



StadiumVision



Cisco StadiumVision Director Overview

All Releases

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Revision History

Table 1. Revision History

Date	Description
4/30/2013	Updates to qualify for later Cisco StadiumVision Director releases.
4/12/2011	First publication for Cisco StadiumVision Director Release 2.3.

Cisco StadiumVision Director Overview

Cisco StadiumVision Director is a set of applications that provide the capability to centrally control and remotely publish the advertisements and video featured during the course of a game or event according to timelines within the event or moments that happen within the game. Whereas sports stadiums traditionally have a “game script” that performs this function for large jumbotron screens and center-hung screens, you can use Cisco StadiumVision Director to create an “event script” to control this function for the hundreds or thousands of TVs throughout the venue. Event scripts provide an easy way to control the ad and video displays not only for games but also for other events such as concerts, circuses, and tradeshow.

Using Cisco StadiumVision Director, you can deploy to specific areas of the venue:

- Streaming video
- Targeted, coordinated, advertisements and sponsor promotions
- Digital concession menus
- Directional signage
- Color touch screen Cisco IP Phones or dedicated touch panels to control in-room video
- Ticker feeds
- Video walls

Cisco StadiumVision Director and the included platform kit form a core component of a fully deployed Cisco StadiumVision solution. The StadiumVision headend solution provides the video encoding of satellite, cable, off-air and in-house feeds as virtual channels to endpoints spread throughout the Connected Stadium network. Connected Stadium provides a proven and scalable connectivity architecture for wired or wireless access, streaming of live video content, the exchange of transactional data and communications.

[Figure 1](#) and [Figure 2](#) show how Cisco StadiumVision Director fits into the Cisco StadiumVision solution to centrally control content displayed in different areas of the venue.

Figure 1. Cisco StadiumVision Director Overview

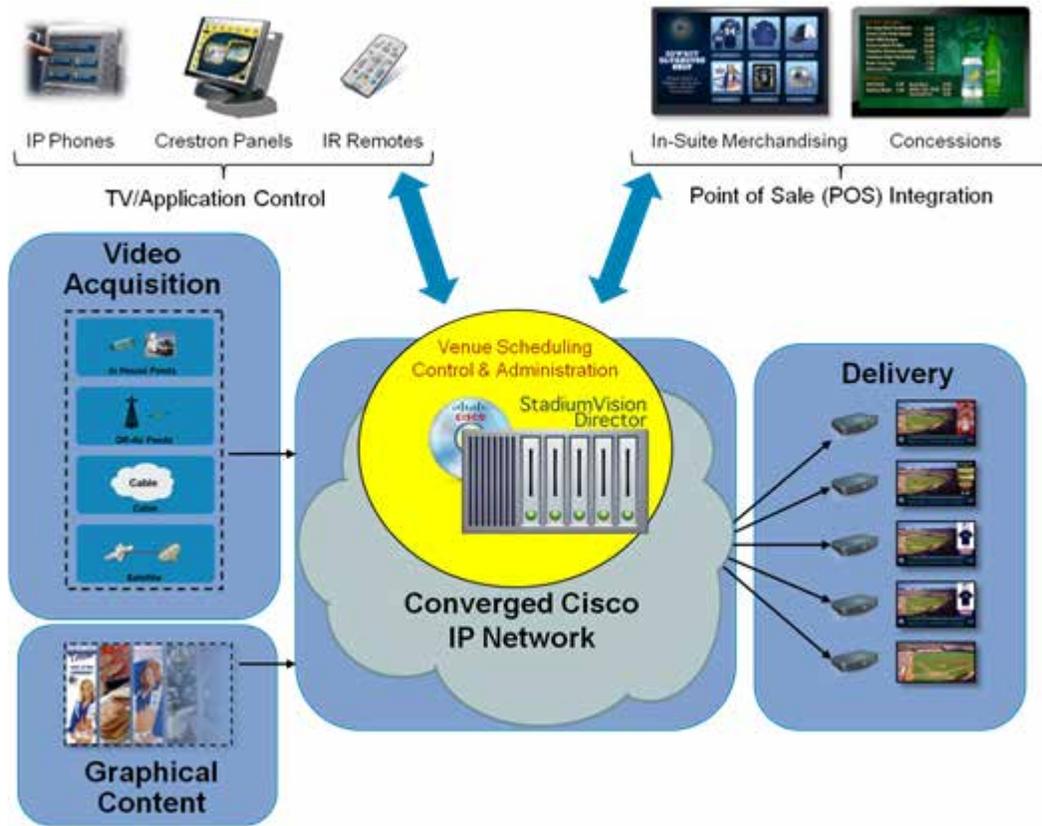
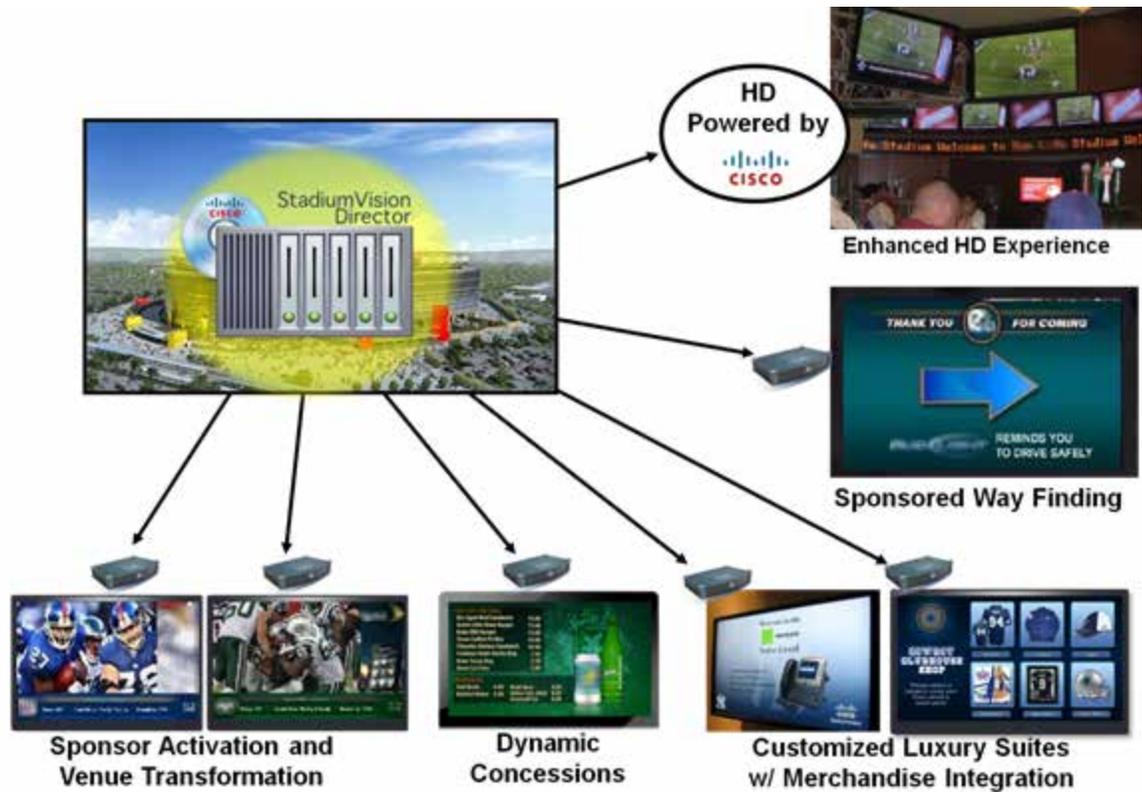


