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# **Cisco StadiumVision Management Dashboard Device Configuration Commands**

Release 2.3

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# Preface

This guide describes how to use the Device Configuration drawer commands to configure and monitor StadiumVision device settings.

#### **Document Audience**

The intended audience is StadiumVision system administrators and Cisco Technical Field Engineers who are responsible for designing and deploying StadiumVision. It is expected that readers of this document are familiar with basic IP networking technology, have a general understanding of the sports and entertainment business, and understand the objectives and operations of live events.

#### **Document History**

Table 1. Revision History

Date	Revision	Author	Comments
5/18/2011	0	Trish McBride	First edition for Release 2.3

# **Device Configuration Commands Overview**

💓 Dashboard	
Device Configuration	
▶ 🧀 Monitoring	
🕨 🧀 Global	
▶ 🚞 DMP Commands	
▶ 🗀 DMP Install	
▶ 🚞 TV Commands	
🕨 🧀 Auto Registration	
▶ 🔁 Switch Commands	

The Device Configuration Drawer provides commands that control common registry settings so you can easily configure values via text input, drop down boxes, and sliders rather than manually editing registry settings. Device Configuration drawer includes commands for:

Monitoring DMP Status and Alerts Deploying Global DMP Settings Managing DMP Settings Using the DMP Install Commands Sending RS-232 Commands for TV Control Auto Registering and Provisioning a DMP Managing Switch-to-DMP Connections

Commands	Description
Monitoring	Use these commands to check DMP status and connectivity, and to enable/disable monitoring services and thresholds.
Global	Use this command to sets the global MIB variables on the selected DMP(s).
DMP Commands	Use these commands to display the DMP IP address, restart Flash, enables/disable DHCP, update MIB settings, send RS-232 commands, reboot the DMP, and to control SWF and Media URL files playing on the DMP. There is also DMP command to set the alpha transparency on the DMP.
DMP Install	Use these commands to upgrade the DMP 4310G firmware, restore the DMP factory default settings, set the initial configuration to be deployed to all DMPs in the factory default state, and stage the Flash template. There are also commands to upgrade the DMP 4305G Kernel and SV Daemon.
TV Commands	Use the TV Commands in the Device Configuration drawer to send RS-232 commands that control the TV On/Off state, change the TV input and TV display banner, enable/disable closed captioning, set the TV volume and video channel, and set the SWF that displays when the TV first turns on.
Auto Registration	Use the Auto Registration commands in the Device Configuration drawer to change the DMP state and provision the DMP for auto registration.
Switch Commands	Use the Switch commands in the Device Configuration drawer to control the switch to DMP power settings, test the switch to DMP cable, send a ping to the switch, and clear the ARP cache.

# **Monitoring DMP Status and Alerts**

💓 Dashboard	
Device Configuration	
🔻 🚞 Monitoring	<b>_</b>
Get Status	≣
Ping	- 11
Enable Monitoring	- 11
🗋 Change Monitoring Thresholds	- 11
Disable Monitoring	•

Use the Monitoring commands in the Device Configuration drawer to check DMP status and connectivity, and to enable/disable monitoring services and thresholds.

## **Getting Status for a DMP**

Send the **Get Status** command to retrieve status information for a DMP. Results are displayed in the Device Details Status window. You can execute this command on demand or according to a user-defined schedule.

To define a schedule for automatically executing the Get Status command:

#### **Pinging a Device**

Send the **Ping** command to perform a basic connectivity test on selected or all DMPs currently defined in the StadiumVision Director. You can execute this command on demand or according to a user-defined schedule.

To define a schedule for automatically executing the Ping command:

#### **Dashboard Pings**

The Dashboard "ping" is not the same as an IP utility ping (ping 10.10.10.10). The Dashboard ping gets a MIB variable from the DMP and therefore depends on IP connectivity to the DMP as well as the availability of the HTTP Web server on the DMP. Although a ping from the command line will succeed, the ping will fail if the http server and port 7777 (DMP 4305G) or port 443 (DMP 4310G) are not working.

#### Turning Polling On or Off on a Device by Device Basis

You can turn polling on or off on a device by device basis.

- 1. Select the device from the Device List.
- 2. Send a ping to the device using the **Ping** command in the Monitoring folder.
- 3. In the Operations area below the **Ping** command, click in the Value field and choose whether you want to execute, disable, or enable polling on the selected device.

Command: Pir Check for dev	<b>ng</b> rice connectivity	
Common	4305 Parameters	4310 Parameters
Name	Value	•
Operation	Execute   🔻	
	Execute 1/5	
	Disable	
	Enable	
		<b>+ -</b>

4. Click the Play button in the Device List to execute the command.

#### **Enabling Monitoring Services**

Send the **Enable Monitoring** command to enable the Monitoring service on the selected DMP(s). Default values for CPU, Memory, and Disk threshold can be specified in the Director Configuration drawer. This command is only valid for a 4310 model DMP. This command will reboot the device.

#### **Changing the Monitoring Thresholds**

Send the **Change Monitoring Threshold**s command to change the CPU, Memory, and Disk threshold values. Default values for CPU, Memory, and Disk threshold can be specified in the Director Configuration drawer. This command is valid only for a 4310 model DMP.

Table 1 shows the default server utilization alert thresholds.

DMP Resource	Total	Minor alert	Major alert
CPU	100%	More than 75% used	More than 90% used
System memory	228512 KB	Less than 50% free	Less than 40% free
SWF memory	228512 KB	Less than 50% free	Less than 40% free
HDD	29826 KB	Less than 50% free	Less than 40% free

Table 1. Server Utilization Alert Thresholds

In the example shown in Figure 1, the Details window is showing a major alert on the SWF Memory. This tells us that less than 40% of the available memory is free on the DMP.

Figure 1. Dashboard Details Window Alerts



To modify the thresholds used by the Dashboard when displaying alerts for CPU, memory, and disk utilization:

- 1. Select a DMP from the device list.
- 2. In the Director Configuration drawer and click System Configuration.

#### 3. Click Management Dashboard > DMP Alert Thresholds.

Figure 2. Changing the Management Dashboard Monitoring Thresholds

cisco StadiumVision Management Dashboard				
Dashboard SV Director Configuration				
Device Configuration			Configuration Property	Value
A Event Viewer			CPU usage Warning Threshold (in %)	75
			CPU usage Error Threshold (in %)	90
Director Configuration			Free System Memory Warning Threshold (in	114256
🔻 🚞 System Configuration (7)			Free System Memory Error Threshold (in KB)	91404
SV Director Settings			SWF Memory usage Warning Threshold (in M	114
▶ 🔁 Global DMP Settings (3)			SWF Memory usage Error Threshold (in MB)	136
🗋 Auto Registration Settings			Free Disk space Warning Threshold (in KB)	14913
🔻 🚞 Management Dashboard (6)			Free Disk space Error Threshold (in KB)	11930
General Settings				
Power over Ethernet				
Overall DMP Status Thresholds				
DMP Health Poller				
Dashboard Console Display				
DMP Alert Thresholds				
🗋 Event Viewer				
Notification Settings (1)				
▶ 🚞 Logging level (8)				

- 4. Select a Configuration Property from the SV Director Configuration window and set a new threshold value.
- 5. Click the Save button in the lower right corner of the window.

#### **Disabling Monitoring**

Send the **Disable Monitoring** command to disable the Monitoring service on the DMP. This command is valid only for a 4310 model DMP. This command will reboot the device.

# **Deploying Global DMP Settings**

🞯 Dashboard	
Device Configuration	
🔻 🚞 Global	<b>A</b>
Global DMP Settings	<u>=</u> ▼

The **Global** folder contains the **Global DMP Settings** command which is used to deploy Global MIB settings to the selected DMPs on your network. Not to be confused with SNMP MIB settings, global MIB settings contain all

configuration settings for the DMP. They function more like registry settings on a PC. For optimal performance of the StadiumVision system, all DMPs should conform to the global DMP settings specified in the global MIB.

