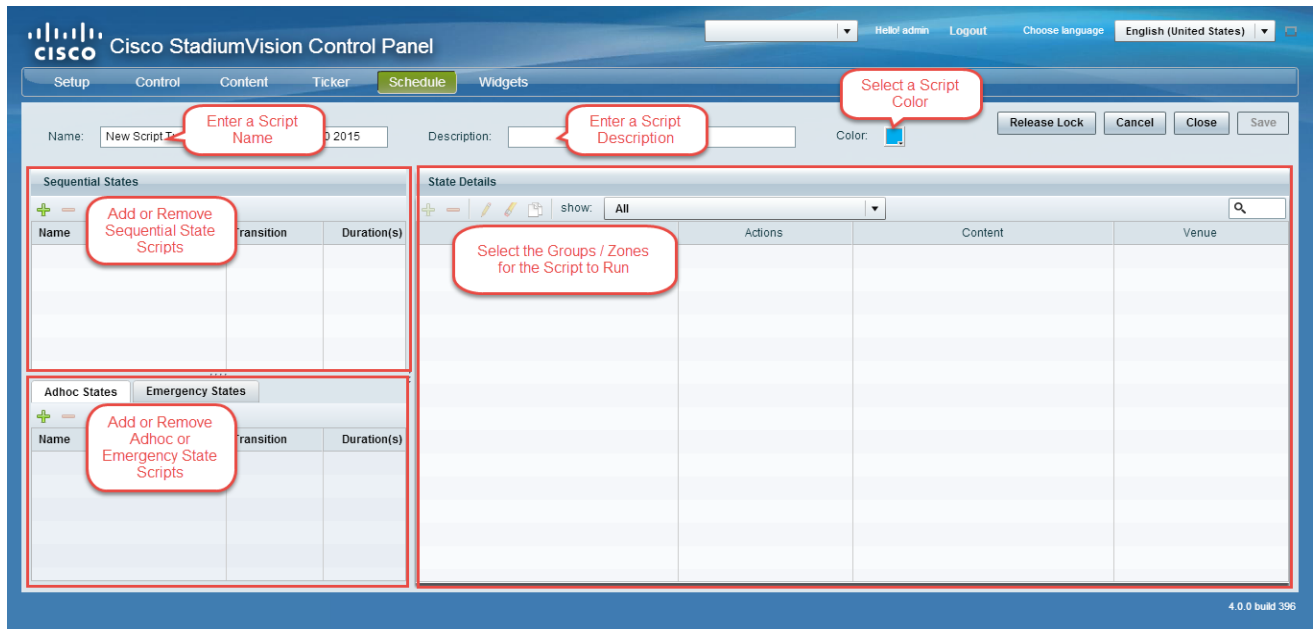
Figure 77. Create New Script



A new script window appears with an automatically generated default script name based on date information.

3. (Required) As shown in [Figure 78](#), enter a new name (or keep the default script name).

**Figure 78. New Script Dialogue Box**



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 become 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](#) 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 188](#).

---

## Creating Event States



### User Roles

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, complete the following steps:

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 79](#) shows a new sequential state.

**Figure 79. Sequential State Dialog Box**

Add new sequential state or copy from existing sequential states

New State Copy State

Name: Pre-Game

Description: States used before the game

Transition:  Manual  Timer

Add all zones to this state

Add Cancel

2. (Required) Enter a state name.
3. (Optional) Enter a state description.
4. Select the transition type:
  - Manual: Requires 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 **Control Panel > Control** window.

- 
- (Optional) Add all zones to this state: When selecting this, the zones will automatically appear under State Details.
  - 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.

- Click **Save**.
- 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" on the next page](#).

---

## Adding an Event State to a Zone / Group



### User Roles

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, complete the following steps:

- With an event script open, select the state that you want to add zones / groups to.

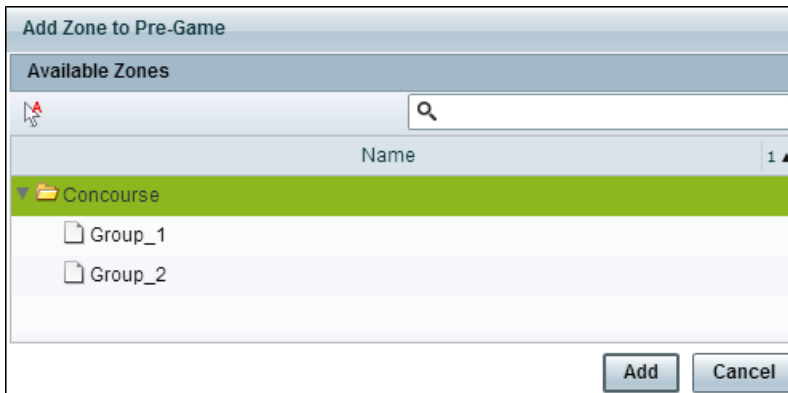


**NOTE:** When opening a saved event script, be sure to click **Edit** in order to make changes to it. If another user has a script open that you want to make changes to, you might have to click **Release Lock** in order to proceed.

- Click the '+' icon under State Details.

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 80. Adding Zone to Pre-Game 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.



**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.

The State Details screen displays.

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" below](#).

---

## Assigning Actions and Content to an Event State



### User Roles

Administrator / Content Manager

Once you have added the event state to a zone / group, the next step to assign actions and content.

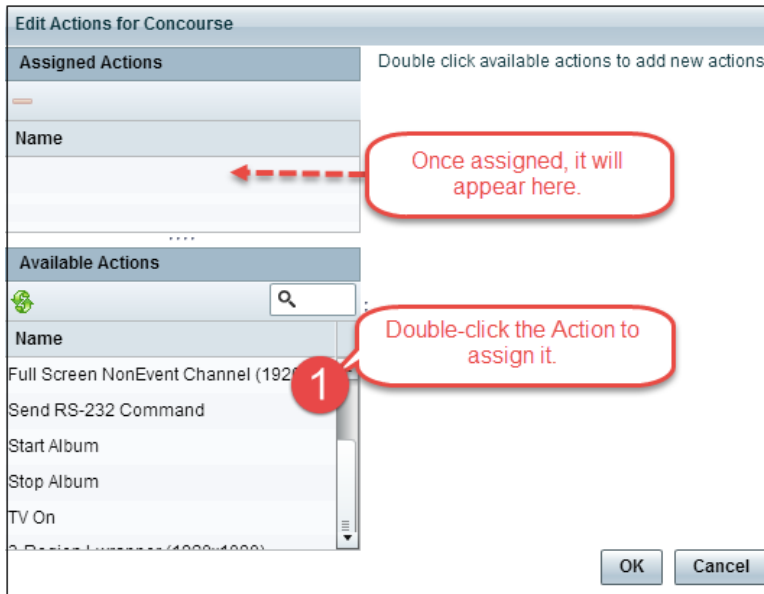
---

#### To assign an action to a state, complete the following steps:

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.  
displays the dialog box that appears where you can assign a template by selecting from the list of available actions.



**Figure 81. Edit Actions Dialog Box**

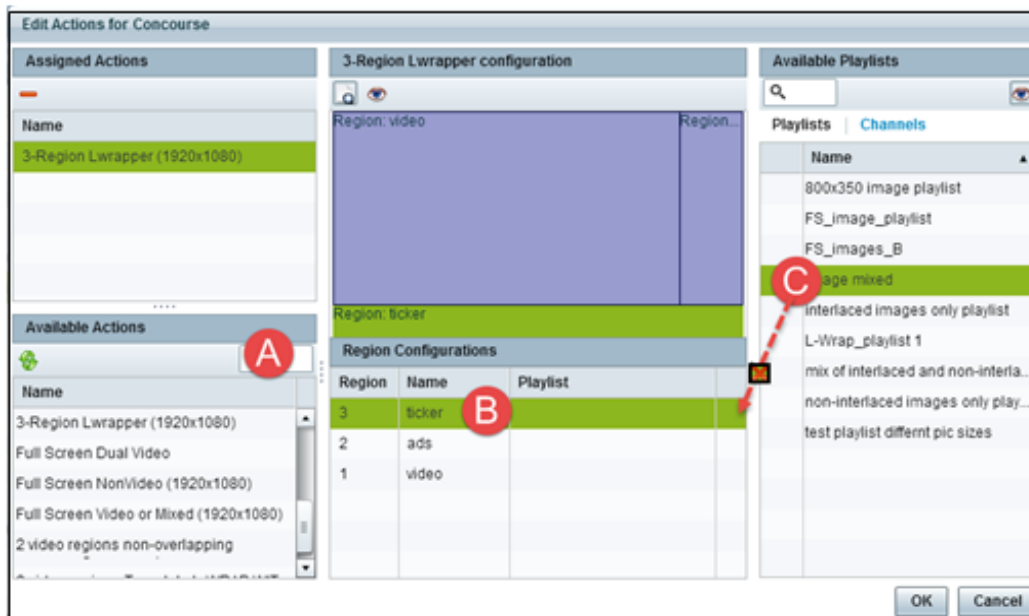


3. Double-click the Action you want to assign. Once selected, it appears under Assigned Actions. [Figure 82](#) is an example of an assigned 3-Region Lwrapper (1920x1080) template.



**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 82. 3-Region Lwrapper (1920x1080) Example**



- 
4. Configure the assigned actions and content for the state:
    - a. As shown in [Figure 82](#), 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.

- 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 197](#).

---

## 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 StadiumVision Director for External Triggers](#).

## Editing an Event Script



### User Roles

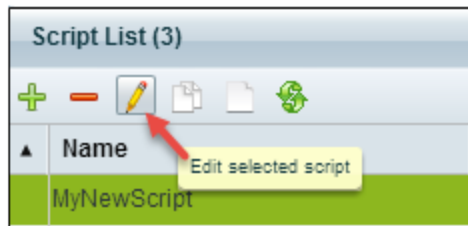
Administrator / Content Manager

---

To edit an event script, complete the following steps:

1. Go to **Control Panel > Schedule**.
2. Select the script you want to change, then click the edit (pencil) icon as shown in [Figure 83](#).


Figure 83. 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

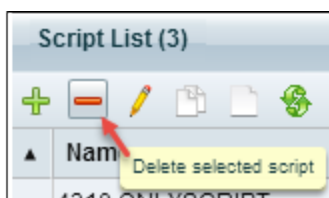
 **User Roles**  
Administrator / Content Manager

---

To delete an event script, complete the following steps:

1. Go to **Control Panel > Schedule**.
2. Select the script you want to remove, then click the "-" icon as shown in [Figure 84](#).

Figure 84. Delete Script



A Confirm Script Delete dialog box appears.

3. Click **Delete**.
-

---

---

## Copying Event State Actions



### User Roles

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.

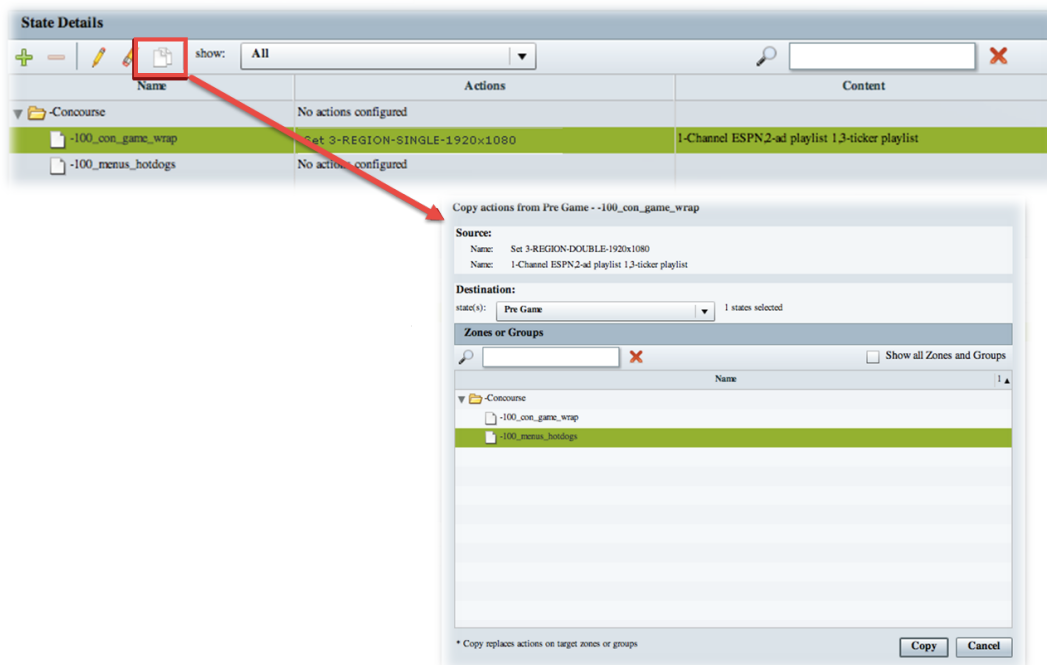
For example, if you are using a 3-Region template and want to reuse it with the same ticker, the same video, but a different ad region copying the template saves time.

---

**To copy actions from one zone / group to another, complete the following steps:**

1. Go to **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 85](#).


**Figure 85. 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.

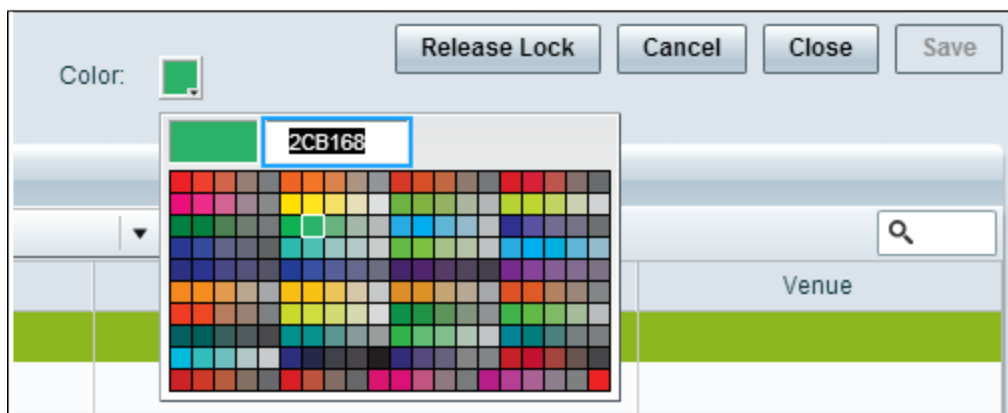
## Changing an Event Script Color

 **User Roles**  
Administrator / Content Manager

**To change the color of an event script, complete the following steps:**

1. Go to **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, you will have to click **Edit** in order to make changes.
3. Click the color square and choose the new color from the color picker as shown in [Figure 86](#).

**Figure 86. 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 StadiumVision Director main menu > **Control Panel** > **Control** 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 StadiumVision Director main menu > **Scheduler** application 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** > **Control**. You can also cancel the scheduled event script from **Control Panel** > **Control** or from the Scheduler application.

## Running an Event Script from the Control Panel

 **User Roles**  
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 in order for it to appear there.

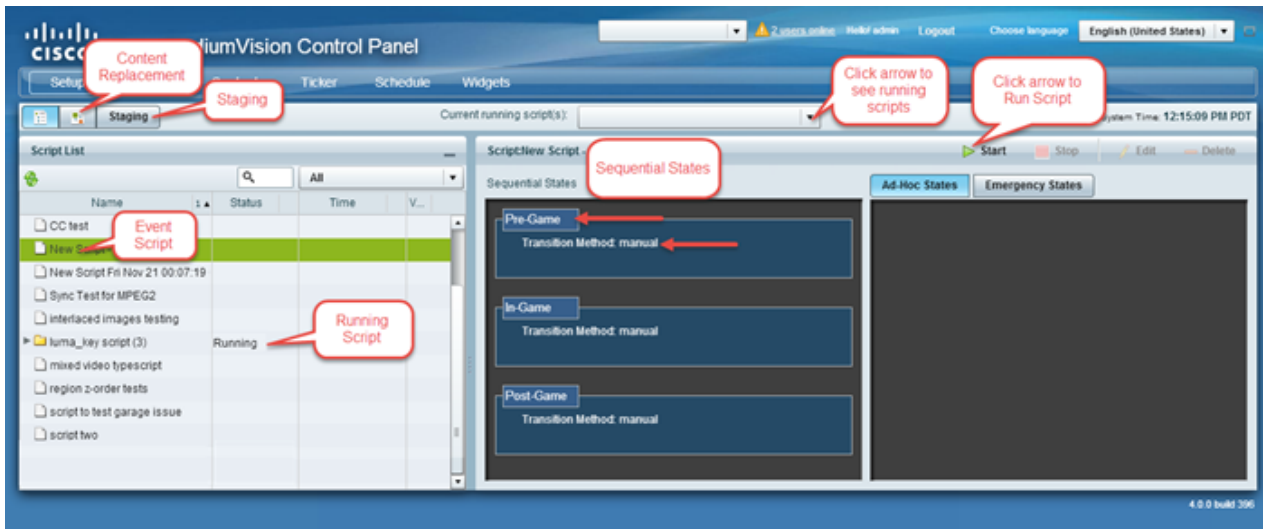
---

**To run an event script, complete the following steps:**

1. Go to **Control Panel** > **Control**. Check to see if any running scripts should be stopped.

[Figure 87](#) shows the Control script list view and the options available there. As shown below, there is one script currently running. Notice the middle column displays the event states and transition method previously created.