Figure 2. Cisco StadiumVision: End to End Experience Delivery Platform



Cisco StadiumVision Director Applications

The following applications are integrated with Cisco StadiumVision Director:

[Control Panel](#)

[Management Dashboard](#)

[Ad Insertion Manager \(Release 2.3 and 2.4 only\)](#)

[Video Distribution Manager \(Release 2.3, 2.4, and 3.0 only\)](#)

[Dynamic Menu Board Application](#)

[System State Reporting Application](#)

[TV Off Application](#)

Control Panel

The Cisco StadiumVision Director Control Panel is a web-based portal that is the central point of operation during the event and management interface for planning and scripting prior to the event. It enables importing and reporting of the content to be used and forms the base for optional services to be added.

The Cisco StadiumVision Control Panel utilizes standard Web technologies to allow you to build and deliver a continually changing experience for your audiences. Using the Control Panel, you can conveniently and quickly browse, search, and view configurations and content interactively. The capabilities allow you to:

- Schedule and create new event scripts and then copy/duplicate them to create additional event scripts for multiple events.
- Create unique entitlement 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 homerun.
- Dynamically control the content on menu boards in the concession stands during an event.

The Control Panel provides an easy-to-use interface for importing and managing content, creating event scripts, scheduling events, and editing screen templates. The Control Panel also provides a simple interface for performing 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.

[Figure 3](#) shows an example of the Control Panel Content screen.

Figure 3. Content Panel Content Screen

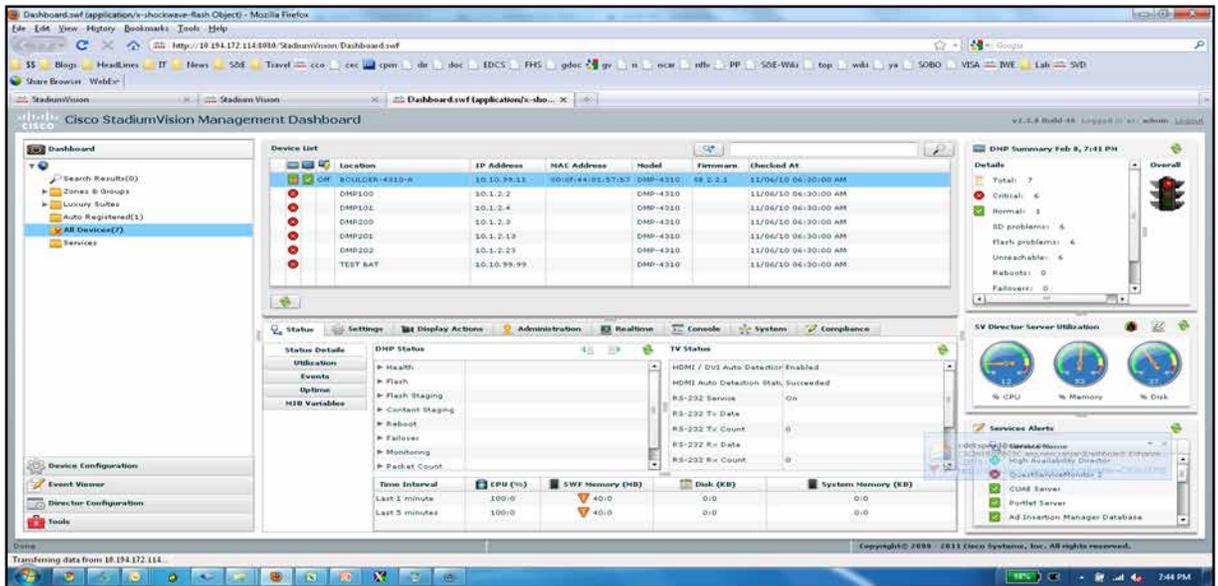


Management Dashboard

The Cisco StadiumVision Director Management Dashboard application provides an easy-to-use 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 running smoothly. Alert icons provide at-a-glance device status to help you quickly identify issues that need your attention. You can 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.

Refer to [StadiumVision Director Management Dashboard Terminology](#) later in the document for definitions of terms related to the Management Dashboard. See the [Cisco StadiumVision Director Management Dashboard guides](#) for details on how to use the Management Dashboard to manage your StadiumVision network.

Figure 4. Management Dashboard Main Screen



Ad Insertion Manager (Release 2.3 and 2.4 only)

NOTE: The Ad Insertion Manager is no longer supported beginning in Cisco StadiumVision Director Release 3.0 and later releases.

The Ad Insertion Manager (AIM) is an added option that integrates with Cisco StadiumVision Director to display streamed ads at commercial breaks. Viewers will see the inserted commercials as though they were part of the locally produced content. Using the Ad Insertion Manager Application for Cisco StadiumVision Director, you can:

- Insert, schedule, and control commercials for streamed ads.
- Control up to eight differentiated insertion streams, commonly one stream per channel of video.
- Place premium content within the prime viewing area as part of the video stream.

Video Distribution Manager (Release 2.3, 2.4, and 3.0 only)

NOTE: The Video Distribution Manager is no longer supported beginning in Cisco StadiumVision Director Release 3.1 and later releases.

The Video Distribution Manager (VDM) application provides advanced playlist management services for SV Director, allowing you to easily:

- Upload video content files for a video region or full screen on DMPs that belong to the same groups/zones.
- Insert/update/remove video content from a video playlist.
- Specify the play duration of each video content item in a video playlist.
- Upload a large video file to Cisco StadiumVision Director.
- Report proof of play for video content.

Video playlists can play both MPEG2 and MPEG4 elementary streams over MPEG2-TS. You can upload content to Cisco StadiumVision Director through http with a maximum file size of 2 GB. The DMP plays from multicast HD streaming.