There are three types of global DMP settings that correspond to MIB variables. Refer to Table 2.

Table 2. Global DMP Settings

Global MIB Settings	Description
System Default Settings	Settings which are specified by the SV Director and cannot be modified by the end user. Examples include the "Startup URL" setting.
System Recommended Settings	Settings which have been determined to be desirable for most StadiumVision installations. These settings can be modified.
User-specified Settings	DMP settings which are customizable for the customer's site.

To deploy global MIB settings to the DMPs on your network:

- Configure the global MIB variables using the Director Configuration > System Configuration > Global DMP Settings option on the Dashboard. See the Management Dashboard Director Configuration Drawer Commands Guide for details.
- 2. Select Device Configuration > Global > Global DMP Settings.
- 3. Expand the Device List and select the DMP(s) on which you want to deploy the global MIB settings.
- 4. Send the **Global DMP Settings** command.

# **Managing DMP Settings**



The DMP commands in the **Device Configuration** drawer help you to manage DMP settings such as displaying the IP address of a DMP, restarting flash, enabling/disabling DHCP, updating MIB settings, and rebooting a DMP. The DMP commands also allow you to specify the SWF files and Media files the DMP plays at start up.

## Displaying the DMP IP Address on the TV

Send the **DMP Commands > Display IP** command to display the DMP's IP Address on the TV attached to the DMP.

You can specify the time (in seconds) for which the IP address is displayed. The duration is only applicable for the DMP 4305G. By default, the IP address is displayed for 5 seconds.



For the DMP 4310G, the IP address is displayed for 10 seconds. This duration cannot be changed.

#### **Restarting Flash on a DMP**

The DMP utilizes 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 **DMP Commands > Restart Flash** Dashboard command to restart Flash on the DMP. The Dashboard will prompt for confirmation before restarting Flash. There are no command parameters to set for the **Restart Flash** command.

You can see feedback on what is happening in the **Console** tab in the Device Details window. This is similar to watching the console on the DMP. In the example shown in Figure 3, you can see that the **Reset Flash** command was sent and the update was successful.



## **Enabling/Disabling DHCP**

Send the **DMP Commands > DHCP Enable** and **DHCP Disable** commands to enable/disable DHCP on the selected DMP(s). There are no command parameters to set for the Enable DHCP or Disable DHCP commands.

## **Updating MIB Settings**

+

To update MIB settings for a DMP(s):

- 1. Select DMP Commands > Update MIB.
- 2. Select the DMP(s) from the Device List.
- 3. Click the green plus sign button at the bottom of the command parameters to add a new MIB variable.
- 4. Click the appropriate command parameter tab (**common**, **4305 Parameters** or **4310 Parameters**) and type the MIB variable and value.
- 5. Click the Play button in the Main panel to apply and update MIB values for the selected DMP(s).

Refer to the *Management Dashboard MIB Variables Guide* for a listing of the MIB Variables modified by the Dashboard.

Figure 4. Updating the MIB



#### **Viewing Recent RS-232 Commands**

Send the **DMP Commands > Send RS232** command to view the most recently sent and received RS-232 commands for a DMP. The RS-232 commands and the current RS-232/Serial configuration are displayed in the Device Details panel under the **Display Actions > Serial Interface** tab.

Contact your StadiumVision representative for a list of RS-232 commands for selected TV models. If you are a Cisco StadiumVision deployment engineer, see the following link on the StadiumVision Sharepoint site for a listing of RS-232 codes:

http://team.cisco.com/sites/stadiumvision/svfield/Reference Information/Screen RS-232 Control Docs

Figure 5.	Send	RS232	Command
i iguic J.	OCITO	1.02.02	Commania

🚳 Dashboard			
Device Config	uration		
🔻 🚞 DMP Comma	nds		•
📄 Display IP			
📄 Restart Fla	ish		
📄 Disable DH	ICP		
📄 Enable DH	СР		
🗋 Update MI	в		۲
Send RS2	32		
📄 Reboot De	vice		
📄 Play SWF			
Stop SWE			•
Command: SendF	\$232		
This command wi	ll send RS232 to th	ne TV via DMP	
		4040 Deverations	
tommon 4	303 Parameters	4310 Parameters	
Name	Value		
rs232.tx_hex	put rs232 hex he	re	

Figure 6. Viewing Recent RS-232 Commands

🖞 Status 🖓 Settings	📷 Display Actions 👤 Administration	風 Realtime 🗦 Console 💠 System 🧭 Compliance
SWF Failover Serial Interface	RS-232 Service: On Speed: 9600 Current serial Parity: none interface Data Size: 8 configuration Stop Bits: 1	Tx Data (Hex): 6B612030312046460D Tx Data (Str): Tx Count: 123912 Rx Data: Rx Count: 0 <b>Recently sent and</b> <b>received RS-232</b> <b>commands</b>
	Flow Control: none	Rx overflow ?: false

#### **Rebooting a DMP**

Send the **DMP Commands > Reboot Device** command to reboot the selected DMP(s) on demand. A circular green arrow will briefly display next to the DMP(s) that you are rebooting. When the reboot is complete, the green arrow will disappear. The Dashboard will prompt for confirmation before rebooting the DMP.

#### Setting the Startup URL

When the DMP 4310G starts up and the TV is turned on, the TV will display the startup URL that is stored in Flash on the DMP. There are two types of startup URLs you can configure on the DMP 4310G:

- <u>Startup SWF</u>: The DMPs play a flash .swf file at startup.
- <u>Startup Media URL</u>: The DMPs play a multicast video channel at startup. This is convenient when you have yet to configure content and want a few DMPs to power up and show a video channel.

Both startup URLs can be active simultaneously; however, the typical StadiumVision installation will use only the Play SWF setting.

For the DMP 4305G, the TV displays an html file stored in flash on the DMP. To specify the start up HTML file for the DMP 4305G, use the **Device Configuration > Global DMP Settings > 4305 command.** 

#### Setting a SWF File to Play at Start Up

The DMP 4305G cannot play a SWF file at startup.

- 1. Select DMPs from the Device List.
- 2. Select the **DMP Commands > Play SWF** command to specify the URL of the .swf file you want the DMP to play at startup. The screen shown in Figure 7 displays.

Figure 7. Specifying the SWF File to Display at Startup

💿 Dashboar	d			
Device Co	nfiguratio	n		
🔻 🗁 DMP Com	imands			•
📄 Displa	y IP			
📄 Restar	t Flash			
📄 Disabl	e DHCP			
📄 Enable	DHCP			=
🗋 Update	e MIB			-
📄 Send F	RS232			
🗋 Reboo	t Device			
📄 Play S	WF			
🗋 Stop S	WF			
📄 Play M	edia URL			
This comman Enter the SWI	d specifies F URL	which SWF	file the DMP will play.	
Common	4305 Pa	rameters	4310 Parameters	
Name		Value	-	
ciscocraft.fl_	url	http://		
ciscocraft.fl_	submit	1		

- 3. Click the 4310 Parameters tab.
- 4. Type the name and value of the URL for the .swf file you want the DMPs to display at start up.
- 5. Click the Play button. A confirmation dialog box will display so you can confirm whether to send the command.

#### **Stopping the SWF File**

To stop the SWF file that is currently displaying, send the **Device Configuration > DMP Commands > Stop SWF** command.