Figure 87. Event Script Overview



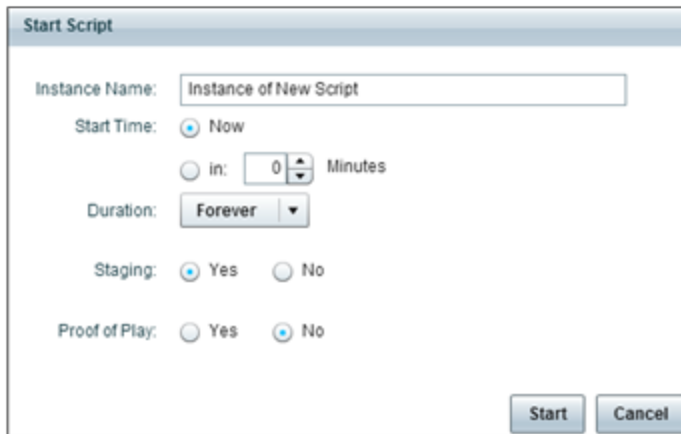
2. From the Script List (left), select the script that you want to run, then click the green **Start** arrow.



**NOTE:** In the Script List, you'll notice that event scripts have either a page or folder icon. The folder icon indicates that the script has been run at least once. Every time you run a script, a new instance (text log) will be created. If you want to run the script again be sure to click on the folder and not the instance.

The start script dialog box appears as shown in [Figure 88](#).

Figure 88. Start Script Dialog Box



3. (Required) Name the script instance. A name will appear automatically based on the script name.
4. (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 as shown in [Figure 89](#). You can also specify the start staging time in advance of the script start.

**Figure 89. Starting an Event Script in Advance**

The screenshot shows the 'Start Script' dialog box. It includes the following fields and options:

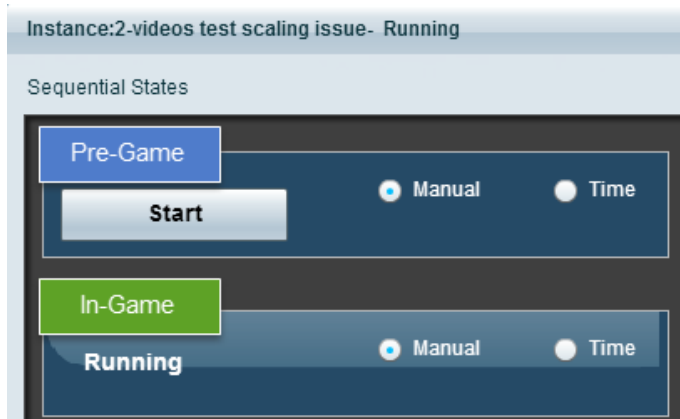
- Instance Name: Instance of New Script
- Start Time:  Now,  in: 60 Minutes
- Duration: Forever
- Staging:  Yes,  No
- Start Staging: 0 Minutes ahead of script start.
- Proof of Play:  Yes,  No

Buttons: Start, Cancel

5. (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.
6. (Required) Select whether to stage by selecting Yes or No.  
For more information about staging content, see the ["Staging Content to the Media Player" on page 141](#).
7. (Required) Turn Proof of Play On (yes) or Off (no).
8. Click **Start**. As the script starts, the images 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.

Script states will advance automatically if set, or the event operator can manually advance them as shown in [Figure 90](#).

**Figure 90. Example of a Running Script**



In this example, the In-Game state is running and will continue to run until the next event state is started manually. If you had an ad-hoc or emergency state to run, you would do so by clicking Start in the event state box.



**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.

## Stopping an Event Script



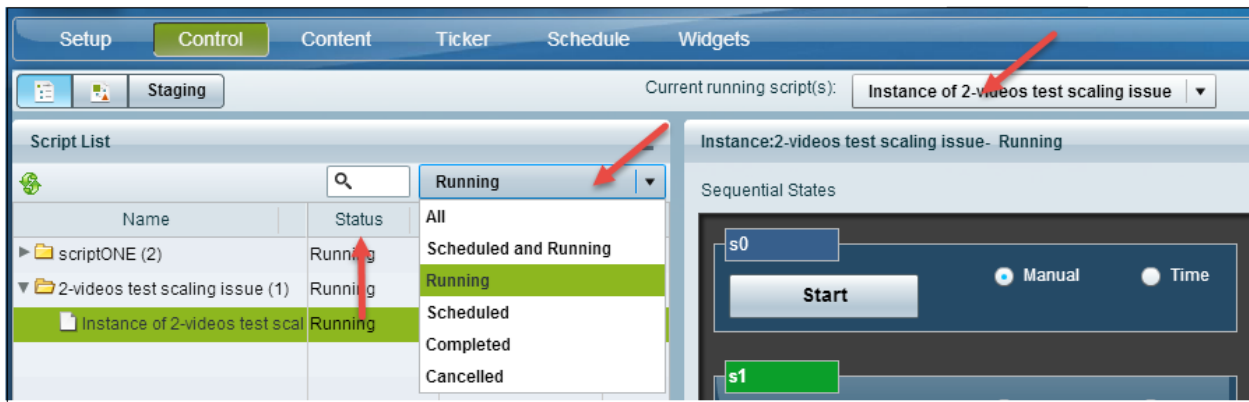
### User Roles

Administrator / Event Operator / Venue Administrator / Venue Operator

**To stop an event script, complete the following steps:**

1. Go to **Control Panel > Control**.
2. Locate the running script from the Script List using by searching or by using one of the drop-down menus.

Figure 91. Locating a Running Event Script



3. Click **Stop**.

## Information About the Scheduler Application

This module describes the Scheduler application that is available from the Cisco StadiumVision 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 that allows you to navigate the user interface by:

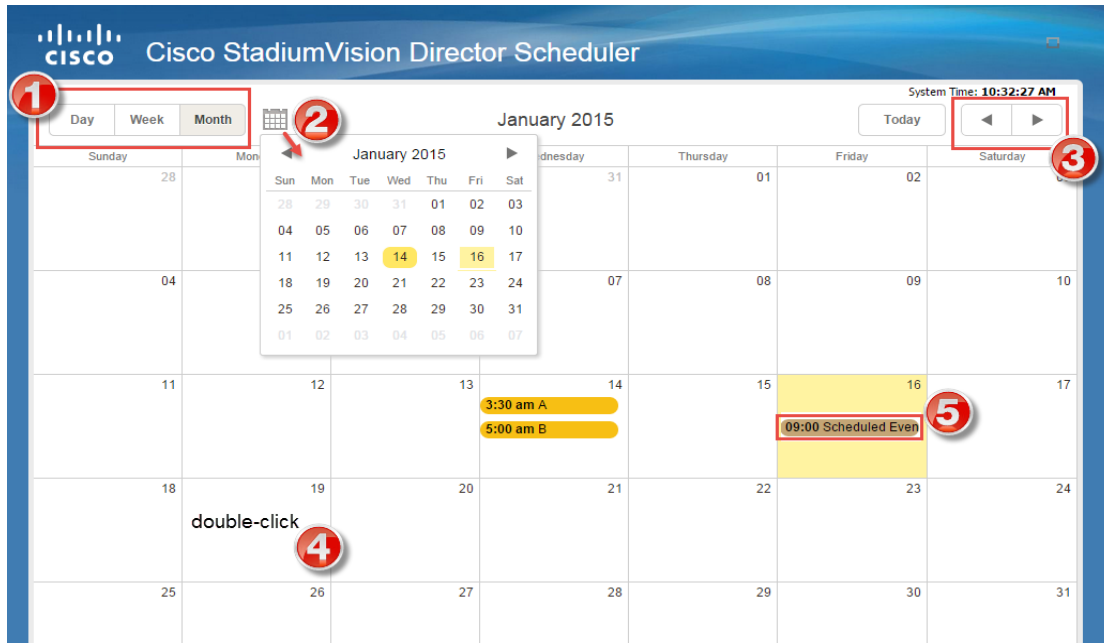
1. Day, week, or month.
2. Calendar icon to select a specific time frame.



**NOTE:** Days that have a scheduled event script and the current day appear highlighted.

3. Left and right arrows to view previous and future time frames.
4. To schedule a new event script, double-click on the day that you want the event script to run.
5. To modify a scheduled event script, double-click on the scheduled event.

**Figure 92. 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 204](#)
- [Accessing the Scheduler Application, Page 205](#)
- [Creating a New Event , Page 206](#)
- [Creating a New Event Series , Page 207](#)
- [Confirming an Event Script is Scheduled, Page 210](#)
- [Modifying a Scheduled Event, Page 209](#)
- [Canceling a Single Event , Page 210](#)
- [Canceling an Event Script Series or Single Occurrence in a Series, Page 210](#)

---

## 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 **Control Panel > 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.

- 
- 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 StadiumVision Director.
- You have created an event script through **Control Panel > Schedule**.

---

## Accessing the Scheduler Application



### User Roles

Administrator / Event Operator

---

**To access the Scheduler application, complete the following steps:**

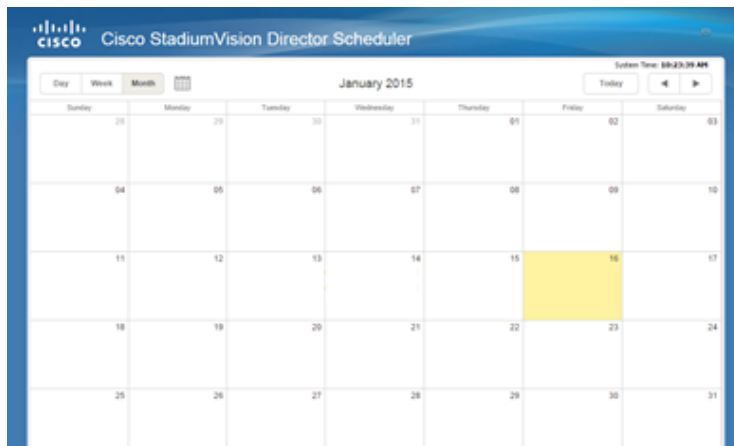
1. Log into Cisco StadiumVision Director as an administrator or event operator.
2. From the main menu, click **Scheduler**.

**Figure 93. Access the Scheduler Application**



The Scheduler application opens in a new browser window with the current day highlighted as shown in [Figure 94](#).

**Figure 94. Scheduler Calendar View**



---

## Creating a New Event



### User Roles

Administrator / Event Operator

---

The following steps summarize the overall workflow to schedule a single event script occurrence using the Scheduler application:

1. From Cisco StadiumVision Director main menu, access the Scheduler application.
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 95. Creating a New Event

**Create New Event**

a Event name

b Select script

c Repeat event

d Select options  Proof of play  Staging  Force Stop

e Time period  12:00 am  12:30 am  
mm/dd/yy mm/dd/yy

Delete 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**.  
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

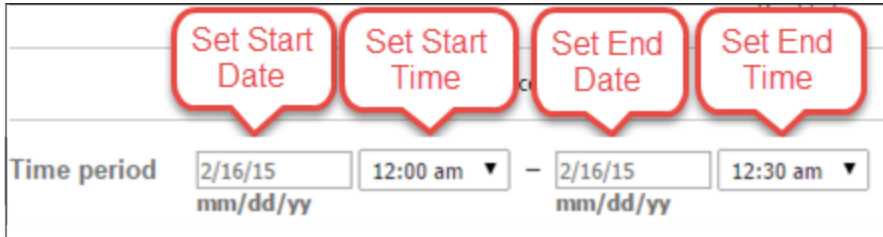


---

a trigger is received that stops the script.

- e. **Time period:** Select the date and time for the event script to run.

**Figure 96. Set the Event Time Period**




The screenshot shows a 'Time period' field in the Scheduler application. The field is divided into four sections: 'Set Start Date', 'Set Start Time', 'Set End Date', and 'Set End Time'. The 'Set Start Date' section contains a text input field with the value '2/16/15' and a label 'mm/dd/yy' below it. The 'Set Start Time' section contains a dropdown menu with the value '12:00 am'. The 'Set End Date' section contains a text input field with the value '2/16/15' and a label 'mm/dd/yy' below it. The 'Set End Time' section contains a dropdown menu with the value '12:30 am'. The entire 'Time period' field is enclosed in a box with a border.

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 Roles**  
Administrator / Event Operator

**The following steps summarize the overall workflow to schedule an event script series using the Scheduler application:**

1. From Cisco StadiumVision Director main menu, access the Scheduler application.
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 97](#).

Figure 97. Creating a New Event Series

The screenshot shows a 'Create New Event' form with the following fields and annotations:

- a** Event name: A text input field containing 'Name of Event'.
- b** Select script: A dropdown menu showing 'Sync Test Script 1'.
- c** Repeat event: A checked checkbox. Below it, 'Daily' is selected with a radio button. The frequency is set to 'every 4 day(s)'. The number of occurrences is set to 'after 3 occurrences'. An 'End by' date field contains '3/18/15'.
- d** Select options: Three checkboxes: 'Proof of play' (unchecked), 'Staging' (checked), and 'Force Stop' (unchecked).
- e** Time period: Two date-time pickers. The first is '11/21/14 12:00 am' and the second is '11/21/14 12:30 am'. Both date fields are labeled 'mm/dd/yy'.

At the bottom of the form are three buttons: 'Delete' (orange), 'Cancel' (white), and 'Save' (blue).

- Event Name:** Type in a name for the event series in the Event Name field (required).
- Select script:** Select the event script from the Select Script drop-down menu.
- 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 4 days) and the number of occurrences (3) or set an end date. In this example, the event would be scheduled 3 times, once every four days.
  - Weekly:** Select Weekly to repeat an event script on a weekly basis. In the example below, the event would be scheduled on Monday, Wednesday, and Friday for two weeks in a row for a total of 6 occurrences of the event script.

Figure 98. Set Event Series Specifics

The screenshot shows the 'Repeat event' section of the form with the following details:

- Repeat event:** A checked checkbox.
- Daily:** A radio button that is not selected.
- Weekly:** A radio button that is selected.
- Repeat every:** A text input field containing '1' followed by 'week(s)'. Below this are seven checkboxes for the days of the week: Sun (unchecked), Mon (checked), Tue (unchecked), Wed (checked), Thu (unchecked), Fri (checked), and Sat (unchecked).
- After:** A radio button that is selected, followed by a text input field containing '6' and the word 'occurrences'.
- End by:** A radio button that is not selected, followed by a text input field containing '12/22/14'.



**NOTE:** Be careful when entering a number of occurrences. In the example above if the number of occurrences was set to 5, the event would only be scheduled 5 occurrences (Monday, Wednesday, and Friday for the first week, then Monday and Wednesday in the following week).

- d. **Select options:** Click the check boxes to activate or deactivate the following options: **Proof of Play**, **Staging** (enabled by default), **Force Stop**.

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.

Figure 99. Set the Event Time Period

Time period 2/16/15 12:00 am - 2/16/15 12:30 am  
mm/dd/yy mm/dd/yy

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 Roles

Administrator / Event Operator

**To modify a scheduled event script occurrence or series, complete the following steps:**

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 Roles

Administrator / Event Operator

---

**To confirm an event script occurrence or series is scheduled, perform one of the following:**

- Review the Scheduler application calendar view to verify the script appears.
  - From Cisco StadiumVision Director main menu > **Control Panel** > **Schedule**. If an event script is scheduled, an icon  appears in the left column.
  - From Cisco StadiumVision Director main menu > **Control Panel** > **Control**. If an event script is scheduled, the Status column indicates scheduled.
- 

## Canceling a Single Event



### User Roles

Administrator / Event Operator

---

**To cancel a scheduled event script, complete the following steps:**

1. Locate the scheduled event script that you want to cancel from the Scheduler application or from **Control Panel** > **Control**.
  2. If using the Scheduler application, **double-click** the event script to open it.
    - f. Click **Delete** in scheduler dialog box.
    - g. Click **OK** in the alert dialog box.
    - h. 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** > **Control**, highlight the script instance and click **Stop**.
- 

## Canceling an Event Script Series or Single Occurrence in a Series



### User Roles

Administrator / Event Operator

---

**To cancel a scheduled event script series or a single occurrence that is part of a series, complete the following steps:**

---

- 
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.

Do you want to edit the whole set of repeated events?

Edit series Edit occurrence Cancel

- 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.



StadiumVision



# Running Event Operations in Cisco StadiumVision Director

---

## Workflow Summary for Running an Event in Cisco StadiumVision Director

[Table 31](#) provides a summary of the tasks and related information to run an event in Cisco StadiumVision Director.

