CHAPTER 1

Getting Started with CVDM-CSM

The CiscoView Device Manager for the Cisco Content Switching Module (CSM) enables users easily to configure content load-balancing services on their CSMs. It is a task-based tool that allows users to control the versatility of their Cisco CSM by offering configuration based on recommended practices in tasks, such as setting up virtual servers, creating server farms, and applying advanced policies. CiscoView Device Manager is a free embedded manager that resides in the Cisco Catalyst 6500 Series supervisor engine Flash memory.

The CiscoView Device Manager for the Cisco CSM manages several CSM features and helps users accomplish these tasks with ease.

For enterprises and service providers to offer accelerated content delivery services in their data centers, an easy-to-use, web based, device-management GUI is required for CVDM-CSM. The CVDM-CSM Device Manager is an embedded device manager targeted at single chassis setup, feature and service configuration, and monitoring of the Catalyst 6500/7600 series of products.

CiscoView Device Manager for the CSM supports server load balancing configuration on the CSM, including:

1. Configuring virtual servers.

2. Configuring server farms and attaching real servers to them.

3. Configuring client and server VLANs.

4. Configuring Layer 4 through Layer 7 policies, including maps and sticky groups.

5. Monitoring the health of servers

This section contains the following topics:

Key Features in CVDM-CSM

The following table describes the key features of CVDM-CSM.

Feature	Description
Dual Mode Setup Wizard	Allows users to customize deployment in two modes, using either a basic or an advanced wizard.
VLAN Setup	Client and Server side VLAN setup.
Virtual Server Setup	Advertise active (required for route health injection), Restricts clients access to virtual servers, Performance/load configuration, Enabling/disabling of connection persistence, Sticky configuration, Default/backup server farm policy setup, URL-hash prefix.
Server Farm configuration	Possible to set prediction algorithm, In-band health monitoring, NAT, Associating probes, Fail action—action taken on real server failure (purge/reassign), Configuring a set of real servers, Taking real servers in/out of service.
Real Server configuration	Server farm name and real IP address, Load parameters (maximum/minimum connections and threshold load), Health monitoring parameters (probe), Port translation, Weight.
Policy configuration	Configuring and associating Cookie map, Header map, URL map, Client group (access control lists), Sticky group, and Associate server farm and backup server farm.

Feature	Description
Map configuration	Map types such as Cookie map, Domain Name System map, Header map, URL map.
Sticky Group configuration	Sticky group types such as Cookie, CVDM-CSM, Header, Netmask.
Health Monitoring Configuration Probes	Probe types such as FTP, HTTP, Internet Control Message Protocol, Simple Mail Transfer Protocol, TCP, Telnet.
Fault Tolerant Group	Allows users to set Group identification, Fault tolerant VLAN, Failover time, Heartbeat time, Preempt, Priority.
XML Configuration	Allows users to set Client group, Credentials, VLAN, Port, XML service status.

Navigating in CVDM-CSM

Before you begin using CVDM-CSM, you must understand the basic operation of the user interface, including the login procedure and user interface elements. See the following sections for more information:

Starting CVDM-CSM

Step 1   In your browser, enter the IP address or DNS hostname of the device. The Enter Network Password dialog box appears.

Step 2   Enter your device username and password.

Step 3   Click **OK**. The CVDM-CSM Device Manager Home Page appears.

Step 4   Enter your device username and password. The SSH Credentials dialog box appears.

Step 5   Enter your SSH username and password. The Enter Enable Password dialog box appears.

Step 6   Enter Enable Password.

Step 7   Click **OK**. The application starts.