#### Setting a Media URL to Play at Start Up

You can play the following types of media upon DMP 4310G start up:

- Multicast video stream (i.e.: "udp://239.192.1.180:4000")
- Video file (i.e.: <u>http://server/file.mpg</u>)

To set the Media URL:

1. Select DMPs from the Device List.

2. Select the **Device Configuration > DMP Commands > Play Media URL** command. The screen shown in Figure 8 displays.

Figure 8. Specifying the Startup URL for a Media file

💿 Dashboar	d			
Device Co	nfiguratio	n		
🔻 🛅 DMP Com	imands			
📄 Displa	y IP			L
📄 Restar	t Flash			
📄 Disabl	e DHCP			
📄 Enable	DHCP			=
🗋 Updati	e MIB			-
📄 Send F	RS232			
📄 Reboo	t Device			۲
📄 Play S	WF			L
📄 Stop S	WF			
📄 Play M	edia URL			•
This comman Enter the Mec loop)	d specifies dia URL and	which Media d loop paran	file the DMP will play. heter (1=loop) (0=no	
_		_		
Lommon	4305 Pa	rameters	4310 Parameters	
Name		Value		
Name ciscocraft.mv	/_url	Value file:///tmp/	'ftproot/usb_1/	
Name ciscocraft.mv ciscocraft.mv	/_url /_loop	Value file:///tmp/ 1	'ftproot/usb_1/	
Name ciscocraft.my ciscocraft.my	/_url /_loop /_start	Value file:///tmp/ 1 1	'ftproot/usb_1/	
Name ciscocraft.mv ciscocraft.mv ciscocraft.mv	/_url /_loop /_start	Value file:///tmp, 1 1	ftproot/usb_1/	
Name ciscocraft.my ciscocraft.my ciscocraft.my	/_url /_loop /_start	Value file:///tmp/ 1	'ftproot/usb_1/	

- 3. Click the appropriate DMP model tab.
- 4. Enter the Media URL and loop parameter in the command parameters table (1=loop) (0=no loop).
- 5. Click the Play button. A confirmation dialog box will display for you to confirm whether you want to send the command.

#### Stopping the Media URL File

To stop the media file that is currently playing, send the **Device Configuration > DMP Commands > Stop Media URL** command.

Figure 9. Specifying the Media URL

Dashboard							
🔊 Configurati	on						
Monitorin							
Global							
Giobal							
Direlau ID							
Dispia-	Display IP						
Dicabl							
Disable Disable							
Dundate							
D D o boo	(5232 • Dawies						
D play of	t Device						
Play S	we						
Stop S				a			
Play M							
Stop W	ledia UKL						
Set Alpha Transparency							
_							
Command: Pl	ay Media U	RL					
Command: Pl This comman will play. Ente (1=loop) (0=	<b>ayMediaU</b> d specifies er the Mec no loop)	RL s which Me dia URL ar	adia file the DMP nd loop parameter				
Command: Pl This comman will play. Ento (1=loop) (0=	ayMediaU d specifie: er the Mec no loop)	RL s which Me dia URL ar	edia file the DMP nd loop parameter				
Command: Pl This comman will play. Ento (1=loop) (0=1 Common	ayMediaU d specifie er the Mec no loop) 4305 Pa	RL s which Me dia URL ar	adia file the DMP nd loop parameter <b>4310 Param</b>				
Command: Pl This comman will play. Ente (1=loop) (0= Common Name	ayMediaU d specifie er the Mec no loop) 4305 Pa	RL s which Me dia URL ar	adia file the DMP nd loop parameter <b>4310 Param</b>				
Command: Pl This comman will play. Ento (1=loop) (0= Common Name ciscocraft.mu	ayMediaU d specifie er the Med no loop) 4305 P: 4305 P:	RL s which Me dia URL ar aram Value file:///tr	edia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Entr (1=loop) (0= Common Name ciscocraft.my ciscocraft.my	ayMediaU d specifie er the Med no loop) 4305 Pa 4305 Pa y_url	RL s which Me dia URL ar aram Value file:///tr 1	adia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Entr (1=loop) (0= Common Name ciscocraft.mu ciscocraft.mu	ay Media U d specifie er the Med no loop) 4305 P: 4305 P: 2_url 2_loop 2_start	RL s which Me dia URL ar aram Value file:///tr 1 1	adia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Ento (1=loop) (0=l Common Name ciscocraft.my ciscocraft.my	ayMediaU d specifies er the Med no loop) 4305 P: 4305 P: y_url y_loop y_start	RL s which Me dia URL ar aram Value file:///tr 1 1	adia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Entr (1=loop) (0= Common Name ciscocraft.my ciscocraft.my ciscocraft.my	ayMediaU d specifie er the Med no loop) 4305 Pa 4305 Pa 2_url 2_loop 2_start	RL s which Me dia URL ar aram Value file:///tr 1 1	adia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Ente (1=loop) (0= Common Name ciscocraft.my ciscocraft.my	ayMediaU d specifie er the Med no loop) 4305 P: 4305 P: 2_url 2_loop 2_start	RL s which Me dia URL ar aram Value file:///tr 1	adia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Entr (1=loop) (0= Common Name ciscocraft.mv ciscocraft.mv ciscocraft.mv	ayMediaU d specifie er the Med no loop) 4305 Pa 4305 Pa 2_url 2_loop 2_start	RL s which Me dia URL ar aram Value file:///tr 1 1	adia file the DMP nd loop parameter <b>4310 Param</b> np/ftproot/usb_1/				
Command: Pl This comman will play. Entr (1=loop) (0= Common Name ciscocraft.mv ciscocraft.mv ciscocraft.mv	ayMediaU d specifie er the Med no loop) 4305 Pa /_url /_loop /_start	RL s which Me dia URL ar aram Value file:///tr 1 1	adia file the DMP nd loop parameter 4310 Param np/ftproot/usb_1/				

#### Setting the Alpha Transparency

The DMP 4310G supports graphics with transparency/opacity allowing a non-video region to overlap a video region. It uses the alpha-channel of the graphics plane (png, swf file types) to allow the background video to show through.

Transparency is supported by use of chroma-keying where the background video can be seen through a particular color in the graphics.

Refer to the *StadiumVision Content Creation Guidelines* for more information about opacity, transparency, and chroma-keying.

To set the alpha transparency parameters:

- 1. Select the **DMP Commands > Set Alpha Transparency** command.
- Enter values for the name and value fields. The name field is the name of the MIB variable that will be modified by the Dashboard. Values are 0=Transparent 255=Opaque. Refer to Figure 10.
- 3. Send the command.

Figure 10. Setting the Alpha Transparency

ion						
		•				
		l				
		=				
-		-				
L						
sparency						
		٠				
: Alpha Transp )naque.	arency on the DMP.					
. Fodos						
Parameters	4310 Parameters					
ar anne ter s	4510 Parameters					
Name Value						
0						
1						
	ion L L sparency i: Alpha Transp paque. Parameters Value 0 1	ion  L L L L L L L L L L L L L L L L L L				

# **Updating DMP Installation Settings**



Use the DMP install commands to upgrade the DMP 4310G firmware, restore the DMP factory default settings, set the initial configuration to be deployed to all DMPs in the factory default state, and to stage the Flash template. There are also DMP Install commands to upgrade the DMP 4305G Kernel and SV Daemon.

## Upgrading the Kernel

Use the **DMP Install > Kernel Upgrade** command to update the kernel image and firmware image on the DMP 4305G. The upload operation uploads the kernel image file from your local machine to the SV Director server, and places the image in the correct location on the SV Director server.

The Dashboard will prompt for confirmation before upgrading the kernel. The DMP reboots after you apply the command.