**Table 31. Running an Event Task Summary**

Event Stages	For more information see:
Plan the event and prepare content.	<a href="#">Cisco StadiumVision Director Operations Playbook</a> <a href="#">Cisco StadiumVision Content Creation Design and Specification Guide</a>
Create and schedule event scripts to run the event.	<a href="#">"How to Run and Schedule Event Scripts and Series" on page 197</a>
Capture event data by generating Proof of Play reports.	<a href="#">Cisco StadiumVision Director Proof of Play</a>







StadiumVision



# Monitoring Media Player Operation During an Event Using CCM



## User Roles

Administrator / Help Desk/ Support / Venue Operator / Venue Administrator

This module describes how to monitor operation of media players using Command Center Monitoring (CCM) in Cisco StadiumVision Director.

## Information About CCM

The Command Center Monitoring (CCM) application is introduced in Release 4.1 to show at-a-glance device status information for media players and their attached TV displays during an event.

Figure 100. CCM Application on Main Menu



---

## CCM Application Highlights

- Is accessible from the Cisco StadiumVision Director Main Menu.
- 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.

## CCM Roles

CCM can be used by the following Cisco StadiumVision Director user roles:



**NOTE:** The Administrator is the only role that can restart media players within CCM, or change the polling interval in the Management Dashboard.

- Administrator
- Help Desk
- Support
- Venue Administrator
- Venue Operator

## CCM Views

CCM supports two basic monitoring views of device status:

- **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.

From either thumbnail or grid view, you can show or hide the device tree that appears on the left side of the screen.

---

## Grid View

[Figure 101](#) shows an example of the device information that can be seen in grid view, in addition to the status icon and controls that are also available from thumbnail view.

**Figure 101. Grid View Monitoring Example**



The screenshot displays the Cisco StadiumVision Command Center Monitoring interface. At the top, the Cisco logo and 'Cisco StadiumVision Command Center Mo...' are visible. Below the header, there is a search bar with 'All' selected and a search icon. To the right, there are 'Show' and 'Select Filter Criteria' options, along with icons for list, grid, and refresh views. The main content area shows a table with 8 results found. The table has columns for Location, Model, IP Address, Firmware, TV Status, and Status. The data rows are as follows:

Location	Model	IP Address	Firmware	TV Status	Status
AST4_Lab156_BenchTV1	DMP-4310	10.10.12.4	5.4(1)RB(2P)	Off	● ⏪ ⏩
AST4_Lab156_BenchTV2	DMP-4310	10.10.12.5	5.4(1)RB(2P)	On	● ⏪ ⏩
AST4_Lab156_BenchTV3	DMP-4310	10.10.12.6	5.4(1)RB(2P)	On	● ⏪ ⏩
AST4_Lab156_BenchTV4	DMP-4310	10.10.12.7	5.4(1)RB(2P)	Off	● ⏪ ⏩
AST4_Lab156_BenchTV5	DMP-4310	10.10.12.8	5.4(1)RB(2P)	Off	● ⏪ ⏩
CRT2-R1-C1	SV-4K	10.194.171.150	6.0.51	Off	● ⏪ ⏩
CRT2-R1-C2	SV-4K	10.194.171.146	6.0.51	Off	● ⏪ ⏩
CRT2-R1-C3	SV-4K	10.194.171.147	6.0.51	Off	● ⏪ ⏩

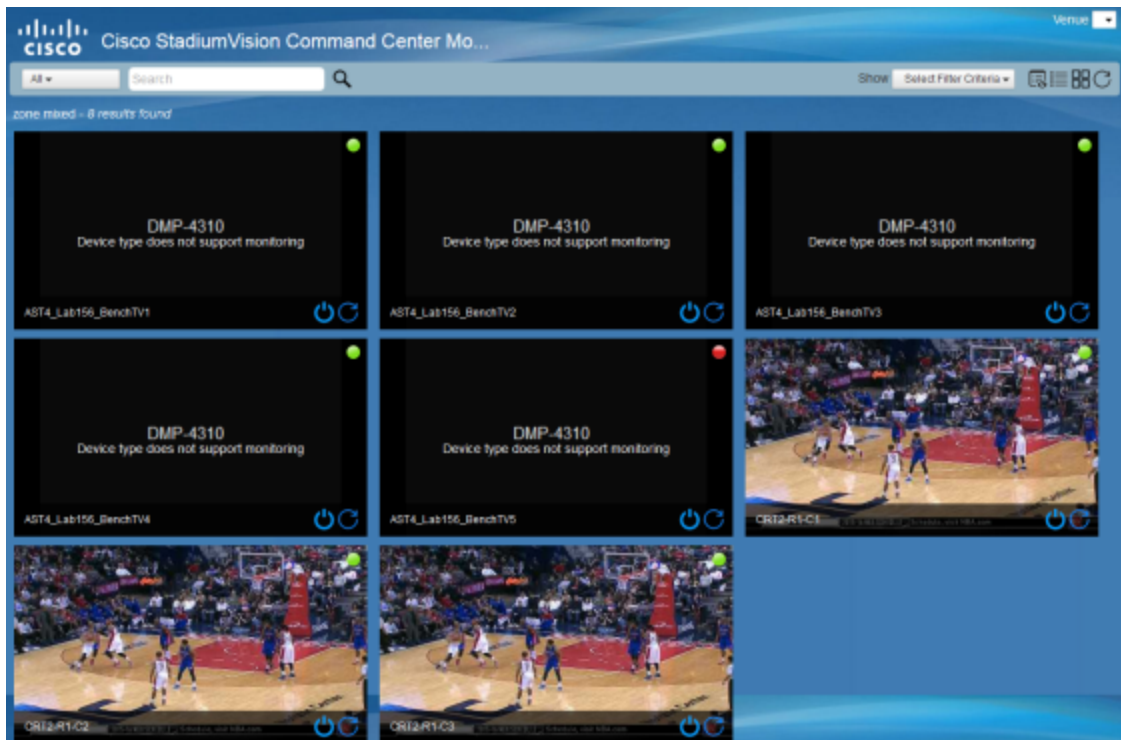
## Thumbnail View

[Figure 102](#) shows a view of the same devices from [Figure 101](#) with snapshots of content playing on those devices.



**NOTE:** Cisco DMP-4310G devices will only show their status without any content in this view.

Figure 102. Thumbnail View Monitoring Example



## CCM Filters

CCM allows you to apply filter criteria to the devices selected for visual monitoring to see devices with specific characteristics or conditions:

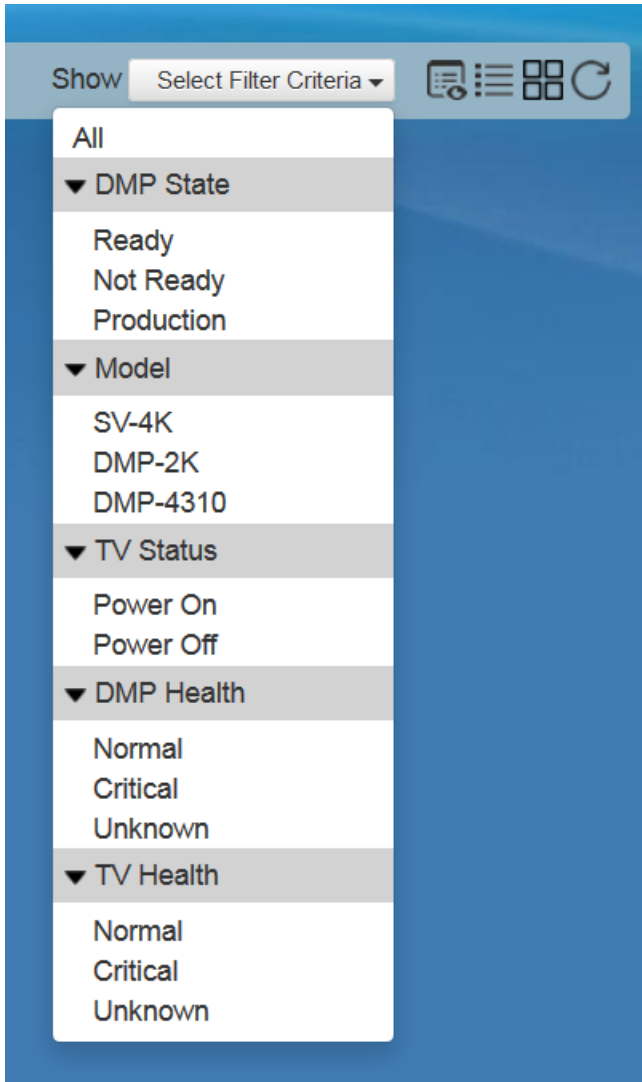
- DMP State
- Model
- TV Status
- DMP Health
- TV Health



**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 103](#) shows the specific types of filter criteria available.

**Figure 103. CCM Display Filter Criteria**



---

# Best Practices for CCM

When working with CCM, 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 CCM

This section includes the following topics:

- [Prerequisites for CCM, Page 220](#)
- [Restrictions for CCM, Page 220](#)
- [Understanding the CCM Screen, Page 221](#)
- [Enabling Monitoring of Devices in CCM, Page 221](#)
- [Viewing DMP Details in CCM, Page 222](#)
- [Rebooting DMPs in CCM, Page 223](#)
- [Changing the CCM Polling Period, Page 224](#)

## Prerequisites for CCM

Before you configure CCM, be sure that the following conditions are met:

- DMPs are created in Cisco StadiumVision Director.
- DMPs are assigned to zones, groups, and locations.

## Restrictions for CCM

Before you use CCM, consider the following restrictions:

- The Cisco DMP 4310G does not support display of the content thumbnail when CCM is in thumbnail view.
- Only users with role of Administrator can reboot DMPs from CCM.


# Understanding the CCM Screen

Figure 104 shows the default CCM screen (thumbnail view with device list tree) and the options available there.

Figure 104. CCM Screen Navigation




## Enabling Monitoring of Devices in CCM

 **User Roles**  
Administrator / Help Desk / Support / Venue Operator / Venue Administrator

By default, monitoring of devices in CCM is disabled.

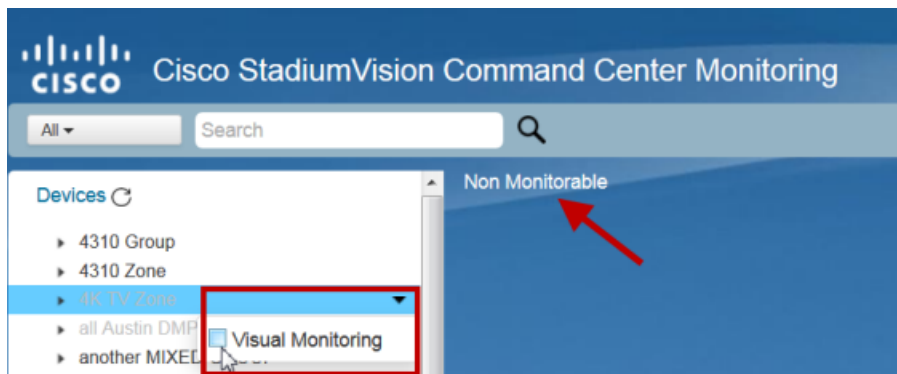
**To enable monitoring of devices in CCM, complete the following steps:**

1. From the CCM 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 105](#)).

3. Click the drop-down arrow beside the DMP(s) that you want to enable for monitoring and select the Visual Monitoring checkbox ([Figure 105](#)).

Figure 105. Visual Monitoring Checkbox



## Viewing DMP Details in CCM



### User Roles

Administrator / Help Desk

Support / Venue Operator / Venue Administrator

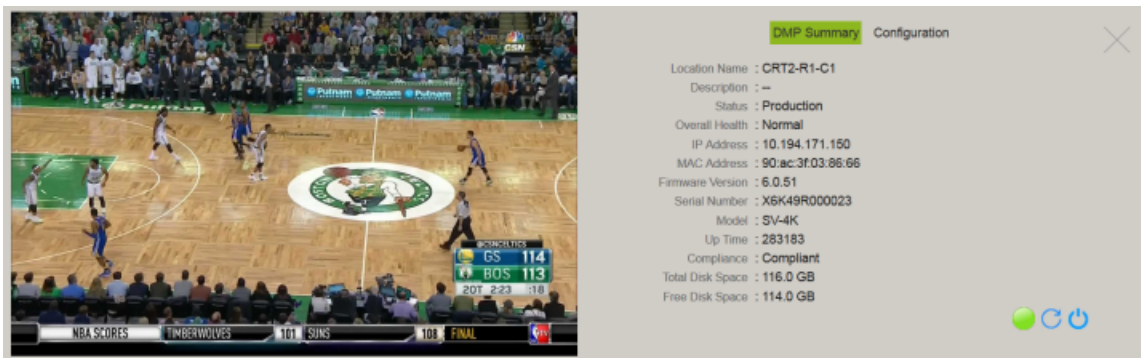
You can view a lot of information about DMPs from CCM including addressing information, firmware version, disk space and configuration.

**To view DMP details in CCM, complete the following steps:**

1. From CCM, 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 is displayed ([Figure 106](#)).

Figure 106. DMP Summary Panel

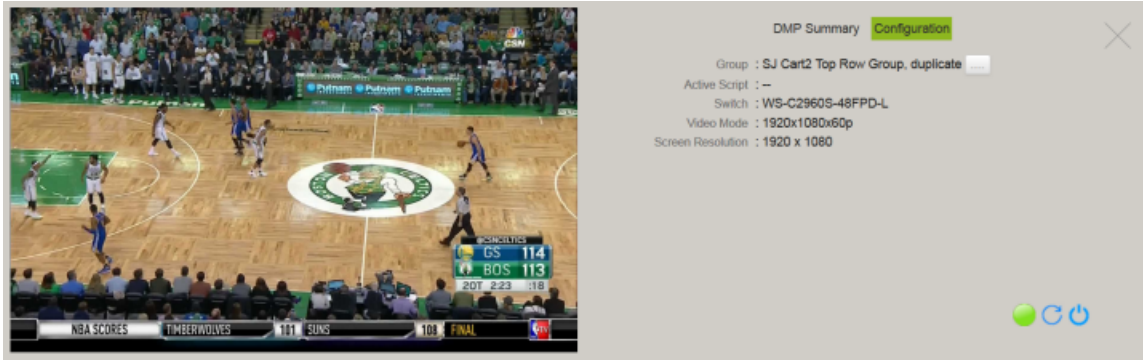


4. To see configuration information, such as switch and script information, click **Configuration**.




The DMP Configuration page is displayed ([Figure 107](#)) .

**Figure 107. DMP Configuration Panel**



## Rebooting DMPs in CCM

 **User Roles**  
Administrator / Venue Administrator

Users with the Administrator role only can reboot DMPs from within CCM.

The reboot devices button can be used from either the grid view ([Figure 108](#)) or thumbnail view ([Figure 109](#)).

**Figure 108. Reboot Device Button—Grid View**

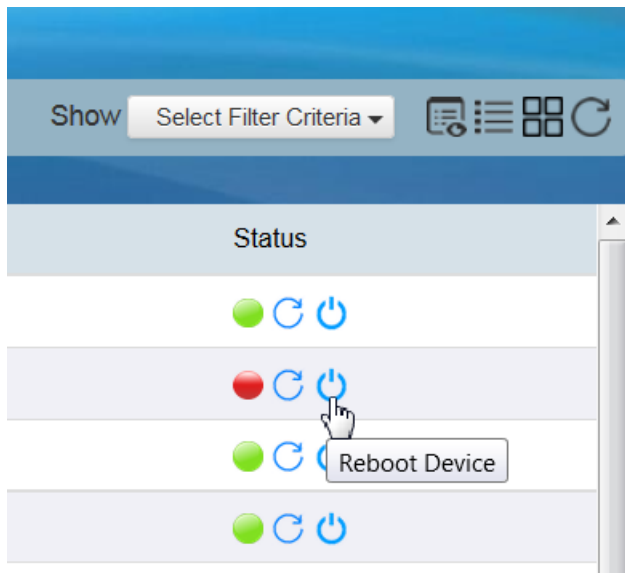


Figure 109. Reboot Device Button—Thumbnail View



## Changing the CCM Polling Period



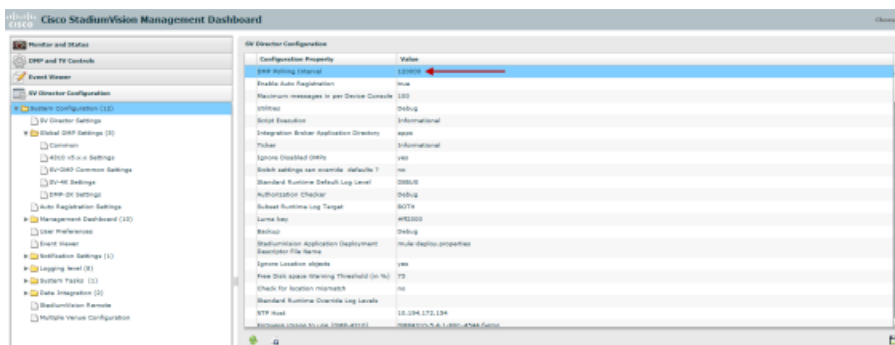
### User Roles

Administrator / Venue Administrator

By default, CCM polls devices to update status every 120 seconds.