Understanding the CVDM-CSM Desktop

This section describes the main GUI elements of the CVDM-CSM application.
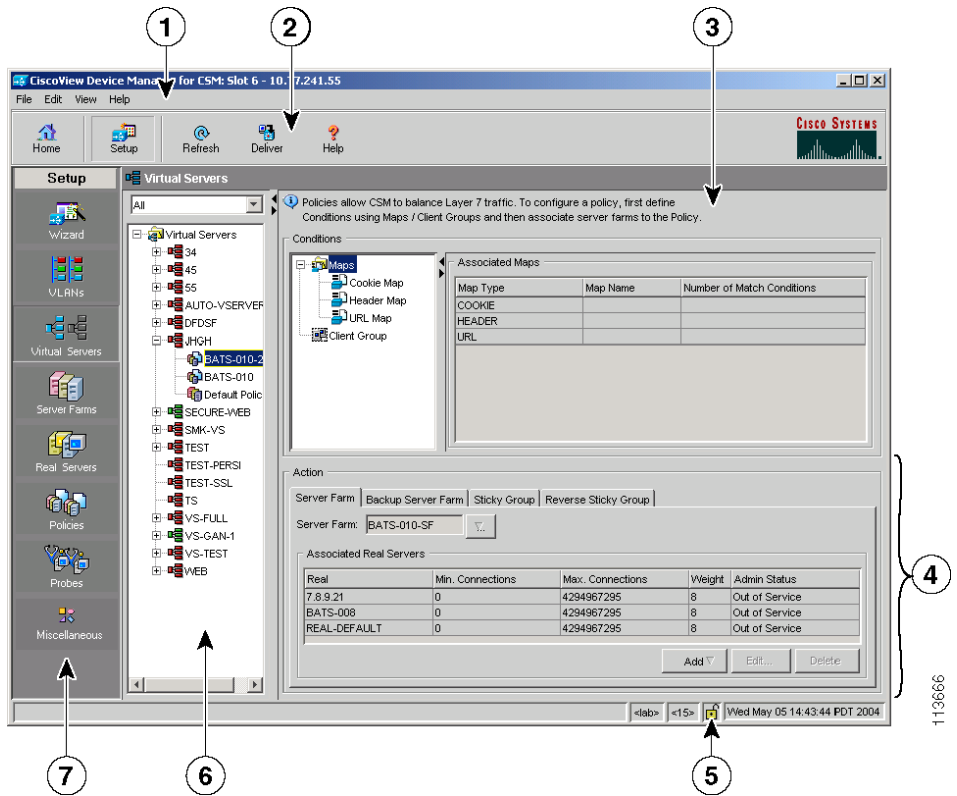
Figure 1-1   CVDM-CSM GUI Elements

Figure 1-1 Reference	Location	Description

1	Menu bar	Provides File, Edit, View, and Help buttons.
		
		• File
		
		  – File > Save to Startup—Saves the configuration running on the device as the startup configuration.
		
		  – Deliver to Device…—Send the configuration to the device.
		
		  – File > Exit—Logs you out of CVDM-CSM and closes the window. A warning appears if any configuration have not been applied. Based on your preference, the configurations are either applied or discarded before the application closes.
		
		• Edit > Preferences—Edit your global user preferences.
		
		• View
		
		  – View > Home—Displays the home page.
		
		  – View > Setup—Displays the features page.
		
		  – View > Running Configuration—Displays the configuration running on the **Supervisor** and the **CSM**.
		
		  – View > Refresh—Collects the most recent device information and updates CVDM-CSM with it.
		
		• Tools > Ping —Checks the connection with the server and opens a dialog box showing the status.
		
		• Help
		
		  – Help > Help Topics—Displays online help.
		
		  – Help > About—Displays CVDM-CSM version information.

Figure 1-1 Reference	Location	Description
2	Task bar	Provides access to CVDM functionality. • Home—Displays the home page. • Setup—Displays the features page. • Refresh—Collects the most recent device information and updates CVDM-CSM with it. • Deliver—Sends CVDM-CSM data to the device. • Help—Displays context-sensitive help.
3	Page	CVDM-CSM working area in which you perform tasks.
4	Pane	One part of a divided page or dialog box.
5	Status bar	Provides the following information: • Message describing the current status of the application. • Icon showing a table of users logged in to the device. • Application user and privilege level. • Icon showing the list of pending CLIs to be delivered to the device. • Icon showing the security level of the connection. • Time stamp showing the application startup time.
6	Selector	Hierarchy of the groups and objects available in the Switch or Services page that allows you to access specific functions for a Switch or Service object. See the "Selector" section on page 1-8 for more information.
7	Left-most pane	Contains buttons, under the Switch or Services page, that allow you to access switch or services functions.