- 1. Download the kernel image to the local PC.
- 2. Select DMP Install > Kernel Upgrade.
- 3. Click the 4305 Parameters tab.
- 4. In the Command parameters area do the following:
- a. Click the Upload button. A file dialog displays.
  - b. Select the kernel downloaded in step 1.
  - c. Click the **Open** button. The selected file will be uploaded to the server.
  - d. Click the Refresh button.
- 5. Reselect **DMP Install > Kernel Upgrade**.
- 6. Select the 4305 Parameters tab in the Command Parameters panel.
- 7. Click on the kernel image you uploaded in step 4.
- 8. In the Device List, select the DMP(s) on which you want to upgrade the kernel. If you want to upgrade the kernel on all DMPs, skip this step.
- 9. Click the Play button on the Configuration panel to upgrade the kernel on all DMPs. A confirmation dialog is displayed.
- 10. Press **OK** to proceed or press **Cancel** to cancel the operation.
- 11. Click the Play button to send the command and upgrade the kernel on the selected devices.

While the upgrade is in progress, the upgrade icon displays next to the selected DMP(s) and the progress bar for the DMP(s) indicates the current progress of the operation. The DMP will reboot after it is upgraded. The process takes about 3-4 minutes. However, the system may take longer to upgrade depending on the number of DMPs. DMPs are upgraded in groups. A rough calculation would be the total quantity of DMPs divided by 10 then multiplied by 2-3 minutes.



Any DMP 4310Gs that are selected will be ignored during the kernel upgrade. The Skipped Devices icon Z is displayed next to the DMP status list for skipped DMPs.

Figure 11. Upgrading the Kernel

🗑 Dashboard								
🙀 Configuration								
📄 Disable D	энср 🔺							
📄 Enable Di	Enable DHCP							
📄 Update M	1IB							
📄 Reboot D	evice		=					
POE Reb	oot							
🔻 🚞 DMP Upgrad	e/Install		Γ					
📑 Kernel Up	ograde							
Firmware	Upgrade		٠					
Command: Kern Upgrades Kerne device(s). This 4305 DMPs. This device.	<b>elUpgrade</b> l image on command o s command	selected nly applies to will reboot the						
	_							
Common	4305 P	4310 P	4					
Name	Value		1					
Image	vmlinux.	tivella						
		😵 🕨	)					
音 Tools								

12. Update the MIB Variables for the kernel.

After upgrading the kernel, you may need to perform the following procedures:

Upgrading the SV Daemon

Upgrading the Firmware Image

**Deploying the Initial Configuration** 

**Deploying Global MIB Settings** 

Upgrading the SV Daemon for the DMP 4305G

#### Upgrading the DMP Firmware Image

Use the **DMP Install > Firmware Upgrade** command to upgrade the DMP firmware image. The **Firmware Upgrade** command applies to both the DMP 4310G and the

DMP 4305G. The Dashboard will prompt for confirmation before upgrading the firmware image. The DMP reboots after you send the command.

The upload operation uploads the firmware from your local machine to the SV Director server and places the image in the correct location on the server.

- 1. Download the desired firmware image to the local PC.
- 2. Select DMP Install > Firmware Upgrade.
- 3. Click the **4305 Parameters** tab or the **4310 Parameters** tab in the Command parameters area.
- 4. Click the Upload button. A file selection dialog displays. Refer to Figure 12.

Figure 12. Selecting the Firmware Image

2

💿 Dashboard							
Device Config	uration						
🕨 🧀 Monitoring							
🕨 🧰 Global							
🕨 🧀 DMP Comma	▶ 🔁 DMP Commands						
🔻 🗁 DMP Install							
📄 Kernel Upg	grade						
📄 Firmware l	Jpgrade						
📄 SV Daemo	n Upgrade						
Restore D	efault Settings						
📄 Initial Con	fig						
📄 Stage Flas	h Template						
▶ 🔁 TV Command	s						
🕨 🧰 Auto Registra	tion						
🕨 🧰 Switch Comm	ands						
Command: Firmw Upgrades Firmwa command will reb	rareUpgrade re image on selected device(s). This oot the device.						
Common 4	305 Parameters 4310 Parameters						
Name	Value						
Firmware	DMP4310-1932.fwimg						
	_						
Director Confi	Iguration						
Tools							

5. Browse to the firmware image you downloaded in step 1 and click **Open** to upload the selected file to the SV Director server.

- 6. Click the Refresh button.
- 7. Select **DMP Install > Firmware Upgrade**.
- 8. From the Device List, select the DMPs on which you want to upgrade the firmware. If you want to update the firmware on all DMPs, skip this step.
- 9. In the Command Parameters area, click the **4305 Parameters** tab or the **4310 Parameters** tab. The list of firmware images will display.
- 10. Select the firmware image you want downloaded to the DMP. If there are both DMP 4305Gs and DMP 4310Gs in your network, select both types of DMPs for this command.
- 11. Click the Play button to upgrade the firmware on the selected DMPs. See Figure 13.

Figure 13. Upgrading the Firmware Image (DMP 4310G)

cisco StadiumVision Managem	t Dashboard			
Dashboard	Select Devices		C	•
Device Configuration	v 🕥	🚍 💭 😽 Location 🛛 IP A	ddress MAC Address	Checked At
The DMP Install	A Cones & Groups	🔽 😵 Off Lab-rack1-TV1 10.1	94.174.72 00:0f:44:01:5e:a2	04/07/11 06:30:00 AM
B Kernel Ungrade	Luxury Suites	🛃 🗹 On Lab-rack1-TV2 10.1	94.174.69 00:0f:44:01:62:1f	04/07/11 06:30:00 AM
Firmware Ungrade	Auto Registered(5)	🔽 😵 Off Lab-rack1-TV3 10.1	94.174.70 00:0f:44:01:64:06	04/07/11 06:30:00 AM
SV Daemon Upgrade	All Devices(6)	🔽 😵 Off Lab-rack1-TV4 10.1	94.174.68 00:0f:44:01:a9:18	04/07/11 06:30:00 AM
=		🔽 😵 Off Lab-rack1-TV5 10.1	94.174.74 00:0f:44:01:64:cc	04/07/11 06:30:00 AM
Command: FirmwareUpgrade		Suite_hf212 172.	21.2.3	04/07/11 06:30:00 AM
Upgrades Firmware image on selected device(s). This command vill reboot the device.			D	isplayed: 6 Selected: 2 🖌 🗲
Common 4305 Parameters 4310 Paramete	👻 Status 🛛 🏩 Settings 🛛 📷 Display Actions 📃 🧕 Administr	tration 🔛 Realtime 🚬 Console	e 🛛 🔆 System 🛛 🖉 Compli	ance
Firmware DMD4210-1932 fuime	Basic Device Name: Lab-rack1-TV4			
Dipresso Dipresso Distance	Display Attributes Description:			

12. Select the **Console** tab in the Device Details panel to view the firmware upgrade progress. Refer to Figure 14. The DMP will reboot about 20 minutes after you apply the **Firmware Upgrade** command.

Figure 14. Viewing Firmware Upgrade Status



13. After you upgrade the DMP firmware, do the following:

- a. Update the Firmware Version and Build Date in the Registry.
- b. Update the init.FAILOVER\_URL MIB.
- c. Send the Global DMP Settings command to the device.
- d. Stage the flash template and content (via the Control Panel). See the *Staging Content and Staging Flash Guide* for details.

The above steps need to be done after a firmware upgrade since the device may return to the factory default setting. If you do not update the registry entries, the Dashboard will flag the DMP as non-compliant.

#### Updating the Firmware Version and Build Date in the Registry

After you upgrade to release 2.3, you need to manually update the firmware and build date in the registry. Otherwise, the DMP will be in a non-compliant state.

- 1. Open the Digital Media Device Manager (DMPDM) interface for a DMP that has the new firmware version installed.
- 2. Select About > Hardware and Firmware Version.
- 3. Copy (exactly) the values of the 'Firmware Release Version' and 'Build Date and Time', and paste them in the following registry values:
  - Globaldmpsetting.4310.info.init.build = Thu Nov 4 00:27:27 PDT 2010 [b1932]

- Globaldmpsetting.4310.info.init.version = SE 2.2.1
- 4. Push the Global DMP Settings to the DMPs. This will bring the DMPs back to the compliant state.