To change the CCM polling period, complete the following steps:

1. From the Management Dashboard, go to **SV Director Configuration > System Configuration**.
2. In the Configuration Property box, find the DMP Polling Interval property.



3. In the value box, type the time period in ms.

---

4. Click the disk icon to save your changes.



**TIP:** You do not need to reset the SV-4K and DMP-2K to apply the new value. Whenever a script starts, the media player retrieves the global settings.





# Troubleshooting Event Operations in Cisco StadiumVision Director

---

## Troubleshooting Event Operations

provides a summary of useful tasks when there is a problem while running an event in Cisco StadiumVision Director.

**Table 32. Troubleshooting Event Operations**

Task	For more information see:
Replace a Failed DMP.	<a href="#">"Replacing a Failed Media Player While an Event Script is Running" on page 285</a>
Replace Content.	<a href="#">"Replacing Content in a Playlist During an Event" on page 153</a>
Stream video as multicast URL to a media player with content problem.	<a href="#">"Tuning Selected Media Players to a Multicast URL" on page 110</a>
Clear a blocked script.	<a href="#">"Troubleshooting Event Scripts" on page 211</a>

## Troubleshooting Error Messages

Use the information in this section to troubleshoot error messages that occur when operating Cisco StadiumVision 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 StadiumVision 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 (Cisco DMP 4310G currently supports only 1 video region).

**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 (Cisco DMP 4310G and SV-4K) 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. Cisco DMP 4310G and SV-4K media players should be assigned to different groups and zones.

## 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, complete the following steps:**

1. If there was a power outage, restart the Cisco StadiumVision Director server.
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 110](#)).

**Figure 110. TUI Services Control Menu—Network Time Sync Option**

---

```
Main Menu > Services Control

Please choose one of the following menu options:

a) Networking
b) Network Time Sync
c) MySQL
d) Web Server
e) Content Management System (cms)
f) Message Queue (hornetq)
g) Dynamic Menu Board / Portal (liferay)
h) Data Integration (broker)
i) StadiumVision Director Services
R or < or ,) Return to prior menu
```

6. (Optional) To verify the ntpd service, select **Show Status** ([Figure 111](#)).

**Figure 111. TUI Network Time Sync Menu**

```
Main Menu > Services Control > Network Time Sync

Please choose one of the following menu options:

a) Show Status
b) Start Service
c) Stop Service
R or < or ,) Return to prior menu
```

7. If the ntpd service is not running, click **Start Service**.
-





StadiumVision



## **Cisco StadiumVision Director: Management Operations**





StadiumVision



# Managing Switch Data in Cisco StadiumVision Director

---

This section includes the following topics:

- [Information About Importing Switch Data, Page 237](#)
- [How to Import Switch Data to Cisco StadiumVision Director, Page 237](#)
- [Viewing Switch Details , Page 242](#)

## Information About Importing Switch Data

It is helpful to import switch data to Cisco StadiumVision 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 StadiumVision Director

This section includes the following topics:

- [Guidelines for Importing Switch Data , Page 238](#)
- [Prerequisites for Importing Switch Data , Page 238](#)
- [Configuring the Global Switch Device Default Settings, Page 239](#)
- [Importing Switch Data , Page 240](#)
- [Reimporting Switch Data , Page 242](#)

---

## Guidelines for Importing Switch Data

Before you import switch data to Cisco StadiumVision 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 StadiumVision Director. This will save you time when importing data from multiple switches.
- 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 StadiumVision Director, be sure that the following conditions are met:

- You have installed and configured the Cisco Connected Stadium switch(es) for Cisco StadiumVision 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 Roles**  
Administrator

Use this task to set the common credentials and connection type for all switches whose data you want to import to Cisco StadiumVision Director. This will save you time when importing data from multiple switches.

---

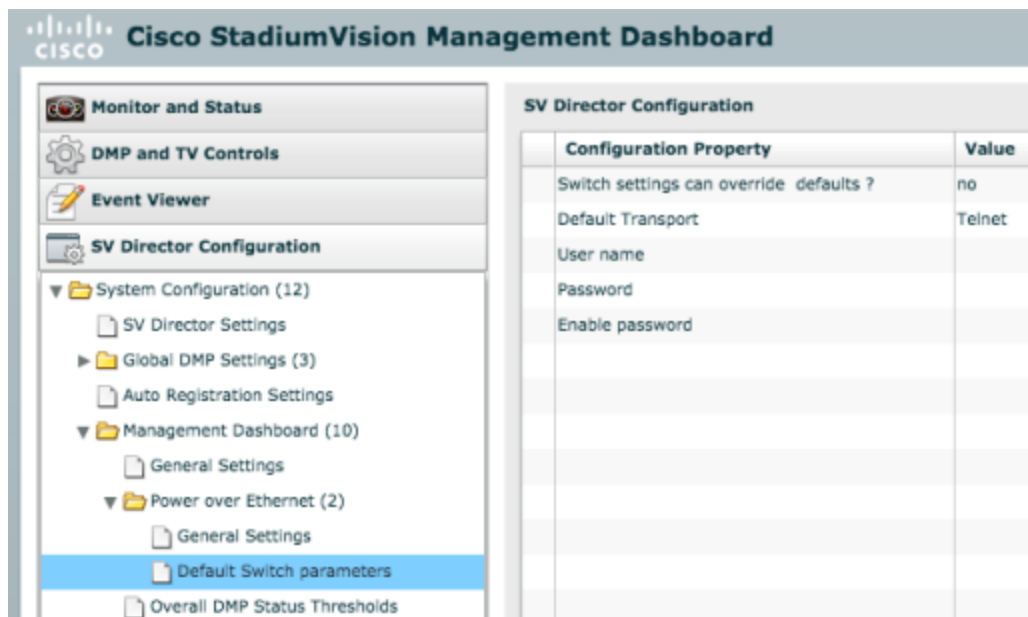
**To configure global switch device default settings, complete the following steps:**

1. From the Management Dashboard, go to:

**SV Director Configuration > System Configuration > Management Dashboard > Power over Ethernet > Default Switch parameters**

[Figure 112](#) shows the available configuration properties that can be specified as defaults for all imports of switch data to Cisco StadiumVision Director.

**Figure 112. 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 33](#).

**Table 33. Default Switch Configuration Property Descriptions**

Property	Description
Switch settings can override defaults?	<ul style="list-style-type: none"><li>• <b>no</b>—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.</li><li>• <b>yes</b>—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.</li></ul>
Default Transport	Default connecton type to the switch as <b>Telnet</b> or <b>SSH</b> . For best security, SSH should be used.  This value can be overridden in the Import Switch settings when the override option is set to yes.
User Name	Default user name on the switch.  This value can be overridden in the Import Switch settings when the override option is set to yes.
Password	Default password for the user name on the switch.  This value can be overridden in the Import Switch settings when the override option is set to yes.
Enable password	Default enable password on the switch.  This value can be overridden in the Import Switch settings when the override option is set to yes.

---

## Importing Switch Data



### User Roles

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, complete the following steps:**

1. From the Management Dashboard, go to:

**Tools > Settings > Switch Management > Import Switch**

[Figure 113](#) shows the Import Switch options.

**Figure 113. Import Switch**

**Import Switch**

**Device Summary**

IP Address:

Description:

**Connection Parameters**

Transport: **Telnet** ▼

**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 Roles

Administrator

This task describes how to update Cisco Connected Stadium switch data in Cisco StadiumVision 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.

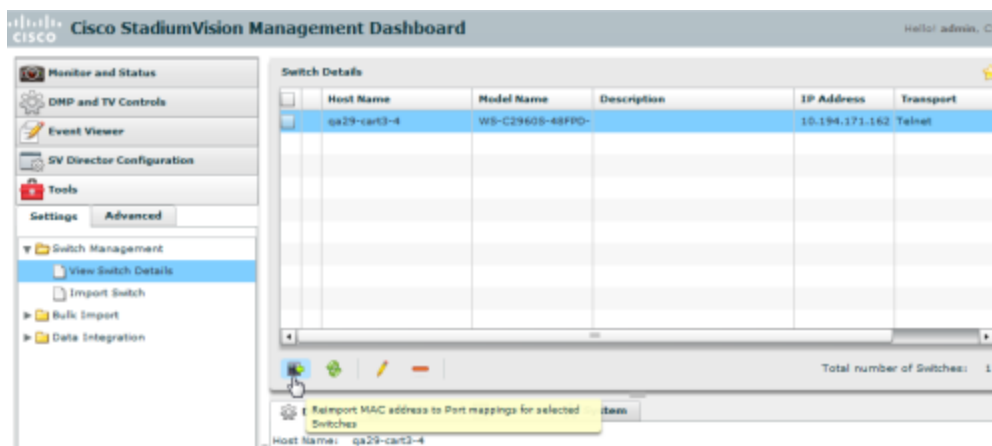
---

**To reimport switch data, complete the following steps:**

1. From the Management Dashboard, go to:  
**Tools > Settings > 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 114](#) shows the tooltip for the reimport button.

**Figure 114. Reimport Switch Data From View Switch Details**



---

## Viewing Switch Details



### User Roles

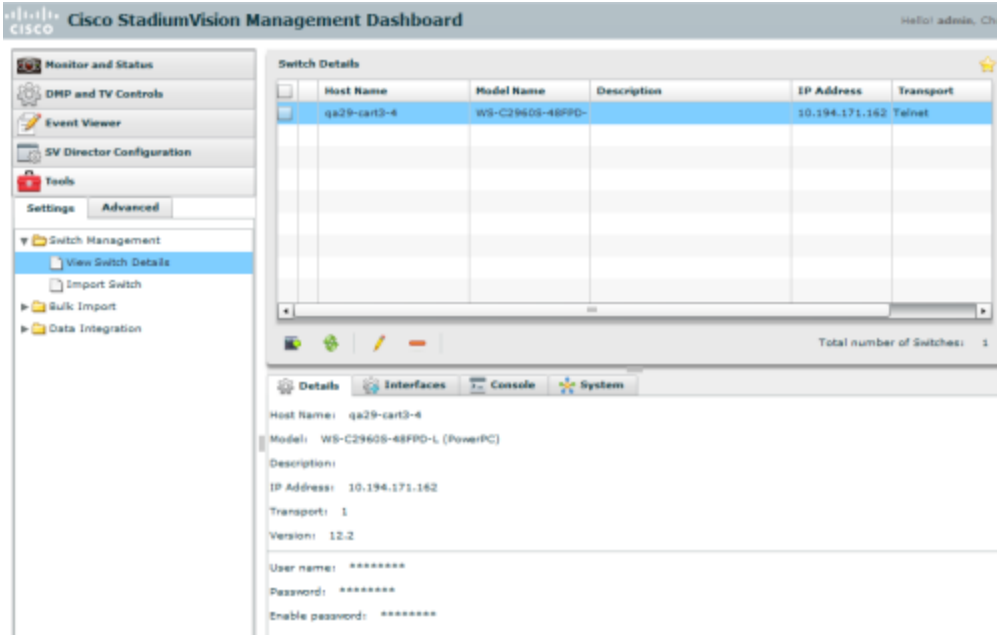
Administrator

**To view switch details, complete the following steps:**

1. From the Management Dashboard, go to:  
**Tools > Settings > Switch Management > View Switch Details**

[Figure 115](#) shows the default switch details view that provides basic information about the switch itself.

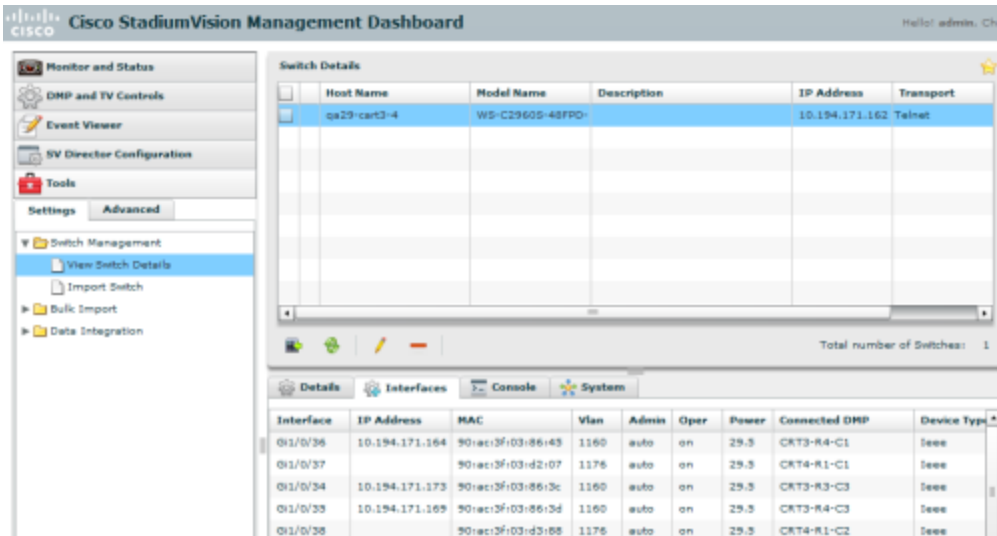
**Figure 115. View Switch Details**



2. To get information about the media player device connections on the switch, click **Interfaces**.

[Figure 116](#) shows information about the media players connected to the switch, including addressing, VLAN and POE values.

**Figure 116. Switch Details—Interfaces View**







# Managing System Services in Cisco StadiumVision Director

This section includes the following topics:

- [Information About Monitored Services, Page 245](#)
- [Using the Monitored Services Screen, Page 247](#)

## Information About Monitored Services

Service alerts are reported based on the monitored services enabled in the Management Dashboard under **Monitor and Status > Services**.

[Figure 117](#) shows the Cisco StadiumVision Director services available for monitoring and their status.

**Figure 117. Monitored Services in the Management Dashboard**

Monitored Services					
	Polling	Mode	Interval	Service Name	Service Status
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Cisco POS Server 3	Cisco server at qa-test-07/10.194.170.142 is running normally.
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Config Server	Server is available.
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Director Server OS	CPU 3% Memory 16% Disk usage 30% System running normally.
<input checked="" type="checkbox"/>	Enabled	Automatic	10 minutes	Director Database	Database is running normally.
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Local Control Server	Server is available.
<input checked="" type="checkbox"/>	Enabled	Automatic	10 minutes	Proof Of Play Database	Database iapps_pofp is running normally.
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Control Server	Server is available.
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Monitor Server	Server is available.
<input checked="" type="checkbox"/>	Enabled	Automatic	5 minutes	Network Configuration	Network name resolution is ok.
<input type="checkbox"/>	Enabled	Automatic	10 minutes	High Availability Hardware	No HA system configured in registry entry backup.secondaryIp.
<input checked="" type="checkbox"/>	Enabled	Automatic	10 minutes	Integration Broker	Server is available.
<input checked="" type="checkbox"/>	Enabled	Automatic	10 minutes	CUCM Server	CUCM at 10.194.170.137 is running normally.
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Quest POS Server 4	Quest service is pingable at 10.194.170.162
<input checked="" type="checkbox"/>	Enabled	Automatic	30 seconds	Content Management CMS Server	Server is available.

**Table 34. Monitored Services Descriptions**

Service Name	Description
{Cisco   Micros   Quest} POS Server <i>n</i>	Monitors connectivity between Cisco StadiumVision Director and the POS vendor configured as a store in Cisco StadiumVision 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 StadiumVision Director sub-component that supports auto-registration, system configuration, and Management Dashboard functions.
Content Management CMS Server	Monitors the status of the content management database.
Control Server	Monitors the status of the Cisco StadiumVision 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 StadiumVision Director phone service.
Director Database	Monitors that the Cisco StadiumVision Director database (which stores internal system configuration information) is running properly and accessible by other Cisco StadiumVision Director services.
Director Server OS	Monitors the overall health of the Cisco StadiumVision Director server, including the CPU, memory, and disk utilization.
High Availability Hardware	Monitors that a configured secondary Cisco StadiumVision Director server is running and available.
Integration Broker	Monitors the sub-component that supports the External Content Integration functionality.
Local Control Server	Monitors the status of the Cisco StadiumVision 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 External Content Integration feature.
Proof of Play Database	Monitors the status of the Proof of Play database.