Selector

Figure 1-2 shows the selector; Table 1-1 describes the selector elements.

Figure 1-2   Selector
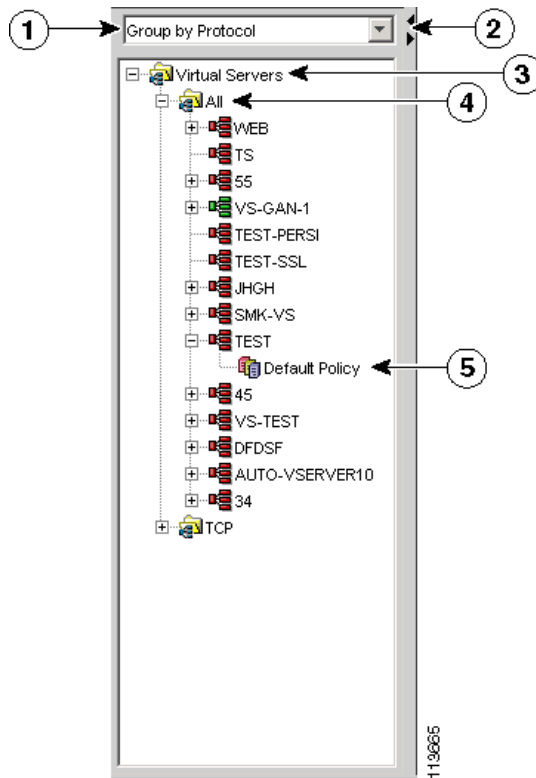
Table 1-1   Selector Elements

Figure 1-2 Reference	Location	Description
1	Group folder	Displays a group of objects. Click the plus (+) symbol to see the contents of this folder.
2	Selector handle	Click the handle to open and close the selector, or click the handle and drag it to resize it.
3	Subgroup folder	Displays a subgroup of objects. Click the plus (+) symbol to see the contents of this folder.
4	Object	Displays the individual entity contained in the group or subgroup. Click an object to open the page for that object.

Note Figure 1-2 shows what the selector looks like when there are folders, subfolders, and objects displayed. Some selectors do not contain all of these elements.

Understanding the Action Buttons

This section describes the action buttons that appear in CVDM-CSM dialog boxes and wizards.

- For a description of the wizard action buttons, see Table 1-2 on page 1-9.

- For a description of the dialog box action buttons, see Table 1-3 on page 1-10.

Table 1-2   Wizard Action Buttons

Button	Action
Back	Takes you to the previous page.
Next	Takes you to the next page.
Finish	Takes you to the wizard summary page.

Table 1-2   Wizard Action Buttons

Button	Action
Cancel	Exits the wizard without making any changes.
Help	Displays context-sensitive online help.

Table 1-3   Dialog Box Action Buttons

Button	Action
OK	Saves your changes.
Cancel	Exits the dialog box without making any changes.
Help	Displays context-sensitive online help.

Editing Preferences

Step 1   Select **Edit > Preferences.** The Preferences dialog box appears.