# Updating the init.FAILOVER\_URL MIB

After you update the firmware to Release 2.3, set the init.FAILOVER\_URL MIB as follows:

- 1. cd /opt/apache-tomcat-6.0.18/webapps/StadiumVision/WEB-INF/classes/
- 2. sudo vi application.properties
- 3. Search for "4310.deploy.init.FAILOVER" and comment out the following line: Globaldmpsetting.4310.deploy.init.FAILOVER URL=<4310 FAILOVER URL>
- 4. Restart tomcat.

#### Upgrading the SV Daemon for the DMP 4305G

After you have upgraded the kernel and firmware for the DMP 4305G, you need to upgrade the SV Daemon image. This is done by sending the Dashboard **DMP Install > SVD Upgrade** command. The SV Daemon is supplied on the SV Director Server.



The SV Daemon is not needed on the DMP 4310G.

When you upgrade the SV Daemon:

- The Dashboard will prompt for confirmation before upgrading the SV Daemon.
- The DMP will automatically reboot.
- The COMMAND\_MULTICAST\_SERVER\_ADDRESS and COMMAND\_MULTICAST\_SERVER\_PORT variables in the svd.conf file will be updated to match the values set for the MulticastHostPort variable in the registry. See <u>Changing the Multicast Address and Port for StadiumVision Director</u> for details on how to edit the registry to change this setting.

To upgrade the SV Daemon on the DMP 4305G:

- 1. Select **DMP Install > SV Daemon Upgrade**.
- 2. In the Device List, select the DMPs on which you want to upgrade the SV Daemon.
- 3. Click the Play button on the Device List to upgrade the SV Daemon on the selected DMPs.
- 4. While the image is downloading, a download icon 🔯 will display next to the selected DMP. The DMP will reboot.
- 5. Deploy <u>Global DMP Settings</u> to the DMP.

#### **Restoring Default Settings**

- 1. Select DMP Install > Restore Default Settings.
- 2. In the Device List, select the DMPs on which you want to restore the default settings.
- 3. Click the Play button in the Device List to restore the default settings on selected DMPs. The Dashboard will prompt for confirmation before restoring the default settings. The DMP rebots after you execute the command.
- Once the reboot is complete, send the Monitoring > Get Status command to verify that the DMP is back online. The DMP will be in the factory default state when this command is successful.

#### **Deploying the Initial Configuration**

When you first add a DMP to the SV Director database, it is automatically placed in the factory default state. Before you can proceed with upgrading the firmware and bringing the DMP online, you need to execute the **DMP Install > Initial Config** command. This command moves the DMP out of the factory default state and into the initial state to enable further operations.

You must execute the **Initial Config** command on all DMPs in the factory default state (a.k.a. the initial state).

Some commands cannot be executed on a DMP that is in the factory default state. If you try to execute a command to a DMP in the factory default state, an error message will be displayed on the **Console** tab in the Device Details panel. Refer to Figure 15.

Figure 15. Factory Default State Error Screen



The DMP Summary panel on the Dashboard shows the number of DMPs in the factory default state.

լ**ՈՈՈՈՈ** 

#### **Setting Initial Config Command Parameters**

Before you send the Initial Config command, you need to set the Initial Configuration parameters through the registry as follows:

- 1. Select Tools > Advanced > Registry.
- 2. Scroll down to the defaultDmpAdminPwd parameter.
- 3. Click on the Value field and specify the password. The password must be a secure password with the following characteristics. The DMP will silently fail if the password is not secure.
  - At least 8 characters (i.e.: 'Cisco123')
  - Contains at least 1 capital letter (i.e.: 'C')
  - Contains at least 1 number (i.e.: '1')
- 4. Click Apply.



You should only set these values once per installation as subsequent password changes are not easy to do.

#### Sending the Initial Config Command

#### 1. Select **DMP Install > Initial Config**.

Figure 16. Executing the Initial Config Command

Dashboard	Select Devices						*
🚳 Device Configuration	<b>v Q</b>		= 💷 🔫	Location	IP Address	MAC Address	Checked At
T DMP Install	▶ 🔛 Zones & Groups		🗹 🗹 On	Lab-rack1-TV2	10.194.174.69	00:0f:44:01:62:1	04/11/11 09:50:55 AM
D Kernel Ungrade	▶ Luxury Suites		8	suite_hf212	172.21.2.3		04/11/11 06:30:00 AM
D Eirmware Ungrade	Auto Registered(5)		🔽 🔇 off	Lab-rack1-TV5	10.194.174.74	00:0f:44:01:64:co	04/11/11 06:30:00 AM
SV Daemon Lingrade	All Devices(6)		🗹 🔕 off	Lab-rack1-TV1	10.194.174.72	00:0f:44:01:5e:a	04/11/11 06:30:00 AM
Bestore Default Settings			🔽 🔕 off	Lab-rack1-TV4	10.194.174.68	00:0f:44:01:a9:10	04/11/11 06:30:00 AM
Initial Config		1	🔽 🔕 Off	Lab-rack1-TV3	10.194.174.70	00:0f:44:01:64:00	04/11/11 06:30:00 AM
Stage Flash Template							
▶ 🗁 TV Commands							
▶ 🗀 Auto Registration 🔹							
=							
Command: InitialConfig (will reboot device)							
Sets the StadiumVision recommended initial config on the device. This configuration should be deployed to all devices.							
that are in factory default state. The DMP will reboot.						D	isplayed: 6 Selected: 1 🖌 🗶 🗕

- 5. Select the DMPs which are in the Not Ready state.
- 6. Click the Play button in the Device List to send the command to the selected DMPs.

Once the command has successfully completed, the Not Ready icon will no longer display next to the selected DMPs in the Device List.

When you send the **Initial Config** command, each of the parameters listed in Table 3 are set to the value specified for defaultDmpAdminPwd. Users will not see these MIB variables and cannot assign values to them. However, as the system administrator, you can assign values to them in the registry.

Fable 3.         Initial Config Com	mand Parameters
Parameter	Description
init.FTP_password	Sets the FTP password
init.ROOT_password	Sets the root password
init.WEB_password	Sets the web password
init.SYSMNG_password	Sets the SYSMNG password

#### **Staging the Flash Template**

Table 3

Send the Stage Flash Template command to stage/copy the Flash Template on the selected device(s).

You must stage the Flash template when new Cisco DMPs are installed or when the Flash template application is modified. The Flash template application is the Flash .swf file that runs on all Cisco StadiumVision DMPs (this is different from the screen templates used on a Cisco DMP and also distinct from any .swf files the user has created as content).

# Sending RS-232 Commands for TV Control

😝 Dashboard	
Device Configuration	
🔻 🗁 TV Commands	•
🗋 TV On	- 11
TV Off	- 11
📄 Set Display Input	- 11
📄 Set Display Banner	- 11
🗋 Set Closed Caption	
🗋 Set Volume	=
🗋 Set Video Channel	=
📄 Show Init Swf	
📄 Hide Init Swf	
🗋 Display Init swf message	•

Use the TV Commands in the Device Configuration drawer to send RS-232 commands that control the TV On/Off state, change the TV input and TV display banner, enable/disable closed captioning, set the TV volume and video channel, and set the SWF that displays when the TV first turns on.

StadiumVision Director sends TV control commands to the StadiumVision Flash application on the DMP via RS-232 codes. The TV must be suitably equipped and connected to the DMP. These codes are centrally administered in the SV Director Control Panel.