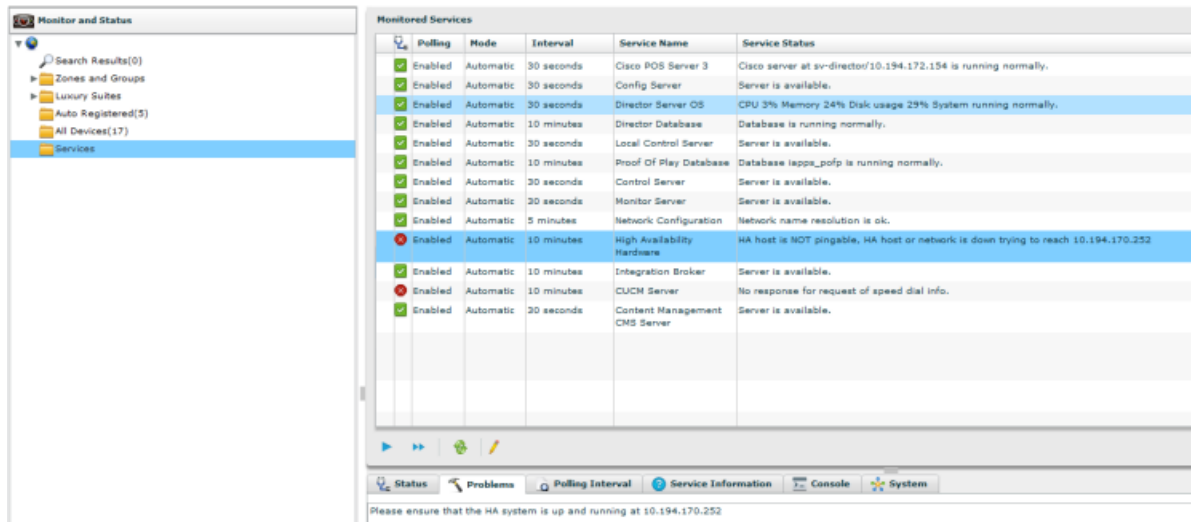


# Using the Monitored Services Screen

Use the Monitored Services screen to verify the health of your Cisco StadiumVision Director services.

[Figure 118](#) 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 118. Monitored Services Details**



Use the tabs at the bottom of the panel to obtain more details about that service, as described in [Table 35](#).

**Table 35. 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.





StadiumVision



# Managing Server Resources in Cisco StadiumVision Director

---

Before an event, you should validate system readiness for CPU, memory (RAM), and disk utilization to be sure that you have enough resources.



**NOTE:** Measurement units for storage in Cisco StadiumVision 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 StadiumVision Director.

This section includes the following topics:

- [Information About Monitoring System Utilization, Page 249](#)
- [How to Manage Disk Utilization, Page 253](#)

## Information About Monitoring System Utilization

This section includes the following topics:

- [Server Utilization Information, Page 249](#)
- [Server Alert Thresholds, Page 250](#)
- [CPU Utilization, Page 251](#)
- [Memory Utilization, Page 252](#)
- [Disk Utilization, Page 253](#)

## Server Utilization Information

The Cisco StadiumVision Director Server monitoring service (named Director Service OS) polls system status every 30 seconds for the CPU, memory (RAM), and disk utilization.

---

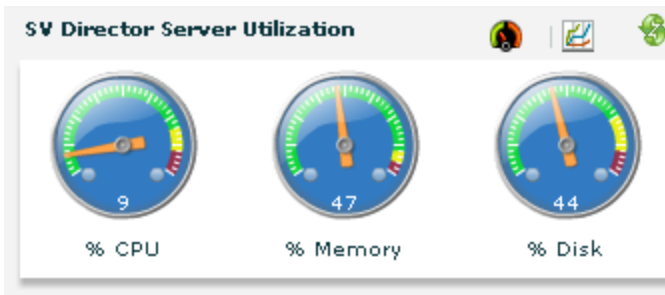
Utilization status is reported based on the server alert thresholds configured in the Management Dashboard.

The gauges in the SV 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 StadiumVision Director Server ([Figure 119](#)).



**NOTE:** The browser does not automatically update the utilization status; you must click the refresh button.

**Figure 119. Cisco StadiumVision 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 StadiumVision Health Report.

## Server Alert Thresholds

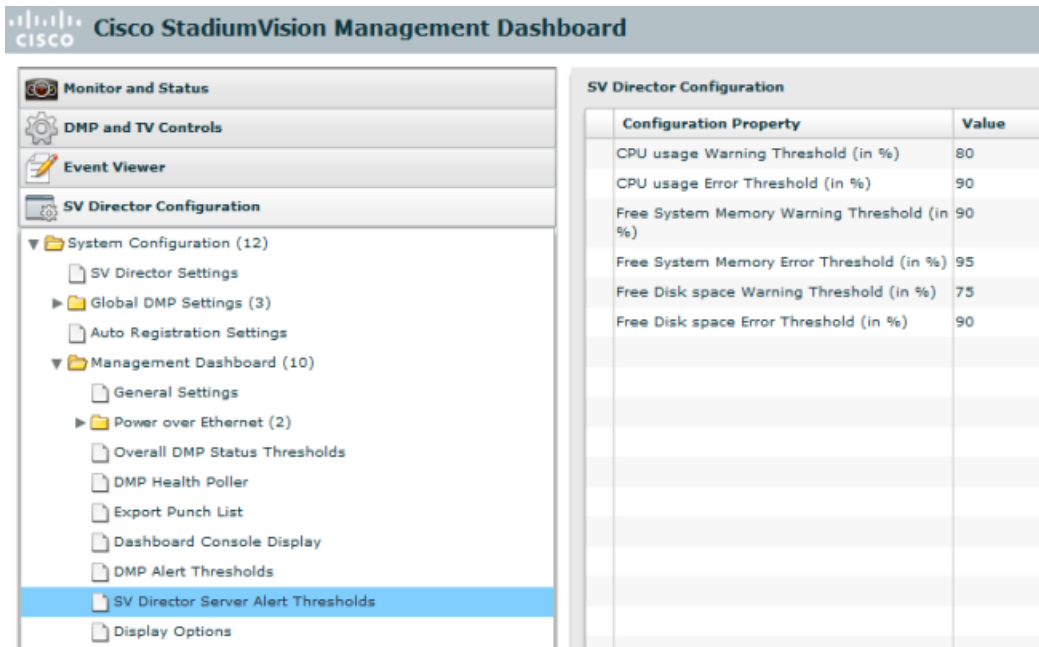
Utilization status and alerts are reported based on the server alert thresholds configured in the Management Dashboard.

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.

[Figure 120](#) shows the default threshold values for the different system areas.

Figure 120. Default Values for Server Alert Thresholds



The screenshot shows the Cisco StadiumVision Management Dashboard. The left sidebar contains a navigation menu with the following items: Monitor and Status, DMP and TV Controls, Event Viewer, SV Director Configuration, System Configuration (12), SV Director Settings, Global DMP Settings (3), Auto Registration Settings, Management Dashboard (10), General Settings, Power over Ethernet (2), Overall DMP Status Thresholds, DMP Health Poller, Export Punch List, Dashboard Console Display, DMP Alert Thresholds, SV Director Server Alert Thresholds (highlighted), and Display Options. The main content area displays the 'SV Director Configuration' page, which includes a table of configuration properties and their values.

Configuration Property	Value
CPU usage Warning Threshold (in %)	80
CPU usage Error Threshold (in %)	90
Free System Memory Warning Threshold (in %)	90
Free System Memory Error Threshold (in %)	95
Free Disk space Warning Threshold (in %)	75
Free Disk space Error Threshold (in %)	90

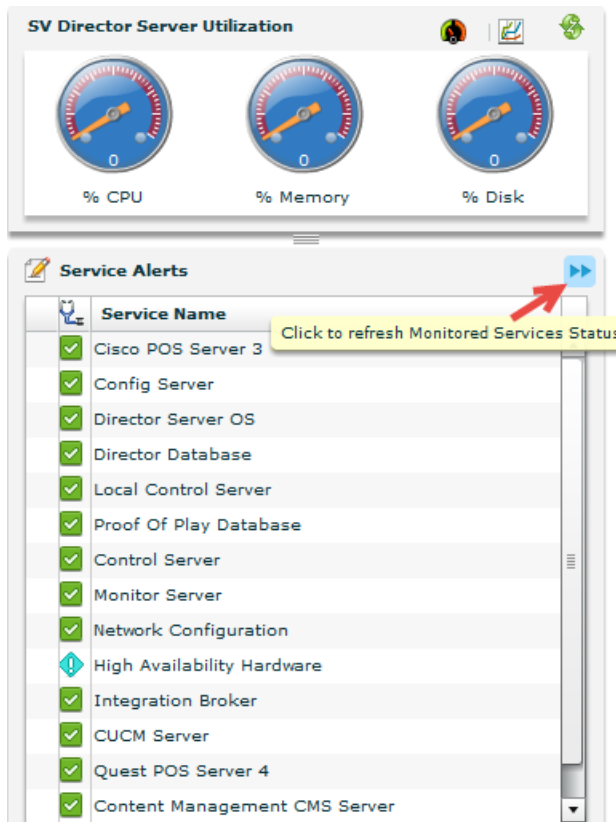
## CPU Utilization

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 Management Dashboard caches the last executed report. Always make a new request /refresh to get the most up-to-date information ([Figure 121](#)).

If necessary, open a case with Cisco Technical Support and provide a thread dump taken from the System State Report tool.

**Figure 121. 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 36](#) shows the total memory on a Cisco StadiumVision 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 36. Memory Utilization and Threshold Values**

RAM	Size
Total Memory	<ul style="list-style-type: none"> <li>• 32 GB (Platform 3)</li> <li>• 16 GB (Platform 2)</li> </ul>
Cisco StadiumVision 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 37](#) shows the total hard disk size and recommended minimum free space.

**Table 37. 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 StadiumVision Director Server , Page 253](#)
- [Using the Event Viewer to Monitor Disk Alerts, Page 254](#)
- [Deleting System Files , Page 254](#)

## Modifying File Retention Periods on the Cisco StadiumVision Director Server



### User Roles

Installer (Administrator)

Cisco StadiumVision 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:** Be aware of your overall disk utilization and the size of your backup content to be sure that 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 StadiumVision Director Text Utility Interface](#)" module of the [Cisco StadiumVision Director Server Administration Guide](#).

---

**To modify the file retention periods, complete the following tasks:**



**NOTE:** The retention policy must be changed on both the primary and secondary servers.

1. Log into the TUI.
  2. Go to **StadiumVision 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 Roles

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, complete the following steps:**

1. From the Management Dashboard, go to:  
**Event Viewer > 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 Roles

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 StadiumVision Director Text Utility Interface](#)" module of the [Cisco StadiumVision Director Server Administration Guide](#).

---

**To delete system files, complete the following steps:**

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 Roles

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-YYYYMMddHHMMSSz.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 StadiumVision Director Text Utility Interface](#)" module of the [Cisco StadiumVision Director Server Administration Guide](#).



**IMPORTANT:** You must be sure to restart Cisco StadiumVision Director software after maintenance is complete. The best practice is to shut down the Cisco StadiumVision 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 StadiumVision Director software.

---

**To run database maintenance, complete the following steps:**

1. Log into the TUI.
2. (Recommended) Shut down the Cisco StadiumVision Director software. From the main menu, go to:

**StadiumVision Server Administration > Shutdown StadiumVision Director Software.**

3. From the StadiumVision Server Administration menu, select **Database Maintenance** ([Figure 122](#)).

**Figure 122. TUI Database Maintenance Option**

```
Main Menu > StadiumVision Server Administration

Please choose one of the following menu options:

a) Display Software Version
b) Upgrade Server
c) Restart StadiumVision Director software
d) Shutdown StadiumVision Director software
e) Setup automatic backup and restore
f) Re-Run StadiumVision initial configuration
g) Retention Policy
h) Database Maintenance
i) Failover
j) Reboot
k) Power Off
R or < or ,) Return to prior menu
```

4. At the confirmation prompt, press **Y** to start the process ([Figure 123](#)).

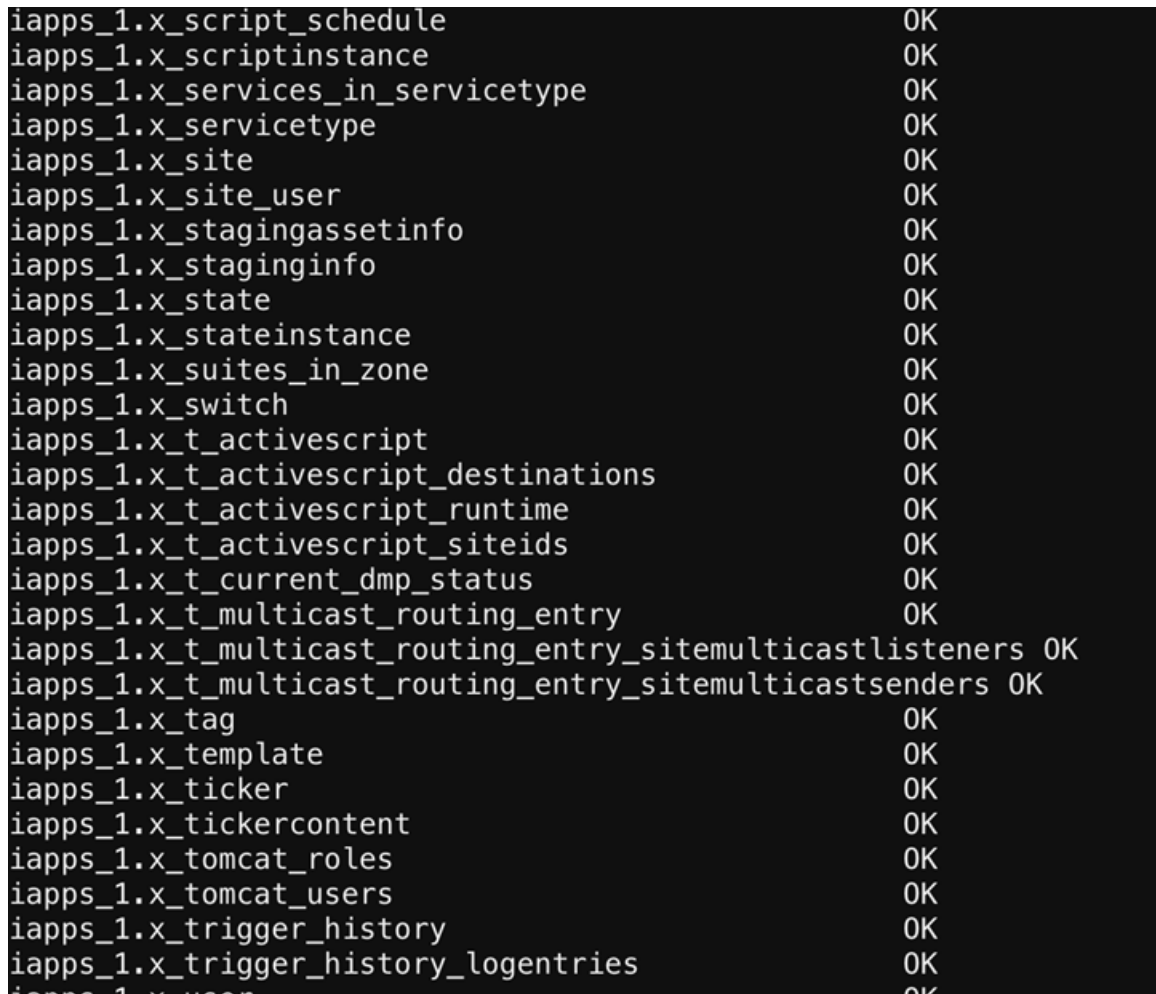
**Figure 123. Database Maintenance Confirmation Prompt**

```
-----
Database Maintenance.
This will repair and optimize the database. Ideally, StadiumVision 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 124](#)).

**Figure 124. 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_activescript            OK
iapps_1.x_t_activescript_destinations OK
iapps_1.x_t_activescript_runtime   OK
iapps_1.x_t_activescript_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
iapps_1.x_user                      OK
```

6. When database maintenance is complete, restart the Cisco StadiumVision Director software. From the TUI main menu, go to:

**StadiumVision Server Administration > Restart StadiumVision Director Software.**





StadiumVision



# Managing Backups in Cisco StadiumVision Director

---

This module includes the following topics:

- [Information About Backups, Page 259](#)
- [How to Manage Backups, Page 260](#)
- [How to Restore From Backup, Page 266](#)

## Information About Backups

This section includes the following topics:

- [Backup Environment, Page 259](#)
- [What System Data is Backed Up, Page 259](#)
- [When to Run a Backup, Page 260](#)

## Backup Environment

While you can run a backup for a network environment where there is only a single Cisco StadiumVision 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 StadiumVision 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 StadiumVision Director that need to be backed up. The backup process backs up the following areas of the Cisco StadiumVision Director server:

- 
- Cisco StadiumVision Director Content Management System (CMS)
  - Cisco StadiumVision Director database
  - Cisco StadiumVision Director system configuration files
  - Content Integration data
  - Dynamic Menu Board data (including GAR files)
  - Proof of play report data in the /var/sv/pofp/data directory



**CAUTION:** The proof of play raw data in the /var/sv/pofp/raw directory is *not* backed up.

## 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:**

Stop any running script before starting a manual backup, and do not start a game/event script during a backup.

Do not operate the Cisco Stadium 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 261](#)
- [Best Practices for Managing Backups, Page 261](#)
- [Scheduling a Regular Backup, Page 261](#)
- [Starting a Backup Manually for Immediate Execution, Page 262](#)

- 
- [Verifying Backup Completion, Page 263](#)
  - [Modifying the Number of Backup Files to Retain, Page 265](#)

## Prerequisites for Running Backups



**NOTE:** The primary and secondary servers need to be configured for backup operation as part of the initial server setup.