Step 2   Modify the appropriate values:

GUI Element	Action
Show CLI Preview for Wizards check box	Select this checkbox if you want CVDM to display the CLI commands to be delivered to the device after you have completed a wizard.
	When this checkbox is selected, when you click **Finish** in a wizard, the Deliver Configuration to the Switch/Module(s) dialog box opens and displays the CLI commands. For more information, see the ""Delivering CLI Commands to the Switch/Module" section on page 1-19".
Show CLI Preview on Delivery checkbox	Click this checkbox if you want CVDM to display the CLI commands to be delivered to the device.
	When this checkbox is selected, if you click **Deliver**, then the Deliver Configuration to Switch/Module(s) dialog box opens and displays the CLI commands. For more information, see the "Delivering CLI Commands to the Switch/Module" section on page 1-19.
Save to Startup checkbox	Click this checkbox to save your CVDM settings as the device startup configuration.
Confirm before Exiting checkbox	Click this checkbox if you want CVDM to ask you to confirm that you want to exit the application.
	When this checkbox is selected, CVDM displays a dialog box asking you if you want to exit CVDM. From this dialog box, you can select the Always display this dialog box before exiting checkbox if you always want CVDM to confirm that you want to exit CVDM.

Viewing the Running Configuration Information for a Device

Step 1   Select **View > Running Config**, then select one of the following:

- **Supervisor...**

- **CSM: Slot** *X*...

> ✎
>
> **Note**   Only options for installed service modules are available to be selected.

Step 2   The Show Running Configuration dialog box appears. Information about the running configuration for the selected component is displayed.

You can click the **Save to File** button to save this information as a text file.

CVDM-CSM Home Page

The Home page is the first screen that comes up when CVDM-CSM is started. The home page provides an overview of CVDM-CSM.

The home page displays the following information:

Figure 1-3   Homepage CVDM-CSM

Table 1-4   Home Page Description

Reference	Field	Description
1	**System Overview**	
	Model Type	Model Type of the CSM.
	Overflow errors	Number of overflow errors for the system.
	Serial Number	Serial number of the card.
	Slot Number	Slot number of the CSM for which the application is open.
	Software Version	Software version of the CSM module.
	Hardware Version	Hardware version of the CSM module.
	Redundancy	
	Status	Displays if the module is active or Standby.
	FT VLAN ID	Displays the VLAN over which heartbeat messages are sent. Both CSMs must have the same VLAN ID.
	Network Processor Utilization	Displays the utilization of the network processor in percentage for IXP1-Session, IXP2-TCP, IXP3-Layer7, IXP4-Load-Balancing, and IXP5-NAT.

Table 1-4   Home Page Description

Reference	Field	Description
2	**Connection Dashboard**	
	Graphs	Select this button to view the Connection Dash Board details as graphs. The graphs are indicated in units of Kilo connections.
	Actual Values	Select this button to view all fields as actual connections values.
	Cumulative Connections	
	Created Connections	Number of connections at the specified moment. The units are Kilo Connections.
	Destroyed Connections	Number of connections destroyed. The units are Kilo Connections.
	Failed Connection	Number of connections that failed. The units are Kilo Connections.
	Timed Out Connections	Number of connections that were timed out. The units are Kilo Connections.
	L4 and L7 Connections	
	L4 Decision	Number of layer 4 load balancing decisions taken. The units are Kilo Connections.
	L7 Decision	Number of layer 4 load balancing decisions taken. The units are Kilo Connections.

Table 1-4   Home Page Description

Reference	Field	Description
	L4 Rejections	Number of Layer 4 load-balancing rejections taken. The units are Kilo Connections.
	L7Rejections	Number of Layer 7 load-balancing rejections taken. The units are Kilo Connections.
3	**Service Dashboard**	
	Virtual Servers	
	Inservice	Number of virtual servers that are operational.
	Out of Service	Number of Virtual Servers that are not operational.
	Policy Associated	Number of Virtual Servers that have associated policies.
	Default Policy	Number of Virtual Servers that have only the default policy.
	Policies	
	Configured Policies	Number of policies that are configured in the CSM module.
	Policies without conditions	Number of policies that are without conditions.
	Policy without action	Number of policies that are without actions.
	Server Farms	
	Total	Number of server farms configured in the CSM Module.
	Available	Number of server farms with atleast one operational real server.
	Real Servers	Displays the admin status of the real servers.