Dynamic Menu Board Application

The StadiumVision Dynamic Menu Board application provides the ability to dynamically update menu items and pricing before and during an event. Using the Dynamic Menu Board application you can:

- Create and display a custom menu board with background graphics, menu headers and menu items that can be updated during an event.
- Simultaneously change the menu board of an individual concession stand or multiple concession stands during an event.
- Pre position new menu board content (images, text, price) in a SWF file.
- Group menu items into categories (for example, drinks, snacks, desserts, pizza).
- Use and create a standard concession content template that can be easily customized per venue and concession stand.
- Group DMPs to use the same template so that all DMPs in the same group display the same menu.
- Split groups between concession types and sub-divide them by levels of the stadium.
- Provide each concession stand a unique URL and username/password to gain access to the Dynamic Menu Board application and make updates to the concessions menu during an event.

System State Reporting Application

The System Status Report application for Cisco StadiumVision Director 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 may occur with the system.

Refer to the *StadiumVision Director System Status Reporting Guide* for more details on how to use the System State Reporting application.

TV Off Application

With so many TVs in each Cisco StadiumVision deployment, it's 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.

Using the Turn TVs Off application:

- Administrators can define which TVs (which zones) are to be controlled by the Turn TVs Off custom application.
- A non-IT person, for example the security guard, can access the portal to turn off the TVs (as defined by the administrator).
- Only authorized users can access the Turn TVs Off custom application.
- Administrators can exclude select TVs, for example those in the back offices, from being controlled by the Turn TVs Off application.
- 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:

- 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.

See the [TV Off Application Guide](#) for details on how to use the TV Off application.

Local Area Control with SV Director

Typically, TVs that are placed throughout the concourses and in “public” spaces are controlled centrally through Cisco StadiumVision Director. However, TVs that are placed elsewhere, such as luxury suites, restaurants, clubs and bars, back office, and press boxes, require the ability for local control. With Cisco StadiumVision, owners and guests can centrally control channel, volume, input, power, and closed captioning of each display in the suite. Additionally, they can use the Cisco IP

Phone to change the input on a particular video display to a locally attached DVD player or PC.

As shown in Figure 5, three local TV control options are supported:

- A Cisco Unified IP Phone 7975 or IP Phone 9971 (supported in Release 3.1 and later releases)
- A third-party touch panel, such as Crestron or AMX
- An infrared (IR) remote for the Cisco DMP

Figure 5. Local TV Control Options



Local TV Control with the Cisco Unified IP Phone 7975 or IP Phone 9971

NOTE: The Cisco Unified IP Phone 9971 is supported beginning in Cisco StadiumVision Director Release 3.1 and later releases.

In Cisco StadiumVision, a single, designated Cisco Unified IP Phone 7975 enables luxury suite owners and guests to control the power, volume, and channel selection for each of the TVs in the suite. Beginning in Cisco StadiumVision Director Release 3.1, support for the IP Phone 9971 is introduced.

All designated local control areas, including clubs, bars, restaurants, back offices, and press boxes, are defined on the **Luxury Suites** tab in the SV Director Control Panel.

Using StadiumVision Director, you can define the following settings for the Cisco Unified IP Phone:

- Configure the IP Phone password(s).
- Define the IP Phone as a control device and specify whether it is used in a luxury suite environment (both TV control and commerce integration services are enabled) or in an administrative office (only TV control services are enabled).
- Associate the DMPs with the area to be controlled and label the DMPs to assist in TV identification by the user.
- Change the IP Phone background to the provided StadiumVision graphic (or venue-specific graphic).
- Change the timeout values on the IP phone.
- Associate the IP Phone or 3rd party remote with the area to be controlled.

See the [Cisco StadiumVision Local Control Areas Design and Implementation Guide](#) for more details about configuring local control areas.

Note: Although there are other options for local TV control, the Cisco IP Phone is the preferred option for a luxury suite because it allows access to both video control services and commerce services from a single device.

Alternate Local Control Devices

If you have a third-party touch panel integration partner, you can use third-party touch panels for local area control in place of Cisco IP Phones. Touch panels are typically placed in open areas where IP Phones are not secure or where significant numbers of displays need to be controlled with a single device. Bar, restaurant, club and other open spaces are perfect candidates.

For details on how to configure Local Control Devices with SV Director, see the [Cisco StadiumVision Local Control Areas Design and Implementation Guide](#).

StadiumVision Director Commerce Services

In addition to controlling the power, volume, and channel selection for each of the TVs in a luxury suite, the Cisco Unified IP Phone can also be configured in Cisco StadiumVision Director to provide access to commerce services that allow users to place orders with the venue's catering and merchandise store. StadiumVision commerce services require integration with a third party point of sale application such as Micros or Crestron. Using the commerce services, luxury suite owners, guests, and suite attendants can easily navigate through menus on the Cisco IP

Phone, view menu item images on the IP Phone and an HD TV in the suite, and securely place an order from the Cisco IP Phone touch screen (Figure 6). See the [Cisco StadiumVision Director Dynamic Menu Board and Store Configuration Guide](#) for more information.

Figure 6. Luxury Suite Local TV Control and Commerce Integration



Cisco StadiumVision Director Servers

Through release 2.4, the Cisco StadiumVision Director software is hosted on the Platform 2 server (a Cisco UCS C200 M2 High-Density Rack-Mount Server (R1U) server shown in Figure 7), or the original Platform 1 server (a Cisco Application Deployment Engine (ADE) 2140 Series appliance (R2U) shown in Figure 8).

The servers are specifically designed to host the Cisco StadiumVision Director software for Cisco StadiumVision. The servers are deployed in a dual configuration providing for warm standby redundancy.

Figure 7. Cisco StadiumVision Director Server (Cisco UCS C200 M2 Server)