For more information about configuring the servers for backup and restore using the TUI, see the "[Backing Up and Restoring Cisco StadiumVision Director Servers](#)" module in the [Cisco StadiumVision Director Server Administration Guide](#).

Before you can run backups, be sure that the following conditions are met:

- 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.
- 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 StadiumVision Director Control Panel or Management Dashboard until the backup is complete.

## Scheduling a Regular Backup



### User Roles

Administrator

After you have configured the servers to support the backup process, you need to schedule backups using the Management Dashboard in the Cisco StadiumVision Director software.



**NOTE:** It is recommended that you schedule backups to occur while the Cisco StadiumVision Director servers are not actively running scripts or performing other event processing.

---

To configure a backup to run on a regular schedule, complete the following steps:

1. From the Management Dashboard, go to:  
**Tools > Advanced > Scheduled Tasks**
2. Click **Add Row** and scroll to the new blank line.
3. Click in the Task Type column and type **BackupTask** (Figure 125).



**NOTE:** Be sure to type the name of the task exactly as shown with upper and lowercase characters.

Figure 125. Adding a Backup Task to Run on a Regular Schedule

The screenshot shows the Cisco StadiumVision Management Dashboard. On the left is a navigation menu with 'Tools' expanded to 'Advanced'. The main area is titled 'Advanced' and shows configuration for 'Scheduled Tasks'. Under 'Parameters', there is a table for 'Scheduled Task Data'.

Task ID	Task Type	Task Time	Servers
2	StageActiveDmpps	04:45	control
5	PostGetMenuTask	18:18	config
8	HPMPingTask	05:30	config
9	HPMStatusTask	06:30	config
	<b>BackupTask</b>		

Buttons for 'Add Row' and 'Delete Row' are visible below the table. An 'Apply' button is at the bottom left of the configuration area.

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 Roles

Administrator

If you want to start a backup other than at the regularly scheduled time, you can run a backup process manually.

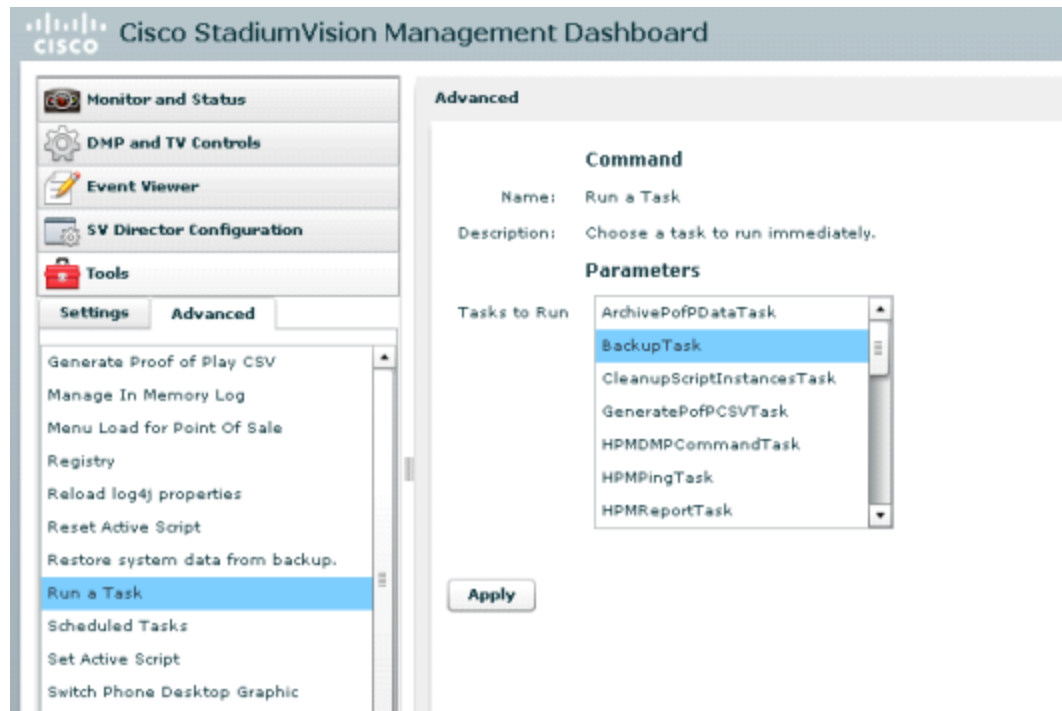


---

To start a backup manually for immediate execution, complete the following steps:

1. From the Management Dashboard, go to:  
**Tools > Advanced > Run a Task**
2. In the Tasks to Run box, select the **BackupTask** ([Figure 126](#)).

Figure 126. 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 that the backup task has started. It does *not* mean that the backup has completed.

---

## Verifying Backup Completion



### User Roles

Administrator

To verify backup completion, you should confirm that a backup file exists and also 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 was attempted, but not necessarily if there were any errors.

---

**To verify that a backup file exists, complete the following tasks:**

1. From the Management Dashboard, go to:  
**Tools > Advanced > 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:

- Text Utility Interface (TUI)
- System State Report from the Cisco StadiumVision Director main menu.
- By running `grep -i backup sv_dev_debug.log` (requires root access) .

[Figure 127](#) shows an example of log output for a successful backup without errors.

---

**To find backup errors in the log file, complete the following steps:**

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.
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 127. Successful Backup Log Output Example From Grep

```
grep -i backup sv_dev_debug.log
2015-01-23 14:18:41,254 [TP-Processor3] 309248:c admin DEBUG com.cisco.sv.backup.BackupTask - got parameter:Tasks to Run : BackupTask
2015-01-23 14:18:41,256 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.scheduler.BackupTask - initiating backup task.
2015-01-23 14:18:41,374 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Starting backup.
2015-01-23 14:18:42,417 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Running hook /opt/sv/scripts/backup_sv/prebackup.sh
2015-01-23 14:18:42,417 [DefaultQuartzScheduler_Worker-3] DEBUG process.ProcessInvoker - Response starts Post Backup script started.
2015-01-23 14:18:42,417 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - /opt/sv/scripts/backup_sv/prebackup.sh response [ 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/sv/scripts/backup_sv/prebackup.sh response [ Post Backup script started.
Post Backup script finished.
2015-01-23 14:18:42,459 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Entering Popl Data Files backup process
2015-01-23 14:18:42,459 [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.BackupMenuDb - Starting CM process
2015-01-23 14:18:42,461 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning DB backup for user iapps in database iapps_1
2015-01-23 14:18:42,468 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - mysql backup process, db=iapps_1 destination /var/sv/BACKUP/mysql-iapps_1-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:42,468 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - mysql backup process, db=sv_menu destination /var/sv/BACKUP/mysql-sv_menu-4.0.0.356-20150123141842-0800.sql.gz
2015-01-23 14:18:47,533 [TP-Processor3] dc1036e2 admin INFO com.cisco.sv.backup.BackupTask - GotTarUtils: tar -czt /var/sv/BACKUP/svContent20150123141842-0800.tar.gz CONTENT
2015-01-23 14:18:48,829 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts
2015-01-23 14:18:48,829 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of sv_menu result [ ] return code : 0
2015-01-23 14:18:48,829 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of sv_menu result [ ] return code : 0
2015-01-23 14:18:48,830 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning Files backup process for unix
2015-01-23 14:18:48,923 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - unix backup skipping non-readable file/directory /opt/sv/monitors/webapps/upgrade
2015-01-23 14:18:48,923 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - unix backup skipping non-readable file/directory /opt/sv/monitors/webapps/upgrade
2015-01-23 14:18:48,931 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - unix backup skipping non-readable file/directory /etc/my.cnf
2015-01-23 14:18:49,887 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts
2015-01-23 14:18:49,887 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of iapps_1 result [ ] return code : 0
2015-01-23 14:18:49,887 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of iapps_1 result [ ] return code : 0
2015-01-23 14:18:49,889 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning Files backup process for cms
2015-01-23 14:18:51,975 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response from backup call is <contentDTC> <contentDTC> <zipFileName>/var/sv/BACKUP/svContent20150123141842-0800.tar.gz?zipFileName=<done>true/<done> </contentDTC></contentDTC>
2015-01-23 14:18:51,975 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Finished content backup process, status=200 zip name [/var/sv/BACKUP/svContent20150123141842-0800.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_liferay
2015-01-23 14:18:51,980 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - mysql backup process, db=sv_liferay destination /var/sv/BACKUP/mysql-sv_liferay-4.0.0.356-20150123141851-0800.sql.gz
2015-01-23 14:19:02,494 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning DB backup for user iapps in database iapps_popf
2015-01-23 14:19:02,953 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response code 0
2015-01-23 14:19:02,954 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Finished Popl Data backup process, result code=0 response [ ]
2015-01-23 14:19:02,955 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning DB backup for user iapps in database iapps_1
2015-01-23 14:19:10,425 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - mysql backup process, db=iapps_1 destination /var/sv/BACKUP/mysql-iapps_1Schedule-4.0.0.356-20150123141910-0800.sql.gz
2015-01-23 14:19:12,492 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts
2015-01-23 14:19:12,492 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of iapps_1 result [ ] return code : 0
2015-01-23 14:19:12,494 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning DB backup for user iapps in database iapps_popf
2015-01-23 14:19:12,496 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - mysql backup process, db=iapps_popf destination /var/sv/BACKUP/mysql-iapps_popf-4.0.0.356-20150123141912-0800.sql.gz
2015-01-23 14:19:13,537 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts
2015-01-23 14:19:13,537 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of iapps_popf result [ ] return code : 0
2015-01-23 14:19:13,538 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Beginning DB backup for user cms in database mxseo
2015-01-23 14:19:13,540 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - mysql backup process, db=mxseo destination /var/sv/BACKUP/mysql-mxseo-4.0.0.356-20150123141913-0800.sql.gz
2015-01-23 14:19:14,382 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts
2015-01-23 14:19:14,382 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of sv_liferay result [ ] return code : 0
2015-01-23 14:19:28,855 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts
2015-01-23 14:19:28,855 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Mysql dump of mxseo result [ ] return code : 0
2015-01-23 14:20:54,206 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts /etc/init.d/mysql
2015-01-23 14:20:54,206 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Response code 0
2015-01-23 14:20:54,206 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupConfigFiles - Finished Unix gzip process for unix /var/sv/BACKUP/unix-4.0.0.356-20150123141848-0800.tgz. Response [ /etc/cron.daily/clean-backups.sh
2015-01-23 14:23:38,000 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response starts /var/sv/liferay/images/
2015-01-23 14:23:38,001 [BackupManager-ThreadPool] DEBUG com.cisco.sv.backup.BackupMenuDb - Response code 0
2015-01-23 14:23:38,001 [BackupManager-ThreadPool] INFO com.cisco.sv.backup.BackupMenuDb - Finished Unix gzip process for cms /var/sv/BACKUP/cms-4.0.0.356-20150123141849-0800.tgz. Response [
2015-01-23 14:23:38,002 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - awaiting executor termination completed, [pd=/var/sv/BACKUP/pofdata-4.0.0.356-20150123141842-0800.tgz, mn=/var/sv/BACKUP/mysql-sv_menu-4.0.0.356-20150123141842-0800.sql.gz, db=/var/sv/BACKUP/mysql-iapps_1-4.0.0.356-20150123141842-0800.sql.gz, cm=/var/sv/BACKUP/svContent20150123141842-0800.tar.gz, us=/var/sv/BACKUP/svContent20150123141848-0800.tgz, cn=/var/sv/BACKUP/cms-4.0.0.356-20150123141849-0800.tgz, lr=/var/sv/BACKUP/mysql-sv_liferay-4.0.0.356-20150123141851-0800.sql.gz, sc=/var/sv/BACKUP/mysql-iapps_1Schedule-4.0.0.356-20150123141910-0800.sql.gz, pp=/var/sv/BACKUP/mysql-iapps_popf-4.0.0.356-20150123141912-0800.sql.gz, mx=/var/sv/BACKUP/mysql-mxseo-4.0.0.356-20150123141913-0800.sql.gz]
2015-01-23 14:23:39,050 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Running hook /opt/sv/scripts/backup_sv/postbackup.sh
2015-01-23 14:23:39,050 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Response starts Post Backup script started.
Post Backup script finished.
2015-01-23 14:23:39,050 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - /opt/sv/scripts/backup_sv/postbackup.sh response [ Post Backup script started.
Post Backup script finished.
2015-01-23 14:23:39,050 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Backup results are [pd=/var/sv/BACKUP/pofdata-4.0.0.356-20150123141842-0800.tgz, mn=/var/sv/BACKUP/mysql-sv_menu-4.0.0.356-20150123141842-0800.sql.gz, db=/var/sv/BACKUP/mysql-iapps_1-4.0.0.356-20150123141842-0800.sql.gz, cm=/var/sv/BACKUP/svContent20150123141842-0800.tar.gz, us=/var/sv/BACKUP/svContent20150123141848-0800.tgz, cn=/var/sv/BACKUP/cms-4.0.0.356-20150123141849-0800.tgz, lr=/var/sv/BACKUP/mysql-sv_liferay-4.0.0.356-20150123141851-0800.sql.gz, sc=/var/sv/BACKUP/mysql-iapps_1Schedule-4.0.0.356-20150123141910-0800.sql.gz, pp=/var/sv/BACKUP/mysql-iapps_popf-4.0.0.356-20150123141912-0800.sql.gz, mx=/var/sv/BACKUP/mysql-mxseo-4.0.0.356-20150123141913-0800.sql.gz]
2015-01-23 14:23:39,050 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Tar command is /bin/tar -czt /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.tar svContent20150123141842-0800.tar.gz cms-4.0.0.356-20150123141849-0800.tgz mysql-iapps_1-4.0.0.356-20150123141842-0800.sql.gz mysql-sv_liferay-4.0.0.356-20150123141851-0800.sql.gz mysql-sv_menu-4.0.0.356-20150123141842-0800.sql.gz mysql-mxseo-4.0.0.356-20150123141910-0800.sql.gz pofdata-4.0.0.356-20150123141842-0800.tgz mysql-iapps_popf-4.0.0.356-20150123141912-0800.sql.gz mysql-iapps_1Schedule-4.0.0.356-20150123141910-0800.sql.gz unix-4.0.0.356-20150123141848-0800.tgz
2015-01-23 14:25:04,572 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Remove unshared files response {
2015-01-23 14:25:04,633 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Response starts 3b26e33f1a727e8e992fc5d4850d6028 /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.tar
2015-01-23 14:25:04,633 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - getMd5Sum computed checksum of 3b26e33f1a727e8e992fc5d4850d6028 /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.tar
2015-01-23 14:25:04,634 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Writing checksum file to /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.chksum message 3b26e33f1a727e8e992fc5d4850d6028 /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.tar
2015-01-23 14:25:04,641 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Starting copy to secondary process to backup@10.194.170.243
2015-01-23 14:27:58,876 [DefaultQuartzScheduler_Worker-3] DEBUG com.cisco.sv.backup.BackupManager - Response starts sftp-cd backups
2015-01-23 14:27:58,876 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Uploading /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.tar to /backups/sv-4.0.0.356-20150123141841-0800.tar
2015-01-23 14:27:58,876 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Uploading /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.chksum to /backups/sv-4.0.0.356-20150123141841-0800.chksum
2015-01-23 14:27:58,876 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Copy2Secondary response [ sftp-cd backups
2015-01-23 14:27:58,877 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Uploading /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.tar to /backups/sv-4.0.0.356-20150123141841-0800.tar
2015-01-23 14:27:58,877 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Uploading /var/sv/BACKUP/sv-4.0.0.356-20150123141841-0800.chksum to /backups/sv-4.0.0.356-20150123141841-0800.chksum
2015-01-23 14:27:58,877 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.backup.BackupManager - Backup completed.
2015-01-23 14:27:58,885 [DefaultQuartzScheduler_Worker-3] INFO com.cisco.sv.scheduler.BackupTask - completed backup task
```

# Modifying the Number of Backup Files to Retain



## User Roles

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 StadiumVision Director Servers"](#) module in the [Cisco StadiumVision Director Server Administration Guide](#).

## How to Restore From Backup

Once the primary and secondary servers have been configured for automatic backup and restore, the Cisco StadiumVision 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 StadiumVision Director Servers"](#) module of the [Cisco StadiumVision Director Server Administration Guide](#).

This section includes the following topics:

- ["Starting a Restore Manually for Immediate Execution" below](#)
- ["Restarting Cisco StadiumVision Director Software After a Restore" on page 268](#) (Required)

## Starting a Restore Manually for Immediate Execution



### User Roles

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.

An automated restore always uses the most recent backup file in the restore directory.