Table 1-4   Home Page Description

Reference	Field	Description
	Named Reals	Number of Named Real Server configured on the CSM.
	Unnamed Reals	Number of Unnamed Real Server configured on the CSM.
4	**Server Dashboard**	
	My Virtual Server	Selected virtual servers that are used in emergencies as critical servers. For more details see "My Virtual Servers" section on page 1-17.
	Name	Name of the Virtual Server.
	IP Address	IP address of the Virtual Server.
	Operational Status	Virtual Servers that are out of service.

My Virtual Servers

My Virtual Servers page is a part of the Homepage under the **Server Dashboard**.

Step 1   Click **My Virtual Servers** link. The page appears and the following fields are displayed.

Field	Description
Virtual Server Name	A list of Virtual Server names.
Select	Select the check box against the respective virtual server to count them as My Virtual Servers.

Setup Page

The setup page allows you to access the features in CVDM-CSM. You can launch wizards from this page or you can start using the VLANs, Virtual Servers, Server Farms, Real Servers, and Policies features from this page.

On selecting the Setup, the following GUI elements are displayed in an outlook bar on the left side of the content window:

GUI Element	Description
Wizard	Click to launch wizards that will help you to configure and manage Client and VLAN server setup, Virtual Server, and associate default policies.
VLAN Setup	Allows you to set client-side and server-side VLAN setup.
Virtual Server Setup	Allows you to advertise active (required for route health injection), Restricts clients access to virtual servers, Performance/load configuration, Enabling/disabling of connection persistence, Sticky configuration, Default/backup server farm policy setup, and URL-hash prefix.
Server Farm Configuration	Allows you to set prediction algorithm, In-band health monitoring, NAT, Associate probes, Fail action—action taken on real server failure (purge/reassign), Configure a set of real servers, Taking real servers in/out of service.
Real Server Configuration	Allows you to create and manage Server farm name and real IP address, Load parameters (maximum/minimum connections and threshold load), Health monitoring parameters (probe), Port translation, and Weight.
Policy Configuration	Allows you to configure and associate Cookie map, Header map, URL map, Client group (access control lists), Sticky group, and Associate server farm and backup server farm.
Fault Tolerance	Allows you to set Group identification, Fault tolerant VLAN, Failover time, Heartbeat time, Preempt, and Priority.
XML Configuration	Allows you to set Client group, Credentials, VLAN, Port, and XML service status.

Delivering CLI Commands to the Switch/Module

You must deliver accumulated CLI commands to the device before any changes you make in CVDM-CSM will be applied.

Step 1 Click the **Deliver** button at the top of the page. The Deliver Configuration to Switch/Module(s) dialog box appears if you have configured CVDM to display the accumulated CLI commands when you click the Deliver button.

> **Note** The Deliver Configuration to Switch/Module(s) dialog box also appears when you click the **Finish** button in a wizard if you have configured CVDM to display the accumulated CLI commands after you have completed a wizard.

Step 2 Modify the appropriate values:

GUI Element	Action/Description
Page	Displays the accumulated CLI commands to be delivered to the device.
Save to Startup checkbox	Click the checkbox to save the running configuration, generated by CVDM, as the device startup configuration.
Deliver button	Click to send the accumulated CLI commands to the device.
Save to File... button	Click to save the CLI commands as a text file.
Close button[1]	Close the dialog box without delivering any CLI commands.
Deliver Later button[2]	Click to deliver the wizard CLI commands to the device at a later time.

1. This button is available only in the Deliver Configuration to Switch/Module(s) dialog box that is displayed after you click **Deliver** at the top of the window.
2. This button is available only in the Deliver Configuration to Switch/Module(s) dialog box that is displayed after you click **Finish** in a wizard.

Note   The Deliver Configuration to Switch/Module(s) dialog box displays *all* accumulated CLI commands that will be delivered to the device; therefore, any previous CLI commands that were not sent to the device are shown in this dialog box, as well as the CLI commands you have generated in this session.