If you are an internal Cisco StadiumVision administrator, information on the tested and untested RS-232 commands is posted on the internal Sharepoint site at:

http://team.cisco.com/sites/stadiumvision/svfield/Reference Information/Screen RS-232 Control Docs

Refer to the StadiumVision Video Endpoint Delivery DIG for details on how to set RS-232 commands.

# **Turning a TV On/Off**

Send the TV On or TV Off TV command to turn a TV controlled by the selected DMP on or off.

#### Setting the TV External Display Inputs

In a luxury suite, guests can use the Cisco IP Phone to change the TV input to an external device, such as a DVD player. To make it easier for the guest to select the input, you can label the TV's external inputs 1, 2, 3, or 4. This label will appear on the IP phone when a user selects TV/Volume. This label also appears on the TV in the TV identification banner.

**Note:** The identification banner is set in the DMP upon boot-up. Therefore, changing the label requires a restart of the DMP to take effect.

Send the **TV Commands > Select Display Input** command to change the TV display input to the value set in the Control Panel. The "inputName" parameter refers to the input name configured for the DMP when it was added in the Control Panel. Once this value is set in the Control Panel, you must set the inputName parameter and then send this command. Refer to Figure 17.

See the *StadiumVision Video Endpoint Delivery DIG* for details on how to configure the TV Display Input in the Control Panel.

Figure 17. Configuring the TV Display Input

💿 Dashboard	I							
Device Cor	figuration							
🔻 🗁 TV Comm	ands	-						
TV On								
TV off								
📑 Set Dis	play Input							
📄 Set Dis	play Banner	=						
📄 Set Clo	sed Caption	=						
📄 Set Vol	ume							
Command: Set	tDisplay Input							
Change TV In refers to a val from the iApps	put. The "inputName" id input name given ir s server	given in this command the DMP config fetched						
Common	Common 4305 Parameters 4310 Parameters							
Name	Value							
type	setDisplayInput							
inputName	1							

#### **Setting the Display Banner**

Send the **TV Commands > Set Display Banner** command to display a graphical banner on the top of the TV screen output. This banner is used to give the user feedback by identifying which DMP's / TV's received the command. There are different "Mode" options: Active, Inactive, None. Refer to Figure 18.





Figure 19. Setting the Display Banner

🔯 Dashboard								
Device Conf	iguration							
🔻 🗁 TV Commands								
TV On	🗋 TV On							
🗋 TV Off								
📄 Set Displ	ay Input							
📑 Set Displ	ay Banner							
Set Close	ed Caption		=					
📄 Set Volu	ne		•					
	- L D							
This command the top of the T give the user fe	is used to display a V screen output. Th edback by identifyir 	graphical banner on is banner is used to ng which DMP's / TV's	•					
Common	4305 Parameters	4310 Parameters						
Name	Name Value							
type	setDisplayBanne	setDisplayBanner						
Mode	Active							
Duration	5000							

For details on how to use the Control Panel to configure the display banner, see the *StadiumVision Local Area Control Design and Implementation Guide*.

#### **Enabling/Disabling Closed Captioning**

If the video feed includes closed captions, guests in the luxury suite can turn the display of these captions on or off using their Cisco IP Phone (as well as the IR Remote). Support for closed captioning requires the Cisco DMP 4310.

Send the **TV Commands > Set Closed Caption** command to enable or disable closed captioning on a TV controlled by the selected DMP. The following values can

be specified for Mode: CC1, CC2, CC3, CC4 or CS1, CS2, CS3, CS4. Set the Mode to "OFF" to turn off closed caption. Refer to Figure 20.

Figure 20. Setting Closed Captioning Parameters

💿 Dashboar	d				
Device Co	nfiguration				
🔻 🚞 TV Comm	ands	•			
🗋 TV On					
🗋 TV Off					
📄 Set Dis	splay Input				
📄 Set Dis	splay Banner	=			
📑 Set Clo	osed Caption	=			
📄 Set Vo	lume	•			
Command: Se	tClosedCaption				
This comman of closed-cap Following valu	d is used to enable / o tioning information on les can be for "Mode": ===	disable the displaying the TV screen.			
Common	Common 4305 Parameters 4310 Parameters				
Name	Value				
type	setClosedCaption	۱			
Mode	CC1				

#### Setting the TV Output Volume Level

Send the **TV Commands > Set Volume** command to set the output volume level on the TV controlled by the selected DMP(s). Depending on the DMP configuration, this command will set the output volume at any of the following locations:

- The internal DMP output volume level.
- The connected TVs' output volume level (via RS-232).
- The volume for the TVs' left speaker (leftVolume). Valid value is from 0 to 100.
- The volume for the TVs' right speaker (rightVolume). Valid value is from 0 to 100.

You can configure the volume granularity in the Control Panel. Refer to the *StadiumVision Video Delivery Endpoints Design and Implementation Guide*.

Figure 21. Setting Parameters for the TV Volume

💽 Dashboard									
Device Config	uration								
🔻 🚞 TV Command	s		•						
TV On	TV On								
TV off	TV off								
📄 Set Displa	y Input								
📄 Set Displa	y Banner								
Set Closed	l Caption								
📄 Set Volum	e		•						
Command: SetVo	lume								
This command se the DMP configur volume at any of output volume le level (via RS-232	its the output volu- ation, this commar the following locat vel. The connected ). Valid values for	me level. Depending on id will set the output ions: The internal DMP d TV's output volume volume is from 0 to 100							
Common 4	305 Parameters	4310 Parameters							
Name	Value								
type	setVolume								
leftVolume	50								
rightVolume	50								

#### Setting the Video Channel

Send the **TV Commands** > **Set Video Channel** command to set the video channel you want to play on the TV controlled by the selected DMP. To set the video channel, specify the multicast group (address + port) of the video stream. Refer to Figure 22.

💽 Dashboard	1							
Device Cor	nfiguration							
📄 Set Dis	play Input	-						
📄 Set Dis	play Banner							
📄 Set Clo	Set Closed Caption							
📄 Set Vol	ume							
📄 Set Vid	eo Channel							
🗋 Show I	nit Swf							
🗋 Hide Ir	nit Swf	•						
Command: Se	tVideoChannel							
This command play. The con video channel port) of the vi channel will al name or (2) v	d specifies which video o nmand currently only su by specifying the multio deo stream. In future v so be specified by eithe ideo channel's logical ch	hannel the DMP will pports setting the cast group (address + ersions, the video r (1) the video channel nannel number.						
		1010.0						
Common	Common 4305 Parameters 4310 Parameters							
Name	Value							
type	setVideoChannel							
url	udp://239.192.1.1	80:4000						

#### Showing, Hiding, and Displaying the Initial SWF Message

Send the **Show Init** and **Hide Init Swf** commands to display or hide the Init SWF application on the DMP. Send the **Initial SWF Message** command display the specified message in the Init Swf application on the DMP. Message text is specified in the appOptionsXML variable.

# Auto Registering and Provisioning a DMP

😥 Dashboard	
Device Configuration	
🔻 🗁 Auto Registration	<b>^</b>
Change DMP State	≡) ▼

Use the Auto Registration commands in the Device Configuration drawer to change the DMP state and provision the DMP for auto registration.

	Auto Registration
Change DMP State	Changes the state of the selected DMPs. Accepted values are 'Not Ready' or 'Ready' or Production'.
Provision DMP	Provisions a DMP for use in StadiumVision. This command will send the <b>Initial</b> <b>Config</b> , <b>Upgrade Firmware</b> , <b>Stage Flash Template</b> and the <b>Global DMP Settings</b> command on selected DMPs. Executing this command will change the DMP state to "Not Ready". Upon successful completion the DMP state will be set to "Ready".

#### **Changing the DMP State for Auto Registration**

The Provision DMP operation will be skipped if the DMP is in the 'Ready' or 'In Production' state. To change the state of the selected DMPs to 'Not Ready' or 'Ready' or 'Production' set the auto provisioning and auto registration values for the **DMP State** command to 'true'.