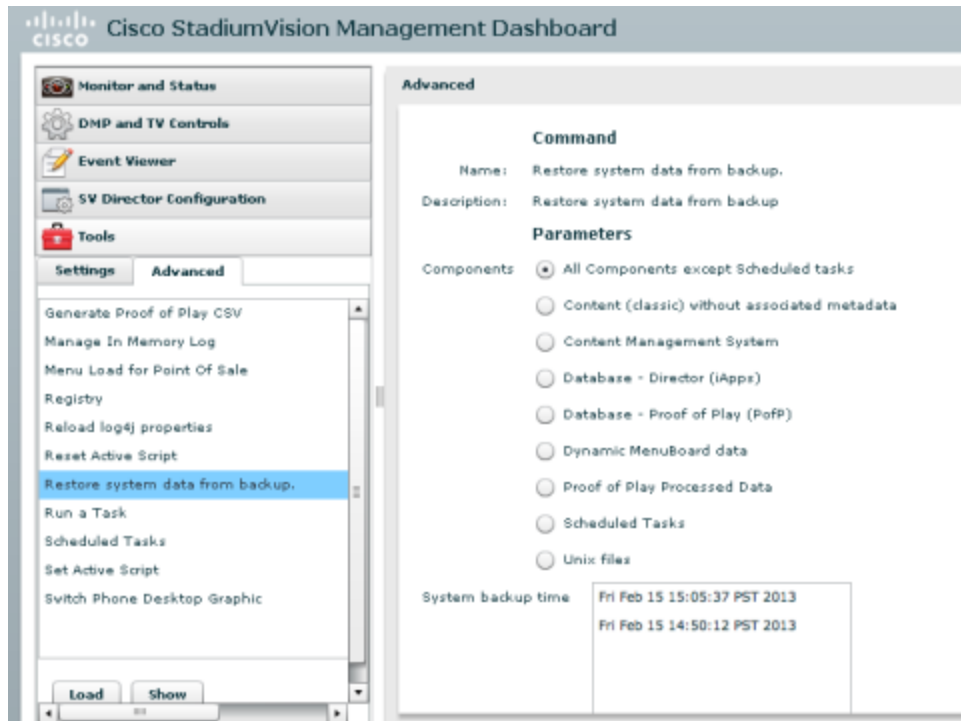
**CAUTION:** You cannot run a restore while an event script is running. In addition, if your venue was running any script when the backup took place, then those scripts will begin running after the restore.

---

To start a restore manually for immediate execution, complete the following steps:

1. From the Management Dashboard, go to:  
**Tools > Advanced > Restore system data from backup**
2. For Components, select **All components except Scheduled tasks** ([Figure 128](#)).

Figure 128. 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 the restore completes, be sure to restart the Cisco StadiumVision Director software. For more information, see ["Restarting Cisco StadiumVision Director Software"](#)

---

[After a Restore" on the next page.](#)

## Restarting Cisco StadiumVision Director Software After a Restore



### User Roles

Installer (Administrator)

After you perform any restore on a Cisco StadiumVision Director server, you must restart the Cisco StadiumVision Director software to resume normal operation of the services.

For more information about using the TUI, see the "[Cisco StadiumVision Director Text Utility Interface](#)" module of the [Cisco StadiumVision Director Server Administration Guide](#).

---

**To restart the Cisco StadiumVision Director software, complete the following steps:**

1. Log into the TUI.
  2. Go to **StadiumVision Server Administration > Restart StadiumVision Director Software**.
-



StadiumVision



# Managing Media Player Operation in Cisco StadiumVision 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 269](#)
- [Best Practices for Using the System Health Report, Page 272](#)
- [How to Obtain the System Health Report, Page 273](#)
- [Managing Cisco DMP 4310G Operation in Cisco StadiumVision Director, Page 277](#)
- [Managing SV-4K and DMP-2K Operation in Cisco StadiumVision Director, Page 279](#)
- [Replacing a Failed Media Player While an Event Script is Running, Page 285](#)
- [Troubleshooting the SV-4K Media Player, Page 285](#)

## Information About the System Health Report

As a best practice, you should review the daily StadiumVision health report to monitor and maintain the media players and overall health of the Cisco StadiumVision 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 129](#) shows a typical email notification for the StadiumVision health report. In the email body, a summary of the report is provided, with the full report details provided in an attached .txt file.

---

**Figure 129. Sample StadiumVision Health Report Email Notification**

From: SV-email-notifier [<mailto:SV-email-notifier@stadiumvision.cisco.com>]  
Sent: Thursday, January 29, 2015 2:51 PM  
To: [Redacted]  
Subject: :StadiumVision Health Report as of 2015-01-29 02:51:06 PM

See attached for details

-----  
StadiumVision Health Report generated at: 2015-01-29 02:51:06 PM  
-----

-----  
Total number of DMPs: 43  
Total number in Normal State: 2  
Total number in Critical State: 41  
Total number in Unknown State: 0

Total number rebooted: 1  
Total number non-compliant: 28  
Total number in not-ready state: 1  
Total number not reachable: 41  
Total number with SD card problems: 1  
Total number with Flash Application problems: 41  
-----

CPU Utilization: 2%  
Memory Utilization: 25%  
Disk Utilization: 11%

To see the details for the devices by category, open the text file attachment in the email. [Figure 130](#) shows an excerpt of the device details report provided for the different status categories.



**Figure 130. StadiumVision Health Report Details (Excerpt)**

```

-----
StadiumVision Health Report generated at: 2015-01-29 02:51:00 PM
-----

Total number of DMPs: 43
Total number in Normal State: 2
Total number in Critical State: 41
Total number in Unknown State: 0
Total number rebooted: 1
Total number non-compliant: 28
Total number in not-ready state: 1
Total number not reachable: 41
Total number with SD card problems: 1
Total number with Flash Application problems: 41
-----

Devices in critical state, count = 41
-----
CRT1-R1-C1      DMP-4310      10.194.171.130      2015-01-29 02:00:00 PM
CRT1-R1-C2      DMP-4310      10.194.171.133      2015-01-29 02:00:00 PM
CRT1-R1-C3      DMP-4310      10.194.171.141      2015-01-29 02:00:00 PM
CRT1-R2-C1      DMP-4310      10.194.171.138      2015-01-29 02:00:00 PM
CRT1-R2-C2      DMP-4310      10.194.171.140      2015-01-29 02:00:00 PM
CRT1-R2-C3      DMP-4310      10.194.171.134      2015-01-29 02:00:00 PM
Lab 372-Si-65   DMP-4310      10.194.169.201      2015-01-29 02:51:00 PM

CRT3-R1-C3      SV-4K         10.194.171.167      2015-01-29 02:51:00 PM
CRT3-R2-C1      SV-4K         10.194.171.166      2015-01-29 02:51:00 PM
CRT3-R2-C2      SV-4K         10.194.171.170      2015-01-29 02:51:00 PM
CRT3-R2-C3      SV-4K         10.194.171.165      2015-01-29 02:51:00 PM
CRT3-R3-C1      SV-4K         10.194.171.163      2015-01-29 02:51:00 PM
CRT3-R3-C2      SV-4K         10.194.171.174      2015-01-29 02:51:00 PM
CRT3-R3-C3      SV-4K         10.194.171.173      2015-01-29 02:51:00 PM
CRT3-R4-C1      SV-4K         10.194.171.164      2015-01-29 02:51:00 PM
CRT3-R4-C2      SV-4K         10.194.171.168      2015-01-29 02:51:00 PM
CRT3-R4-C3      SV-4K         10.194.171.169      2015-01-29 02:51:00 PM
AUTO-90-ac-3f-03-86-56 SV-4K 10.194.169.245      2015-01-29 02:00:05 PM
AUTO-          SV-4K         10.194.171.169      2015-01-29 02:51:00 PM
CRT4-R1-C1      SV-4K         10.194.171.179      2015-01-29 02:51:00 PM
CRT4-R1-C2      SV-4K         10.194.171.180      2015-01-29 02:51:00 PM
CRT4-R1-C3      SV-4K         10.194.171.181      2015-01-29 02:51:00 PM
CRT4-R2-C1      SV-4K         10.194.171.182      2015-01-29 02:51:00 PM
CRT4-R2-C2      SV-4K         10.194.171.183      2015-01-29 02:51:00 PM
CRT4-R2-C3      SV-4K         10.194.171.184      2015-01-29 02:51:00 PM
CRT4-R3-C1      SV-4K         10.194.171.185      2015-01-29 02:51:00 PM
CRT4-R3-C2      SV-4K         10.194.171.186      2015-01-29 02:51:00 PM
CRT4-R3-C3      SV-4K         10.194.171.187      2015-01-29 02:51:00 PM
CRT4-R4-C1      SV-4K         10.194.171.188      2015-01-29 02:51:00 PM
CRT4-R4-C2      SV-4K         10.194.171.189      2015-01-29 02:51:00 PM
CRT4-R4-C3      SV-4K         10.194.171.190      2015-01-29 02:51:00 PM
-----

Devices not Ready, count = 1
-----
tg_desk        DMP-4310      10.194.169.185      2015-01-29 02:00:10 PM
-----

Devices not reachable, count = 41
-----
CRT1-R1-C1      DMP-4310      10.194.171.130      2015-01-29 02:00:00 PM
CRT1-R1-C2      DMP-4310      10.194.171.133      2015-01-29 02:00:00 PM
CRT1-R1-C3      DMP-4310      10.194.171.141      2015-01-29 02:00:00 PM
CRT1-R2-C1      DMP-4310      10.194.171.138      2015-01-29 02:00:00 PM
CRT1-R2-C2      DMP-4310      10.194.171.140      2015-01-29 02:00:00 PM

```

---

# Best Practices for Using the System Health Report

- Verify your system regularly to be sure that the StadiumVision health report is being sent as expected:
  - Confirm your health report email configuration.
  - Check often with venue IT personnel that the SMTP server that that is configured for the StadiumVision health report is running normally.
- Review the StadiumVision health report daily to monitor the media players and overall health of the Cisco StadiumVision 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. For example, for the Cisco DMP 4310G, a Flash Template corruption or missing Flash Template will show up as "critical" but not "unreachable."

- 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 273](#)
- [Modifying the Time of the System Health Report Task, Page 274](#)
- [Running the System Health Report Task Manually, Page 275](#)

## Configuring the System Health Report for Email Notification

 **User Roles**  
Administrator

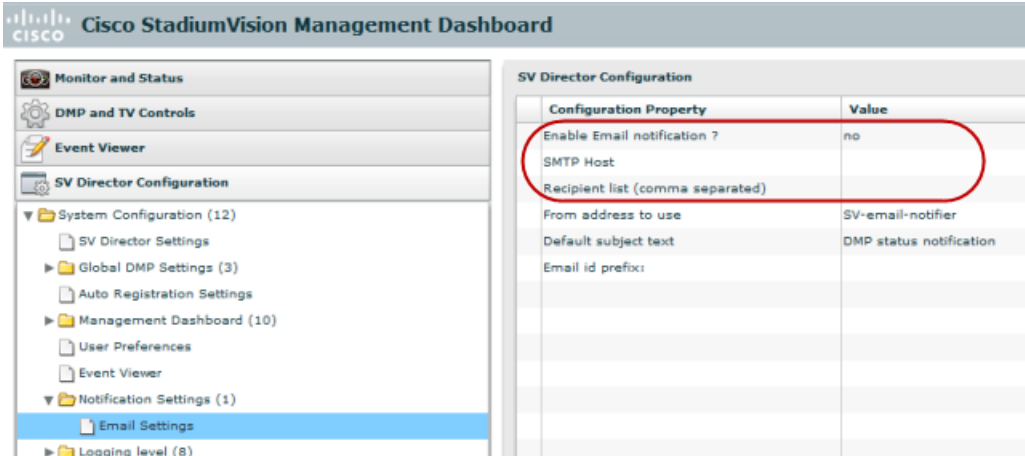
By default, Cisco StadiumVision Director automatically runs a system health report at 08:00. However, email notification is disabled.

---

**To configure the system health report for email notification, complete the following steps:**

1. From the Management Dashboard, go to:  
**SV Director Configuration > System Configuration > Notification Settings > Email Settings**
2. In the Configuration Property box, set the required properties shown in [Figure 131](#).

**Figure 131. System Health Report Configuration Properties**



The screenshot shows the Cisco StadiumVision Management Dashboard. On the left, a navigation tree is expanded to 'SV Director Configuration' > 'System Configuration (12)' > 'Notification Settings (1)' > 'Email Settings'. On the right, the 'SV Director Configuration' table is displayed with the following properties:

Configuration Property	Value
Enable Email notification ?	no
SMTP Host	
Recipient list (comma separated)	
From address to use	SV-email-notifier
Default subject text	DMP status notification
Email id prefix:	

---

[Table 38](#) describes the properties and possible values.

**Table 38. Email Notification Configuration Properties**

Property	Values
Enable email notification?	<ul style="list-style-type: none"><li>• Yes—Enables email notification.</li><li>• No—(Default) Disables email notification.</li></ul>
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 "StadiumVision Health Report as of <i>year-month-day hh:mm:ss am/pm</i> ."
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 Roles

Administrator

By default, Cisco StadiumVision Director runs a system health report daily at 08:00.

---

**To modify the time of the system health report task, complete the following steps:**

1. From the Management Dashboard, go to:  
**Tools > Advanced > 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**.
-

---

## Running the System Health Report Task Manually



### User Roles

Administrator

If you want to run the system health report task other than at the regularly scheduled time, you can run the task manually.

---

**To run the system health report task manually, complete the following steps:**

1. From the Management Dashboard, go to:  
**Tools > Advanced > Run a Task**
2. In the Tasks to Run box, select the **HPMReportTask**.
3. Click **Apply**.

---

## Viewing Media Player Device Status



### User Roles

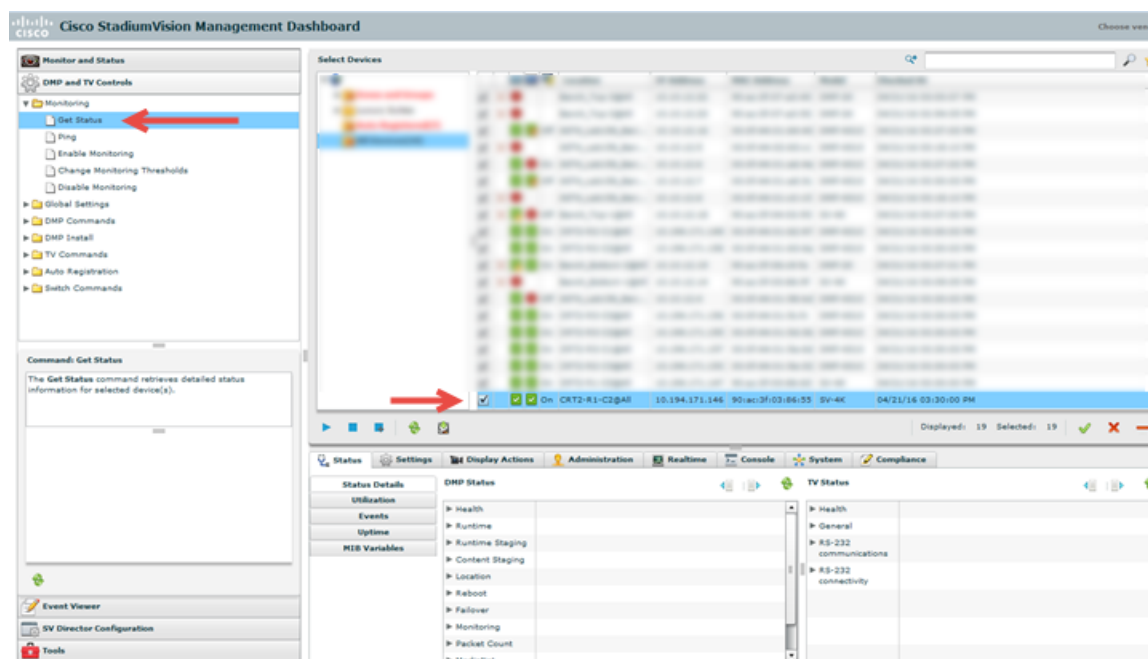
Administrator / Help Desk / Support / Venue Administrator /  
Venue Operator

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 132](#)



**IMPORTANT:** Not all commands or display areas are supported for the SV-4K and DMP-2K media player. Therefore, some areas of the display might not report any information for an SV-4K and DMP-2K. Also, under the Utilization tab, the CPU Usage reports an average load for the SV-4K and DMP-2K that is normally always between values of 0 and 1.

Figure 132. Management Dashboard Media Player Device Status





**To view media player device status, complete the following steps:**

1. To get the most recent device status, run the **Get Status** command from the Management Dashboard:
  - a. Go to:  
**DMP and TV Controls > Monitoring > Get Status**
  - b. In the Select Devices panel, select the devices that you want an updated status for.
  - c. To execute the command, click the play (>) button located at bottom left of the panel.
2. In the Device List panel, select the device that you want to verify.
3. 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 39](#).

**Table 39. 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.  <b>NOTE:</b> The CPU Usage and Memory display areas only apply to the Cisco DMP 4310G.
Events	Displays system events that pertain to media players.
Uptime	Displays information about how long the device has been running.  <b>NOTE:</b> The Flash fields only apply to the Cisco DMP 4310G.
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 Cisco DMP 4310G Operation in Cisco StadiumVision Director

For additional information about deploying and managing your Cisco DMP 4310G devices, see also the [Cisco StadiumVision Video Endpoint \(DMP\) Design and Implementation Guide](#).