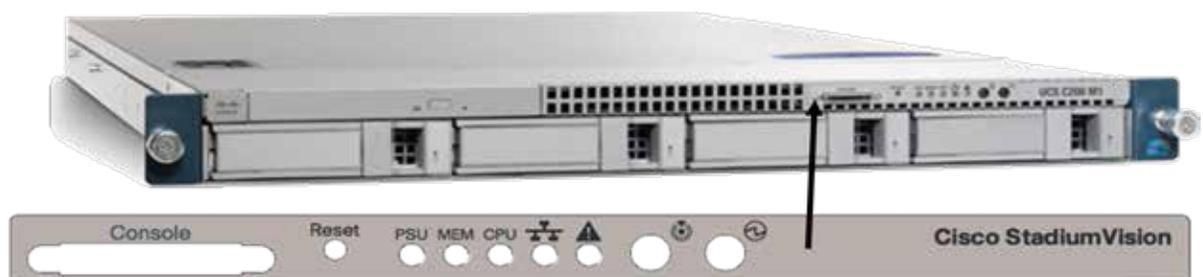


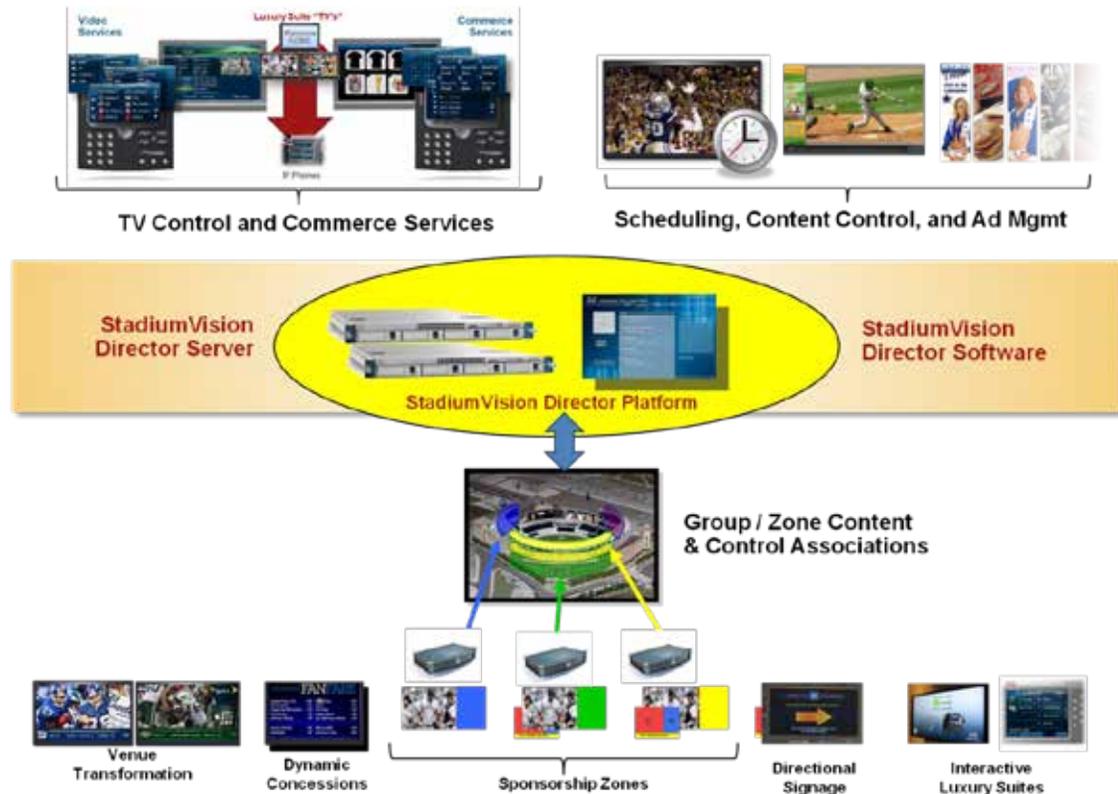
Figure 8. Cisco StadiumVision Director Server (Cisco Application Deployment Engine (ADE) 2140 Series appliance)



Beginning in Cisco StadiumVision Director Release 3.0, only the Platform 2 server is supported, and the Platform 3 server (a Cisco UCS C220 server) is supported beginning in Release 3.1. For more information on the latest Cisco StadiumVision Director server architecture, see the [Release Notes](#) and the [Cisco StadiumVision Director Server Administration Guide, Release 3.1](#).

[Figure 9](#) illustrates how the Cisco StadiumVision Director software integrates with the Cisco StadiumVision Director Server to centrally control and manage event scheduling, content display, ads, TVs and commerce services.

Figure 9. SV Director Integration with the SV Director Server



Cisco DMP 4305G and 4310G

NOTE: The DMP 4305G is no longer supported beginning in Cisco StadiumVision Director Release 3.0 and later releases.

Each TV in the Cisco StadiumVision venue is attached to a Cisco Digital Media Player (DMP 4305G or DMP 4310G). The Cisco DMP is a small, flexible device used for the decoding and display of digital media, including high-definition live broadcasts, on-demand video, flash animations, text tickers, and other Web content on digital signage displays.

The Cisco DMP enables playback of various types of content in full-screen mode or in regions defined by SV Director. StadiumVision leverages the RS-232 connection of the Cisco DMP to control the state and volume of the attached TV.

Cisco StadiumVision supports the Cisco DMP 4305G (through Release 2.4) and DMP 4310G models. You can attach the Cisco DMP to virtually any on-premises TV at any location, for example, in a concourse, club, luxury suite, or back office.

The DMP models support the following display resolutions:

DMP 4310G: 1920x1080 pixels

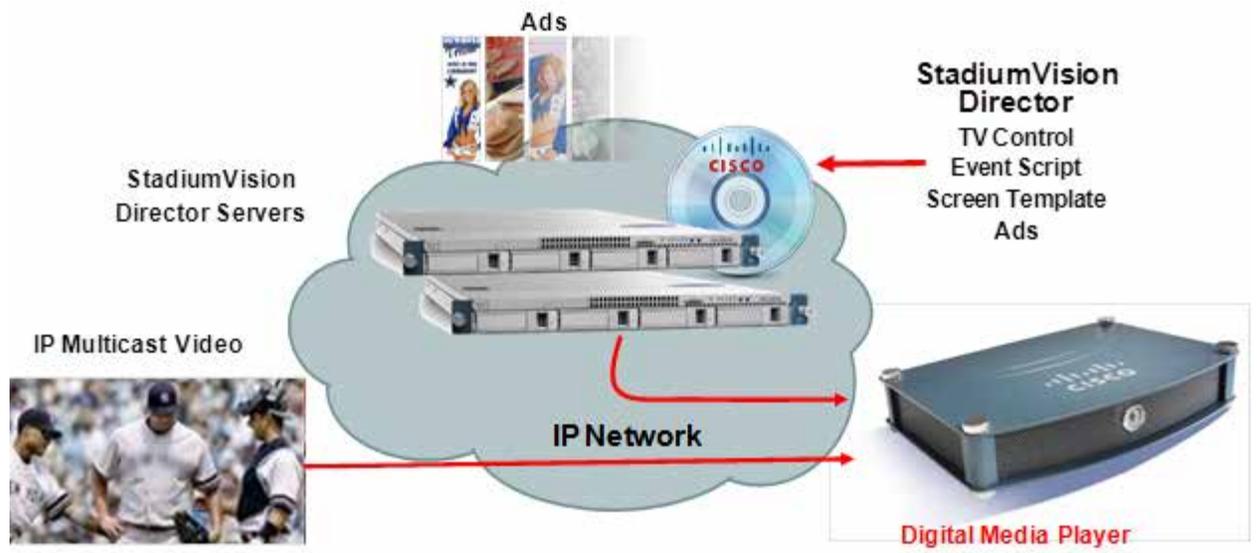
DMP 4305G: 1366x768 pixels.

Refer to [Figure 10](#) and [Figure 11](#) for illustrations of the DMP and how the Cisco DMP integrates with Cisco StadiumVision. For more details on deploying a Cisco StadiumVision DMP, see the [Cisco StadiumVision Director Video Endpoints Design and Implementation Guide](#).

Figure 10. Cisco Digital Media Player (DMP)



Figure 11. Cisco DMP Integration with StadiumVision



Basic StadiumVision Director Terminology

This section provides an overview of the terminology you need to familiarize yourself with to use Cisco StadiumVision Director to deploy video, graphics, and advertisements.

Content

Content is the actual digital media that is placed on the TV screen via the Cisco DMP. As shown in [Figure 12](#), examples of content include a full-motion MPEG video game feed, a low-motion advertisement, a JPEG graphic such as a concession menu, and an RSS Ticker feed such as sports league headlines.

Figure 12. Types of Content



There are four basic types of content:

- [Video Content](#)
- [Static Graphic Content](#)
- [Flash Content](#)
- [RSS Ticker Feeds](#)

Video Content

StadiumVision supports two types of video content:

- **Video from the headend** (in-house terrestrial TV and satellite and cable providers). The format of video provided from the headend is dependent upon the source. See the [Cisco StadiumVision Headend Design and Implementation Guide](#) for more details.
- **Video from the StadiumVision ad insertion solution** (purchased separately). The Cisco StadiumVision ad insertion solution allows the local insertion of MPEG-2 ads into the in-house feeds.

Cisco StadiumVision uses live video broadcasts in MPEG-4 (DMP 4310G) and MPEG-2 (DMP 4310G and DMP 4305G) format (HD or SD). Video feeds arrive at venues from multiple sources:

- In-house sources are provided by cameras placed throughout the venue and are used for live coverage of the event.
- Over-the-air (OTA, or off-air) sources are normally sent from broadcast transmitters owned by the local network affiliates of the national broadcasters, such as CBS and NBC, as well as public television stations.
- Cable/fiber sources include Multiple Service Operators (MSO), such as Comcast and Cablevision, as well as ILEC providers, such as AT&T and Verizon.
- Satellite sources include direct broadcast satellite providers, such as DirecTV and Dish Networks.

Refer to the [Cisco StadiumVision Headend Design and Implementation Guide](#) for more information on how video feeds are provided in StadiumVision.

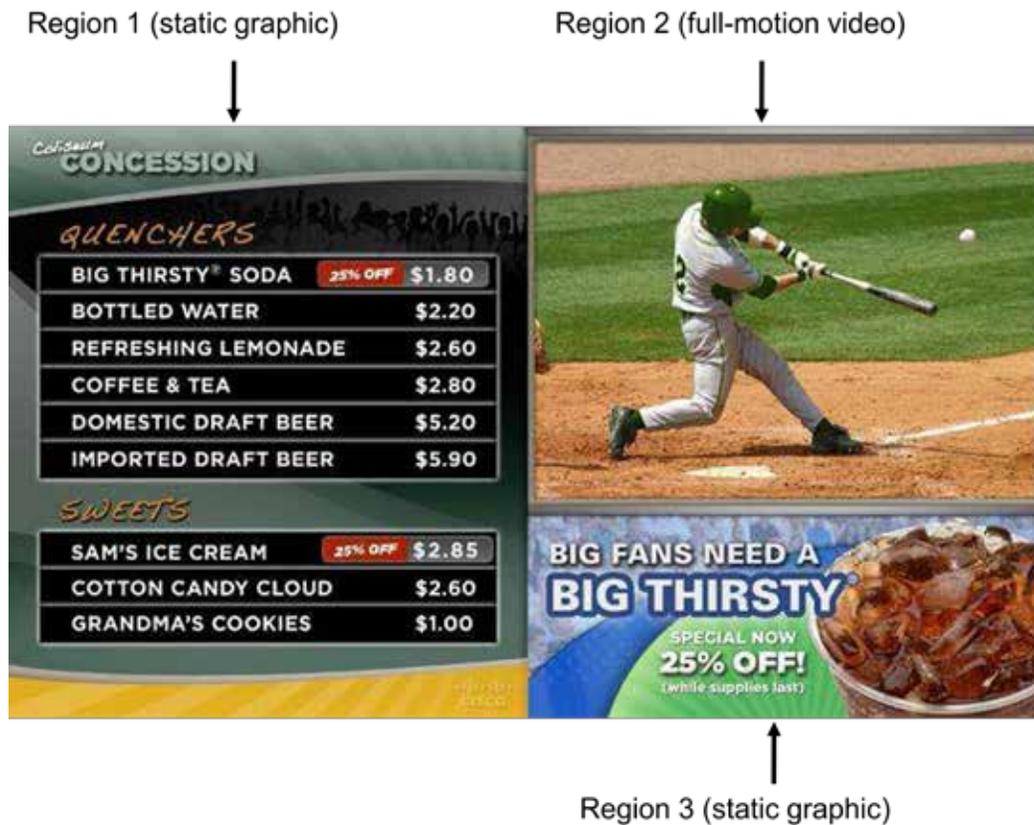
Static Graphic Content

Static graphics are used for advertisements or informational messages that do not require motion. This could include welcome messages for luxury suites or directional information after an event. Static graphics are stored locally on the network file server or in flash memory on the DMP.

[Figure 13](#) shows an example of a custom 3-region screen template with static graphics in regions 1 and 3, and full motion video in region 2.

The size of the content in each region depends upon the resolution supported by the DMP. The DMP 4310G supports 1920 x 1066 pixel resolution while the DMP 4305G supports 1366 x 768 pixel resolution. The content needs to be created so that it displays properly for the TV resolution. Refer to the [Content Creation guidelines](#) for more details on how to create content for a specific screen template/region.

Figure 13. Example of Static Graphics in a 3-Region Template



Flash Content

Flash content includes 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 DMP.

[Figure 14](#) shows an example of full screen flash content in the EXIT screen template.

Figure 14. Full Screen Flash Content



RSS Ticker Feeds

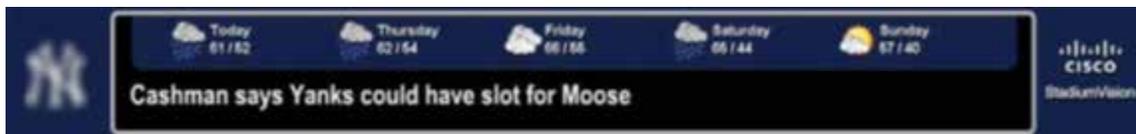
A *ticker* is a Flash region that displays content received from an RSS feed (news, weather, or other dynamic information) over a customizable background. RSS feeds can come from external or internal sources. Venue operators can use RSS feeds to publish their own in-house promotions or other proprietary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

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.

[Figure 15](#) shows an example of a double-height RSS ticker feed.

Figure 15. Double Height RSS Ticker Feed



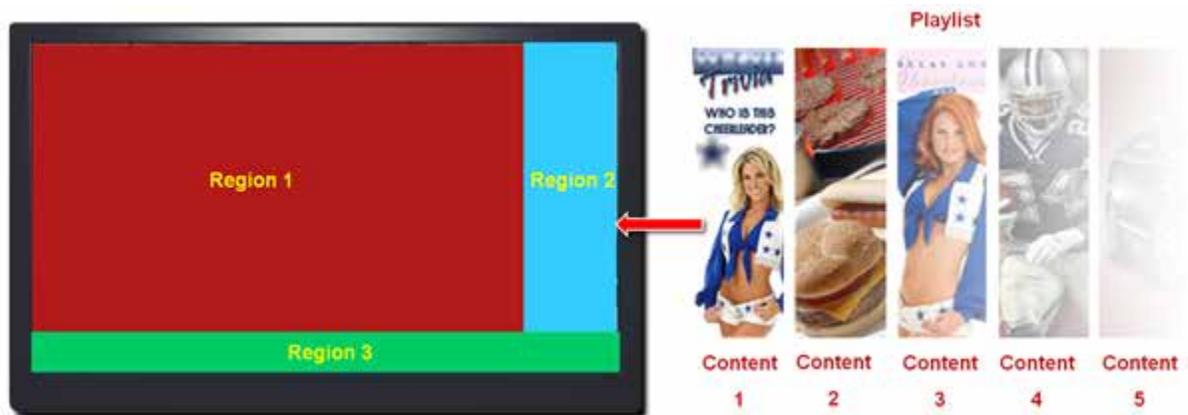
In addition to support for the original ticker interface, Cisco StadiumVision Director Release 3.1 introduces new support for RSS feeds using the external data integration interface. For more information on the new RSS support, see the [External Content Integration Guide, Release 3.1](#). For information about legacy ticker support, see the [configuration guide for legacy tickers](#).

Playlist

A *playlist* is a series of content items connected together (images, Flash) to play for a set duration one-after-the-other in a given area of the screen (referred to as a *region*) and then repeat. Each playlist operates independently of other playlists, and multiple playlists can be run in a given event script. The most common use of a playlist is in a Flash region where a series of ads will cycle based upon a preset rotation. Playlists also can include tickers and full screen messages. All playlists to be played during an event are pre-loaded on all the DMPs prior to the event.

[Figure 16](#) illustrates a playlist with five images, each shown for five seconds and then repeating.

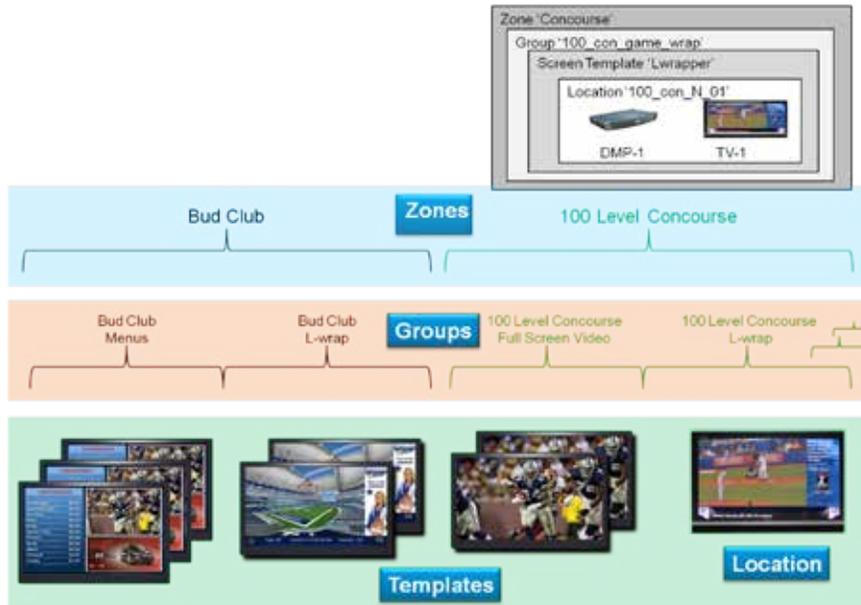
Figure 16. Example of a Playlist



Cisco StadiumVision Venue Hierarchy

To provide a logical way of organizing the hundreds to thousands of endpoints in a venue, StadiumVision implements a hierarchy of *Zones*, *Groups*, *Templates*, and *Locations*. Refer to [Figure 17](#).

Figure 17. Zones, Groups, Templates, and Locations Hierarchy



For more information, see the [Zones, Groups, and Locations Implementation Guide](#).

Templates

A template defines the video and non-video regions and layout of a DMP display. Templates are used to create various layouts for the presentation of different types of content. Templates are assigned to zones or groups and apply to all locations within them.

Cisco StadiumVision Director provides the capability to create custom templates that allow you to specify the size and arrangement of the regions on the screen. You can also create “overlay” templates that allow a non-video template region to overlap a video template region (DMP 4310G only).

In creating custom screen templates, you specify different sizes for the screen template regions. With overlay screen templates, you can configure a non-video region to overlap a video region. For more information, see the [Creating Custom and Overlay Templates in Cisco StadiumVision Director](#) guide.

Event States and Event Scripts

Event states and *event scripts* control when and what content displays over the course of an event. For example, a Welcome message for Pre-game, a food promotion at halftime and an Exit message at the end of the game.

[Figure 21](#) shows an example of the progression through an event script. At each change in the event state, the screen template and content applied to the TV displays changes within the group and/or zone.

Figure 18. 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, first quarter, halftime, and game end. If the event is a concert, the event script could be tied to pre concert, in 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 States

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 when to turn closed captioning on and off. You can define a duration and time transition to play a particular event state or you can invoke the event state manually. Event States can change over the course of time (Pre-Game, In-Game, Post-game etc).

These are the supported types of event states:

- **Sequential Event States:** These are scheduled states that are part of the event script and tied to a period of time in the event such as pre-event, 1st quarter, and game end.
 - 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:** There are fixed event states that are used in emergencies and unforeseen event delay situations. Three Ad hoc states are supported: Inside Emergency, Outside Emergency, and Delay. These event states cannot be renamed. However, you can assign graphics to control what you want displayed during an emergency or delay. You can also customize which channel you want your DMPs videos to display during the delay.
- **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.
- **Ad Hoc Sponsored Content:** You can configure SV Director to play custom content during a spontaneous event or moment of exclusivity such as a touchdown or the seventh inning stretch. Once the content is staged, you can display it on TVs when the spontaneous event occurs simply by clicking a button in SV Director.

Here is an example of ad hoc sponsored content you could display during a touchdown:

Figure 19. Ad Hoc Sponsored Content



Staging Content

Staging, pre-positioning and pushing content all refer to the act of uploading content that is active for a given event script to all the DMPs. Staging a template refers to uploading the screen template and all the customizations, for example, the configuration of regions, the channel guide, the initial configuration, and the RS-232 commands.

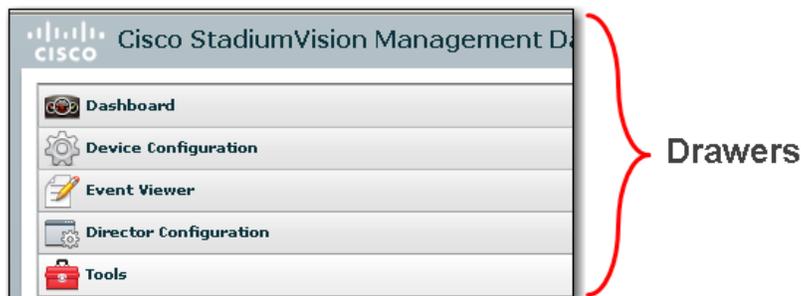
Cisco StadiumVision Director Management Dashboard Terminology

This section lists common terms you will need to familiarize yourself with when managing devices with the Management Dashboard. Refer to the [Cisco StadiumVision Director Management Dashboard guides](#) for more information about how to use the Management Dashboard to manage and configure your Cisco StadiumVision network.

Dashboard Drawer

A “drawer” in the Management Dashboard refers to the categories in the left window pane of the Dashboard. As shown in [Figure 20](#), there are five dashboard drawers that provide access to a collection of related commands and operations for monitoring and managing communications among Cisco StadiumVision components. Click on a drawer to expand the tree and access folders of related status and commands. You can view all devices in Cisco StadiumVision or view devices by zones and groups, luxury suites, and their auto registration status. Information about the devices displays in the Main window.

Figure 20. Dashboard Drawers



Commands

The Dashboard drawers contain commands that can be sent by SV Director to perform actions and display settings for devices in StadiumVision. There are three categories of commands that are sent by SV Director: Switch commands, DMP commands, and TV commands. Refer to [Table 2](#).

Table 2. Dashboard Command Categories

Command Category	Description
Switch Commands	Switch commands are IOS commands that perform actions and display information for the StadiumVision switch. For example, to toggle PoE on a switch port, you can send the Power Cycle DMP command to instruct Cisco StadiumVision Director to send the command to the switch. The switch will send a command back that reboots the PoE to the switch port connected to the DMP.
DMP Commands	DMP commands perform actions and display information for DMPs. For example, to restart flash on a DMP, you can send the Restart Flash command. This will instruct Cisco StadiumVision Director to send an HTTP command to the DMP and to restart it.
TV Commands	TV commands perform actions and display information about TVs. For example, to turn a TV on or off, you can send the TV On or TV Off command. Cisco StadiumVision Director will send the command to the DMP and the DMP will in turn send an RS-232 command across the RS-232 connection to tell the TV to turn on or off.

[Figure 21](#) and [Figure 22](#) illustrate the interaction between the StadiumVision components when switch commands, DMP commands, and TV commands are sent by StadiumVision Director.

Figure 21. Endpoint Control with Cisco StadiumVision Director Commands

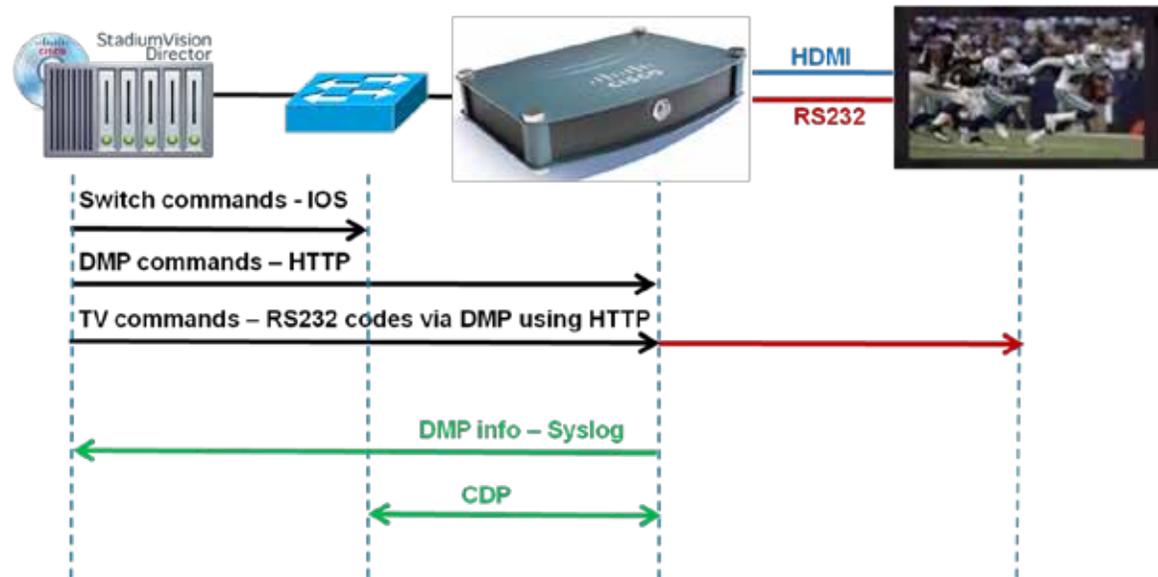
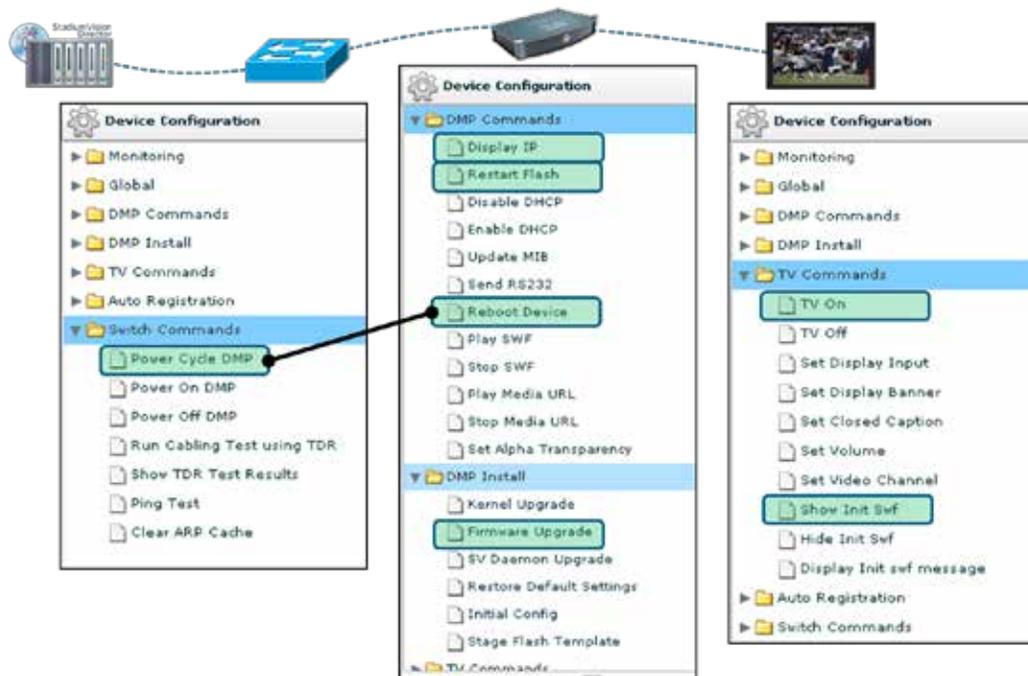


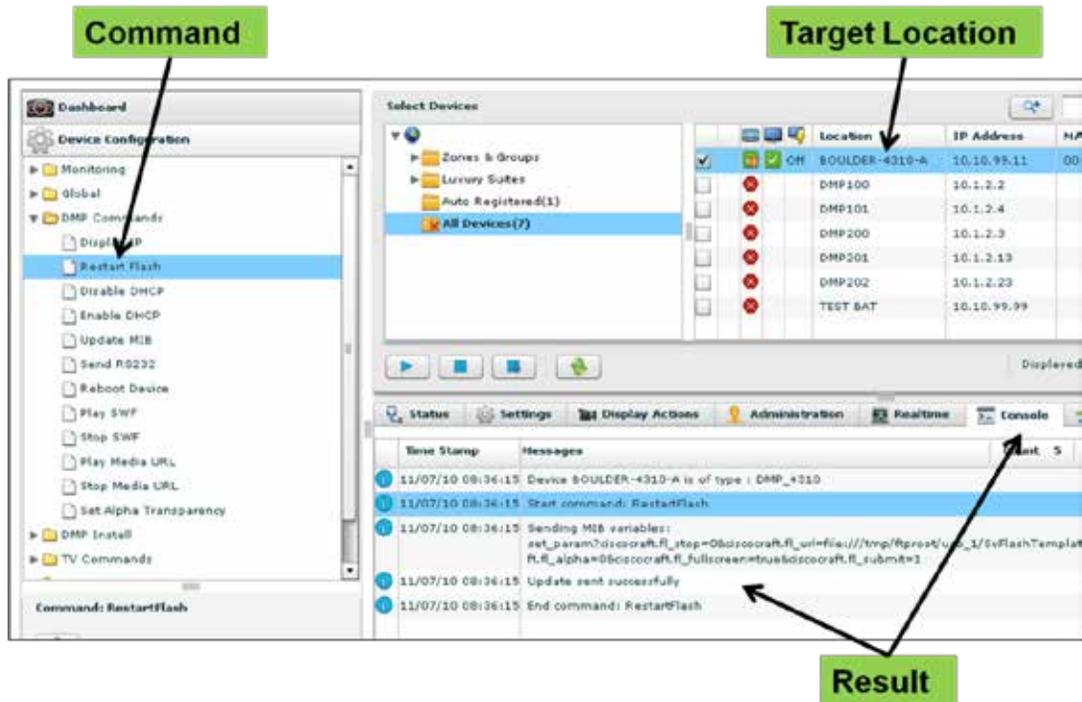
Figure 22. Switch, DMP, and TV Control Commands



Flash

The DMP uses the Adobe Flash Player or simply “Flash” software to deliver HD graphics and video. If the Adobe Flash player stops working, the DMP stops working. When that happens, often the quickest way to recover it is to send the **Restart Flash** Dashboard command. To do this, you select one or multiple DMPs on which you want to restart the Adobe Flash Player, select the **Restart Flash** command in the Dashboard, click the “Play” button (e.g., the DVD play button means execute). This will send the **Reset Flash** command to the DMP. You can see feedback on what is happening in the **Console** tab in the Dashboard Details window. This is similar to watching the console on the DMP. In the example shown in [Figure 23](#), you can see that the **Reset Flash** command was sent and the update was successful.

Figure 23. Restarting Flash



MIB Variables

Cisco StadiumVision Director communicates with the DMP through “MIB” variables. Not to be confused with SNMP MIB variables, DMP MIB variables are basically a schema where each variable has a name. They function more like registry settings on a PC.

In Cisco StadiumVision Director, a MIB is a persistent area of the on-board flash RAM memory where both initial and static parameters of the DMP processes are stored. MIB data can be accessed using the Management Dashboard as well as the Digital Media Manager (DMM) interface for the DMP. The DMP accepts commands over SSH. By default, the DMP will accept an SSH session with the user “sysmng” to manage the system.

Registry

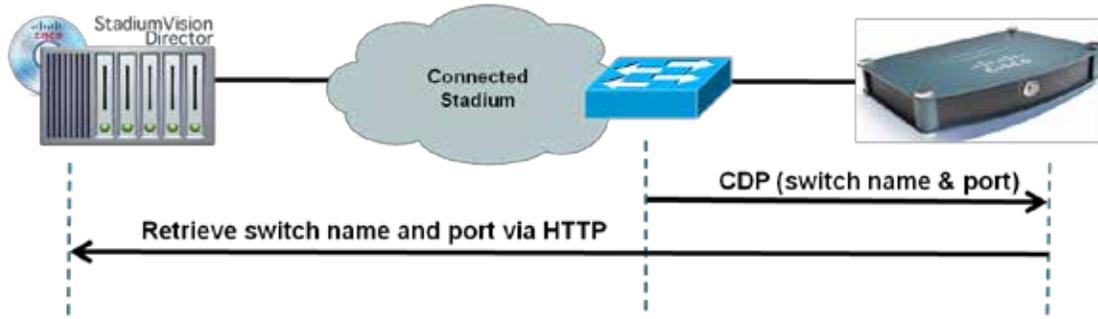
The Registry is a catch-all configuration value container, similar in concept (but not in structure or implementation) to the Windows Registry. It contains key-value pairs which contain important system wide configuration values.

Cisco Discovery Protocol (CDP)

Cisco StadiumVision Director uses the Cisco Discovery Protocol (CDP) to discover the switch and switch port to which a DMP is connected. By default, the switch will advertise CDP messages to the DMP once a minute.

The DMP picks up that information which is then retrieved by Cisco StadiumVision Director. The Medianet Services panel in the Dashboard Device Details window displays the switch IP address, switch name, and switch port to which the DMP is connected. Refer to [Figure 24](#). This is helpful to know if you need to escalate an issue to Cisco Technical Support.

Figure 24. Discovering the DMP Switch Name and Port



Detailed window → Settings tab