#### **Provisioning a DMP**

When you send the **Provision DMP** command, the Provision DMP Operation begins. The Provision DMP Operation is a collection of Dashboard commands that are sent in sequence to provision the DMP. The commands use dependency checking. That is, the commands are executed only if the previous command was successful. Table 4 defines the sequence and purpose of the commands that are executed for the Provision DMP operation.

The Provision DMP operation can be initiated automatically or manually. While a DMP is being provisioned, it transitions through three states:

#### Not Ready -> Ready -> Production

Not Ready: The DMP is registered in SV Director but has not been provisioned.

- **Ready:** The DMP is provisioned in SV Director but has not been assigned to a Location. Note that all scripting is done on Locations and not on DMPs.
- In Production: The DMP is registered, provisioned and assigned to a Location in SV Director.

As the DMP transitions through these states, you can view the progress on the Management Dashboard and Control Panel.

Table 4 lists the Provision DMP command sequence. If any step fails, the overall Provision DMP operation fails.

Refer to the *StadiumVision Video Endpoints Design and Implementation Guide* for more details about auto registering and provisioning a DMP.

Order	Command	Description
1	GetStatus	Retrieves the current settings on the DMP
2	StateTransition	Changes the DMP State to 'Not Ready'
3	InitialConfig	Executes the InitialConfig command on the DMP. This command sets the credentials in the DMP and is executed only if the DMP is in the Factory Default state. The DMP is rebooted as part of this command execution. A subsequent DMP registration message will trigger the Workflow to advance to the next step.
4	GetStatus	Retrieves the most current configuration on the DMP. The GetStatus command is executed at various points of the Provision DMP workflow and is intended to refresh the DMP state in SV Director so that the execution of previous workflow steps are reflected correctly in the SV Director Database.
5	Firmware Upgrade	The SV Director will upgrade the firmware on the DMP, if required. A DMP reboot will trigger the workflow to advance to the next step.
6	GlobalMIB	Deploys the Global DMP Settings on the DMP. This step is performed only if the device is not conforming with the current Global DMP Settings
7	GetStatus	Retrieves the most current configuration on the device. Note that a previously executed Firmware Upgrade would have changed the version and build strings to match the currently running firmware on the DMP
8	StageTemplate	The Flash Template is staged on the DMP.
9	GetStatus	Retrieves the current configuration from the DMP and saves in the SV Director Database
10	StateTransition	Sets the DMP State to Ready
11	GetStatus	This final GetStatus is issued to get the most current DMP configuration. It is not necessary to issue this final GetStatus. However, this command has been placed in the Provision DMP workflow to work around certain timing issues that may arise when retrieving the Flash Template status

Table 4. Provision DMP Command Sequence



You can see more detail about the steps and sub steps being performed by viewing the status messages on the **Console** tab in the Device Details panel.

#### Automatically Executing the Provision DMP Command

The **Provision DMP** operation is automatically initiated if the Enable Auto Provisioning and Enable Auto Registration keys are set to true in the Dashboard. The **Provision DMP** will be skipped if the DMP is in the "Ready" or "In Production" state. Whenever a registration message is received from the DMP, a new instance of this workflow command is created or a previously running instance is advanced. The DMP sends a registration request to the SV Director every time it is rebooted, assuming that DHCP is enabled and the DHCP Server is appropriately configured. Several of the commands in the Provision DMP workflow require the DMP to be rebooted. Such commands will automatically reboot the DMP as needed.

Preparing SV Director and the DHCP Server for auto registration and provisioning is described in the *StadiumVision Video Endpoints Design and Implementation Guide*.

#### Auto Registering and Auto Provisioning Multiple DMPs

StadiumVision Director can auto register approximately 200 DMPs at the same time. As registrations come in, up to 50 auto-registered DMPs can be provisioned in parallel. The remaining DMPs are queued for provisioning and as DMPs complete the provisioning process, new DMPs are provisioned.

#### Manually Executing the Provision DMP Command

As an alternative to using auto provisioning, you can manually execute the **Provision DMP** operation to provision one or more DMPs. This operation is executed from the Dashboard just like any of the other Dashboard commands.

Figure 23 illustrates the **Provision DMP** in the Dashboard Device Configuration drawer.

Constant Dashboard	Select Devices			Q*		
Over the configuration	▼ 🍚	🚍 💭 🍕	Location	IP Address	MAC Address	Checked At
► C Monitoring	Des & Groups	🔄 📑 🗹 Off	AUTO-00-0f-44-01-;	10.50.1.5	00:0f:44:01:a5:ec	02/02/11 02:14:34
	▶ Luxury Suites		AUTO-00-0f-44-01-!	10.50.1.4	00:0f:44:01:53:8b	
	Auto Registered(2)					
	All Devices(2)					
► I V Commands						
Auto Registration			$\mathbf{X}$			
Change DMP State						
Switch Commands	Select DM	P to Prov	ision			
	(The shift or c	ntri kovo m		d to cold	ot multipl	
	(The shift of c	mur keys m	ay be use	u to sele	ect munip	e Divies)
Command: ProvisionDMP						
Provisions a DMP for use in						
StadiumVision. This command will send						
the Initial Config, Upgrade Firmware,				Displayed: 2	Selected: 1	/ X -
Common 4305 Pa 4310 Pa						
E	kecute Comma	nd				

Figure 23. Manually Executing the Provision DMP Command

Figure 24.	Provision	ed DMP	s in the D	ashbo	ard			
The and	e green che d TV are in	ecks in "Read	dicate f y" State	he D )	MP			
Device List				<b>2</b> *			P	
	Location	IP Address	MAC Address	Model	Firmware	Checked At		
📑 🖸 🕊	AUTO-00-0f-44-01-a5-ec	10.50.1.5	00:0f:44:01:a5:ec	DMP-4310	SE 2.2.1	02/02/11 02:14:34 P	м	
•	AUTO-00-0f-44-01-53-8b	10.50.1.4	00:0f:44:01:53:8b	DMP-4310				
				_	Cons	ole tab di	ispla	VS
					nrovi	sioning d	letail	s and
					pion	sioning a	cian	5 and
					progr	ess		
				_		/		
e Catura de	Sattings Set Display Arti	ions 0 Admi	istration E Pea	time	1	Sustam 2 Com	allance	
Time Stamp	Messages		<u> </u>	Log L	evel: (1) I	nfo  •] [ 🕎 ]		
02/02/11 02:1	7:3 End command: Ping						-	
02/02/11 02::	18:2 Polling Device AUTO-00-0	f-44-01-a5-ec of t	ype : DMP_4310				- 11	
02/02/11 02:1	18:1 response: Message sent							
02/02/11 02::	8:1 SVD Response: ciscocraft.app_data T_ST RS232Tx=08RS232Rx=08 2011&FLV=0&Tx=8Rx=	RING type=ping WUrl=udp://239.2	8uid=SVD129667431 55.1.1:590018/lashAj	02318HDMI= pVersion=2.	1&TV=Off&Inp 3.0&Config=W	ut=na8Mcast=1128UCr ed Feb 02 12:07:20 E5	ast=2&	
02/02/11 02:1	18:1 Successfully retrieved Flas	h Status					1	
02/02/11 02::	18:3 End command: Ping							



You can view detailed DMP Status on the **Status** tab in the Device Details Status window.

#### **Querying the Auto Provisioning Status**

- 1. Select **Device Configuration > Auto Registration**.
- 2. Click **Provision DMP**.
- 3. In the command parameters area, click on Value and select Query from the Value drop down menu.