## Staging the Flash Template on Cisco DMP 4310G Devices



### User Roles

Installer (Administrator)

---

You must stage the Flash template when you install new Cisco DMP 4310Gs, or when the Flash template application is modified. The Flash template application is an Adobe Shockwave Flash (.swf) file that runs on Cisco DMP 4310G devices only.

This task is not required for SV-4K media players.



**NOTE:** The Flash template is different from the screen templates used on Cisco StadiumVision Director media players. It is also distinct from any content files created in .swf format.



**TIP:** You also can stage the Flash template on Cisco DMP 4310Gs for DMPs associated with a specific script from the "Start manual staging" dialog box available from the **Control Panel > Control > Staging** area of the UI.

---

**To stage the Flash template on Cisco DMP 4310G devices, complete the following steps:**

1. Go to the Management Dashboard.
2. From the DMP and TV Controls dashboard drawer, select the following command:

**DMP and TV Controls > DMP Install > Stage Template**

3. Select all of the DMP devices where the command should be applied.
4. Click the play button to run the command on the selected devices.

---

## Deploying Global DMP Settings on Cisco DMP 4310G Devices



### User Roles

Installer (Administrator)

Whenever changes are made to Cisco DMP 4310G global DMP settings (also referred to as the MIB variables) in the Management Dashboard, you must deploy those changes to the DMP devices.

This task is not required for SV-4K media players.

---

**To apply the global MIB variable settings on Cisco DMP 4310G devices, complete the following steps:**



- 
1. Go to the Management Dashboard.
  2. From the DMP and TV Controls dashboard drawer, select the following command:  
**DMP and TV Controls > Global > Global DMP Settings**
  3. Select all of the DMP devices where the command should be applied.
  4. Click the play button to run the command on the selected devices.
- 

## Managing SV-4K and DMP-2K Operation in Cisco StadiumVision Director

This section provides information about maintaining normal operation of your SV-4K and DMP-2K media players.

It includes the following topics:

- [Management Dashboard Commands for the SV-4K Media Player, Page 279](#)
- [Performing a Regular Reboot of the SV-4K and DMP-2K Media Players, Page 282](#)
- [Clearing the Storage on the SV-4K and DMP-2K Media Player, Page 282](#)
- [Clearing Registries on the SV-4K and DMP-2K Media Player by Restoring Factory Defaults, Page 284](#)
- [Recovering SV-4K Operation After Server Power Loss, Page 284](#)

## Management Dashboard Commands for the SV-4K Media Player

This section provides a summary of the new and existing Management Dashboard commands that are supported by the SV-4K media player.

- [Auto-Registration Commands for the SV-4K and DMP-2K Media Player, Page 280](#)
- [DMP Commands for the SV-4K and DMP-2K Media Player, Page 280](#)
- [DMP Install Commands for the SV-4K and DMP-2K Media Player, Page 280](#)
- [Global Settings Commands for the SV-4K and DMP-2K Media Player, Page 281](#)
- [Monitoring Commands for the SV-4K and DMP-2K Media Player, Page 281](#)
- [Switch Commands for the SV-4K and DMP-2K Media Player, Page 281](#)
- [TV Commands for the SV-4K and DMP-2K Media Player, Page 281](#)

---

## Auto-Registration Commands for the SV-4K and DMP-2K Media Player

Table 40. Management Dashboard Auto-Registration Commands

Command Name	Supported on SV-4K and DMP-2K?
Change DMP State	Yes
Provision DMP	No

## DMP Commands for the SV-4K and DMP-2K Media Player

Table 41. Management Dashboard DMP Commands

Command Name	Supported on SV-4K and DMP-2K?
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 (SV-4K and DMP-2K only)
Enable Diagnostic Web Server	Yes (SV-4K and DMP-2K only)
Reset Storage	Yes (SV-4K and DMP-2K only)
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 SV-4K and DMP-2K Media Player

Table 42. Management Dashboard DMP Install Commands

Command Name	Supported on SV-4K and DMP-2K?
Firmware Upgrade	Yes (only for firmware upload; not to provision firmware)
Restore Default Settings	Yes
Initial Config	No

Command Name	Supported on SV-4K and DMP-2K?
Stage Template	No
Initialize Touchscreen	No
Show Calibration	No
Setup NTP	No

## Global Settings Commands for the SV-4K and DMP-2K Media Player

Table 43. Management Dashboard Global Settings Commands

Command Name	Supported on SV-4K and DMP-2K?
Global DMP Settings	No

## Monitoring Commands for the SV-4K and DMP-2K Media Player

Table 44. Management Dashboard Monitoring Commands

Command Name	Supported on SV-4K and DMP-2K?
Get Status	Yes
Ping	Yes
Enable Monitoring	No
Change Monitoring Thresholds	No
Disable Monitoring	No

## Switch Commands for the SV-4K and DMP-2K Media Player

Table 45. Management Dashboard Switch Commands

Command Name	Supported on SV-4K and DMP-2K?
Power Cycle DMP	Yes
Power On DMP	Yes
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 SV-4K and DMP-2K Media Player

Table 46. Management Dashboard TV Commands

Command Name	Supported on SV-4K and DMP-2K?
TV On	Yes
TV Off	Yes
Set Display Input	Yes
Set Display Banner	Yes

Command Name	Supported on SV-4K and DMP-2K?
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 SV-4K and DMP-2K Media Players

The best practice for maintaining normal operation of the SV-4K and DMP-2K media players is to perform a daily reboot of the devices.



**NOTE:** The Cisco StadiumVision Director reboot task applies globally to all media player devices.

For information about how to configure the Reboot DMP system task, see the [How to Configure the Reboot DMP System Task](#) task note.

## Clearing the Storage on the SV-4K and DMP-2K Media Player

The SV-4K and DMP-2K devices 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 an SV-4K and DMP-2K 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 SV-4K and DMP-2K media player to use this task.

---

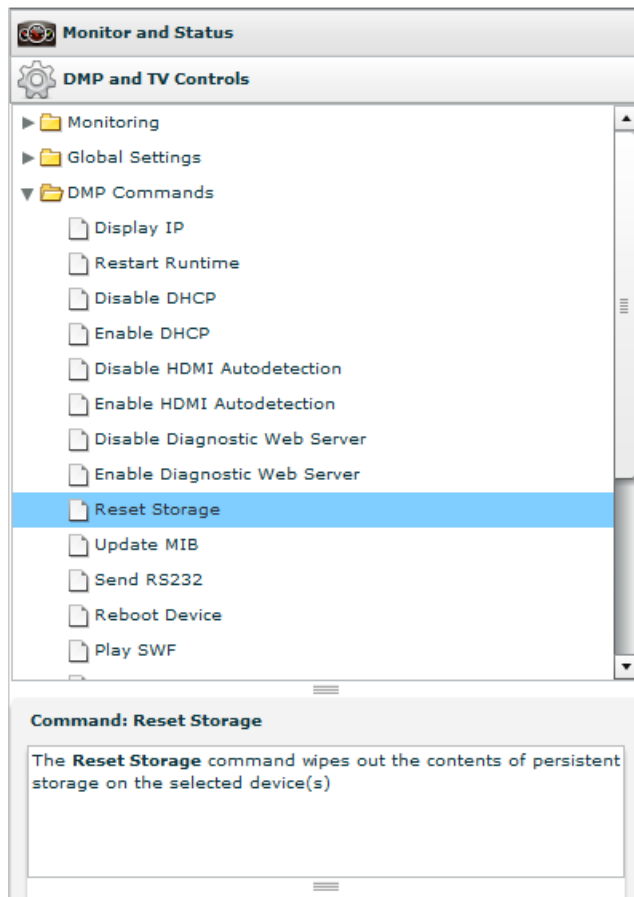
Beginning in Release 4.1, you also can find information about available storage if you view device details from thumbnail view in CCM.

---

**To clear the storage on the SV-4K and DMP-2K media player, complete the following steps:**

1. Go to the Management Dashboard.
2. Select the SV-4K and DMP-2K devices that you want to clear.
3. Go to **DMP and TV Controls > DMP Commands > Reset Storage** ([Figure 133](#)).

**Figure 133. Reset Storage Command**



4. Click **Play**.

The contents of the SSD storage is removed (including the Cisco StadiumVision Director runtime software and script contents) on the SV-4K and DMP-2K devices. The devices will not automatically reboot after this command.

5. Select **Reboot Device**.

6. Click **Play**.

The selected SV-4K and DMP-2K devices reboot and reprovision firmware and settings.

---

## Clearing Registries on the SV-4K and DMP-2K Media Player by Restoring Factory Defaults

If you need to clear the registry settings on the SV-4K and DMP-2K and re-provision the device, use the **Restore Default Settings** command.

---

**To clear the registries on the SV-4K media player, complete the following steps:**

1. Go to the Management Dashboard.
2. Select the SV-4K and DMP-2K devices that you want to clear.
3. Go to **DMP and TV Controls > DMP Install > Restore Default Settings**.
4. Click **Play**.

Any persistent device settings on the SV-4K and DMP-2Ks are erased and the box will be in factory default state. The SV-4K and DMP-2K automatically reboots and reprovisions its firmware and settings.

---

## Recovering SV-4K Operation After Server Power Loss



### User Roles

Installer (Administrator)

If the Cisco StadiumVision 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, complete the following steps:**

1. Restore power to the Cisco StadiumVision 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 StadiumVision Director server (not a failover operation), then you would need to 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 [Cisco StadiumVision SV-4K Media Player Deployment Guide](#).

---

# 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, complete the following steps:**

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 **Control Panel > Control**, manually stage content to the new device.
5. **(For SV-4K only)** From the Management Dashboard, go to:
  - d. **DMP and TV Controls > DMP Commands**
  - e. 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 StadiumVision 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 SV-4K Media Player

This section includes the following topics:

- [Before You Begin Troubleshooting the SV-4K and DMP-2K, Page 286](#)
- [Troubleshooting PTP Operation for the SV-4K and DMP-2K Media Player, Page 287](#)

- 
- [Troubleshooting SV-4K and DMP-2K Hardware Operation, Page 289](#)
  - [Troubleshooting SV-4K and DMP-2K TV and Video Display Problems, Page 291](#)

## Before You Begin Troubleshooting the SV-4K and DMP-2K

Before you begin troubleshooting the SV-4K and DMP-2K, you should follow the information in these topics:

- [RMA Process for the SV-4K and DMP-2K, Page 286](#)
- [SV-4K and DMP-2K Diagnostic URL, Page 286](#)

### RMA Process for the SV-4K and DMP-2K

The Return Materials Authorization (RMA) process is covered by the Cisco Solution Support Service for Cisco StadiumVision.

---

**Before you open a Cisco Solution Support case for the SV-4K and DMP-2K, complete the following steps:**

1. Locate your symptom in the SV-4K and DMP-2K 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.

---

### SV-4K and DMP-2K Diagnostic URL

Some of the troubleshooting steps for the SV-4K and DMP-2K 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 same password as for the Cisco DMP 4310G). 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 SV-4K and DMP-2K after changing the password. To change the SV-4K and DMP-2K 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), and is used by the Cisco DMP 4310G.

---

## Troubleshooting PTP Operation for the SV-4K and DMP-2K Media Player

This section identifies some of the symptoms related to problems with PTP operation:

- [Symptom: Local PNGs are not synchronized across SV-4K and DMP-2K devices, Page 287](#)
- [Symptom: Playlists do not advance to the next content item on the SV-4K or DMP-2K, Page 287](#)

### Symptom: Local PNGs are not synchronized across SV-4K and DMP-2K devices

---

#### Troubleshooting steps:

1. Verify the PTP configuration on your SV-4K and DMP-2K devices:
    - a. Go to:  
**Management Dashboard > SV Director Configuration > Global DMP Settings > SV-DMP Common Settings**
    - b. 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.
  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 SV-4K or DMP-2K device.
- 

### Symptom: Playlists do not advance to the next content item on the SV-4K or DMP-2K

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 SV-4K or DMP-2K devices:
  - a. Go to:  
**Management Dashboard > SV Director Configuration > Global DMP Settings > SV-DMP Common Settings**
  - b. 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.
4. Identify the PTP master by finding the unit that has an "offsetFromMaster" value of 0.0.

**Figure 134. Identify the PTP Master**

### PTP clock status

```
Status from local PTP:
sending: GET CURRENT_DATA_SET
90ac3f.ffff.03864a-0 seq 0 RESPONSE MANAGEMENT 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 MANAGEMENT CURRENT_DATA_SET
  stepsRemoved 1
  offsetFromMaster 2997.0
  meanPathDelay 15377.0
```

5. Ping the master PTP device.
6. 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 SV-4K device on the network.

7. If a device shows that it has not synchronized, reboot the device to force synchronization.

---

## Troubleshooting SV-4K and DMP-2K Hardware Operation

This section identifies some of the symptoms related to problems with the SV-4K and DMP-2K media player hardware:

- [Symptom: "Please Insert Card" message on SV-4K or DMP-2K startup screen, Page 289](#)
- [Symptom: Pwr and Eth LEDs are not lit and no signs of activity on the SV-4K or DMP-2K, Page 290](#)
- [Symptom: SV-4K or DMP-2K Err or Err/Upd LEDs blinking, Page 290](#)
- [Symptom: SV-4K and DMP-2K rebooting automatically after startup, Page 291](#)

### 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 StadiumVision 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 SV-4K or DMP-2K

---

### Troubleshooting steps:

1. Verify any visible damage to the Ethernet port on the SV-4K or DMP-2K device.
2. If there is *not* any visible port damage on the SV-4K or DMP-2K:
  - 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 SV-4K or DMP-2K device.
  - d. Verify the POE+ settings on the switch.



**TIP:** If you have imported the switch settings to Cisco StadiumVision Director, you can view the POE+ settings.

From the Management Dashboard, go to:

**Tools > Settings > Switch Management > View Switch Details**

Power normally displays "29.5" for the SV-4K and DMP-2K after LLDP negotiation with the switch.

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- e. If none of these steps locate the problem, contact Cisco Technical Support to proceed with the RMA process.

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## Symptom: SV-4K or DMP-2K Err or Err/Upd LEDs blinking

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### Troubleshooting steps:

1. Refer to the LED documentation.  
See the ["LEDs on the SV-4K Media Player" on page 1](#).
  2. Troubleshoot according to the description of the problem.
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## Symptom: SV-4K and DMP-2K rebooting automatically after startup

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### 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 SV-4K or DMP-2K stays at the loading screen with the progress bar, verify communication with the Cisco StadiumVision 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  
/StadiumVision/dmp_v4/scripts/boot.brs HTTP/1.1" 200 89403 "-"  
"-"
```

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## Troubleshooting SV-4K and DMP-2K TV and Video Display Problems

This section identifies some of the symptoms related to problems with the SV-4K and DMP-2K displays:

- [Symptom: Black screen on the SV-4K and DMP-2K TV display/no multicast video stream, Page 291](#)
- [Symptom: No local control when external volume strategy configured, Page 292](#)

### Symptom: Black screen on the SV-4K and DMP-2K TV display/no multicast video stream

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#### 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.

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- b. If the LEDs are in normal state, verify that the Cisco StadiumVision 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 SV-4K or DMP-2K using a browser to go to: **http://sv4k-ip-address**.
3. If the problem can be isolated to an SV-4K or DMP-2K 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 SV-4K or DMP-2K with a problem, and see if the problematic video stream can be displayed using the open source VLC player.
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## **Symptom: No local control when external volume strategy configured**

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### **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 StadiumVision Director.
-



StadiumVision



# Cisco StadiumVision Master Glossary of Terms

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## 3

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### **3-region L-wrapper template**

Fixed screen template provided by Cisco StadiumVision 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

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### **album**

A collection of one or more files of a common content type in an SSC user workspace.

## C

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### **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.

### **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.

### **content**

Digital media that is presented on a TV display using a media player in Cisco StadiumVision Director.

## D

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### **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 StadiumVision Director Control Panel.

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## E

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### **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.

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## F

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### **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 Cisco DMP 4310G.

### **Flash template**

An Adobe Shockwave Flash (SWF) file that runs only on Cisco DMP 4310Gs as part of the Cisco StadiumVision 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.

### **full screen templates**

Standard templates provided in Cisco StadiumVision 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.

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## G

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### **gadget**

An Adobe Shockwave Flash (SWF) file in the Cisco StadiumVision 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



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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**

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### **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.

## **P**

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### **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**

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### **RBAC**

Role-Based Access Control. Facility in the Cisco StadiumVision Director software that determines which software functions are accessible by defined user roles in the system.

## **S**

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### **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.

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**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.

**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.

**suites**

Physical or logical area in a venue.

**T**

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**tag**

A label that can be applied to content items in the Cisco StadiumVision 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.

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**template**

See “Screen template” and “Flash template”.

**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.

**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**

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**video wall**

Group of multiple displays that show synchronized content and convey a single, much larger screen.

**W**

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**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 StadiumVision Director.

**Z**

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**zone**

Physical area of a Cisco StadiumVision venue. Zones help classify broader sections of a venue to associate content and contain groups and locations.