Figure 25. Querying the Auto Provisioning Status

Dashboard	Select Devices		Q*	P
B Device Configuration	<b>v Q</b>	😂 💭 🍕 DeviceName	IP Address MAC Address	Checked At
Preve Connguration     Firmware Upgrade     SVD Upgrade     Restore Default Settings     Initial Config     Stage Flash Template     TV Commands     Auto Registration     Change DMP State     Prepare DMP     Switch Commands     v	Zones & Groups	✓ 3 2 Off AUTO-00-07-44-01-	10.194.175.236 00:01:44:01:70:da 0	01/25/11 01:34:00
repares a DMP for use in tadiumVision. This command will send v Common 4305 Pa 4310 Pa			Displayed: 1 Selected: 1	2 🗙 🗕
Name Value	🖗 Status 🍪 Settings 🕍 Display	Actions 🙎 Administration 📃 Re	altime 🚬 Console 🔆 System	Compliance
Execute           Execute           Cancel           Query	Basic         General           Display Attributes         DMP MAC Address:           HDMI Display         Dynamic IP Address           Network         IP Address: 10.1           Video         IP Address: 10.1	: 00:0f:44:01:70:da ssing (DHCP): Enabled 94.175.236	Medianet Services Medianet Enabled: yes Timeout (ms): 30000 Switch IP Address: 0.0.0.0	
Event Viewer	Subnet Mask: 25	5.255.255.224	Switch Name: Switch	

When you run the Query command on a device, the **Console** tab will display which provisioning step has been completed for the selected device.

Figure 26. Viewing the DMP State (Production)

Dashboard	Select Devices					Q*		
Device Configuration	Topes & G	roups			DeviceName	IP Address	MAC Address	Checked At
Firmware Upgrade VD Upgrade Restore Default Settings Initial Config Stage Flash Template VC ommands Auto Registration Change DMP State Prepare DMP	Luxury Sul Auto Regis	ites stered(1) s(1)			100-N-001	10.194.175.236	00:01:44:01:70:08	01/25/11 01:34:1
Command: PrepareDMP Prepares a DMP for use in StadiumVision. This command will send					<b></b>	Displayed: 1	Selected: 1	/ [X] =
Common 4305 Pa 4310 Pa	Q_ Status 🚳 S	Settings Set Display	Actions	Q Adr	ninistration 🔲 Re	altime - Con	sole 火 System	Compliance
Name Value Operation Execute	Status Details	DMP Status			<u>@</u>	TV Status		
+ -	Utilization Events Uptime MTR Variables	Q Overall Health  Normal DMP State Production Flash Status Normal Flash App Version 2.3.0				HDMI / DVI Auto Detection Enabled HDMI Auto Detection Statu Succeeded RS-232 Service On RS-212 TX Data Unknown		
Vevent Viewer	The fundation	Flash App Version	2.3.0		•	RS-232 Tx Data	Unknown	

# Managing Switch-to-DMP Connections



The **Switch Commands** in the Device Configuration drawer help you manage switch-to-DMP connections. These commands operate on the selected DMP(s) but are executed on the Layer 2 switch to which the DMPs are connected. This is in contrast to the other Dashboard commands which are sent directly to the selected DMPs.

Using the Switch commands on the Dashboard you can:

- Identify a switch port and invoke a TDR test for that port to confirm the integrity of the port and cable.
- Retrieve the status for a specific switch port and confirm the administrative and operational state.
- Cycle PoE power on a specific switch port and reboot a DMP that is not responding.
- Clear the ARP table for a specific IP address and restore connectivity to a DMP that was recently replaced.
- Ping a DMP from the switch to which it is directly connected. This helps you to determine if there are any local connectivity issues.

The Dashboard will attempt to process the Switch Commands only to those DMPs for which the Dashboard can determine a switch-to-DMP connection. If this connection cannot be determined, an error message displays on the **Console** tab in the Device Details panel.

#### **Switch CLI Commands**

When you send a switch command, the Dashboard uses the mapping information to send the CLI commands to the switch to which the selected DMP is connected.

Table 5 the CLI commands sent by the Dashboard to the switch for each of the Switch Commands. In this example the DMP is connected to interface Gi2/17 on switch sjc\_29\_lab\_gw1.

**DMP Name** = Test\_DMP

**DMP IP Address** = 10.10.1.1

Switch connection = sjc\_29\_lab\_gw1

Interface = Gi2/17,

**Note:** The Dashboard uses Telnet protocol to connect to the switch with the supplied credentials.

Table 5. CLI Commands sent by the Dashboard

Command	CLI Commands Sent to Switch sjc_29_lab_gw1	
Power Cycle DMP interface	Gi2/17	
	shutdown	
	no shutdown	
Run cabling Test	using TDR test cable-diagnostics TDR interface Gi2/17	
Show TDR Test Results	show cable-diagnostics TDR interface Gi2/17	
Ping Test ping	10.10.1.1	
Clear ARP Cache	clear arp-cache interface Gi2/17	

#### Power Cycling a DMP

Send the **Power Cycle DMP** switch command to cycle PoE (Power over Ethernet) on the switch port to which the DMP is connected. This will reboot the DMP. The DMP power cycle uses PoE and sends the shut CLI command to the appropriate switch / port based on selected DMP(s).



DMP 4305Gs require a special adapter to enable them to properly process the PoE command.

#### Power On/Power Off the DMP

Send the Power On or Power Off command to turn the power on or off on the selected DMP(s). These commands use Power over Ethernet and send the shut CLI command to the appropriate Switch / port based on selected DMP(s).

#### Running a Cable Test Using TDR

Send the **Run Cable Test Using TDR** switch command to invoke a Time Domain Reflectometer (TDR) test for a specific switch port. This test helps you to confirm the integrity of the port and cable connection to the DMP. Suitable CLI is sent to the switch to which the DMP is connected.

#### **Showing TDR Test Results**

Send the **Show TDR Test Results** switch command to display the results of the previously executed TDR Test command.

#### Sending a Ping from the Switch to the DMP

Send the **Ping Test** switch command to send a ping to a DMP from the switch to which it is directly connected. The output from the switch as a result of the ping test is displayed on the **Console** tab below the DMP Details window.

The ping test results display information about the DMP-to-switch interface. This helps you determine if there are any local connectivity issues.

#### **Clearing the ARP Cache**

Send the **Clear ARP Cache** switch command to clear the entire ARP cache on the interface to which the DMP is connected. This is useful to restore connectivity to a DMP that was recently replaced. This command sends the Clear ARP Cache interface CLI to the switch to which the DMP is connected.

# Adding a Command to the Device Configuration Drawer in the Management Dashboard

1. SSH into the SVD and go to directory:

/opt/apache-tomcat-6.0.18/webapps/StadiumVision/WEB-INF/classes

- 2. Open the file with : sudo vim HPMCommands.xml
- 3. Search for : "TV Commands", and add your command xml syntax.

For example: If you would like to make a "hardcoded" volume command for 10% you would add the following:

```
<command name="SetVolume10" category="TV Commands"
commandGroup="SVCommand"
                      authorities="ROLE ADMINISTRATOR, ROLE SUPPORT"
              commandDisplayName="Set Volume 10" hasArgs="0"
              requiresReboot="0"
              requiresSave="0">
              <description>This command sets the output volume level to
10%. </description>
              <argument type="common" readOnly="true">
                              <name>type</name>
                              <value>setVolume</value>
              </argument>
              <argument type="common" readOnly="true">
                              <name>leftVolume</name>
                              <value>10</value>
              </argument>
              <argument type="common" readOnly="true">
                              <name>rightVolume</name>
                              <value>10</value>
              </argument>
        </command>
```

If you want Volume 80%, change the value from 10 to 80 in the above.



**Important!** Restart the Tomcat server after you have made changes in the HPMCommands.xml file.

Here is an example of the **Device Configuration > TV commands** list after adding the new command:

