Release Notes for Cisco 6400 Service Connection Manager, Release 2.1(1)

The Cisco 6400 Service Connection Manager (SCM) is a Cisco Element Manager Framework (CEMF) based element and service management solution for the Cisco 6400 Universal Access Concentrator. This release note contains compatibility and known problem information which may be relevant for installers and end users of the Cisco 6400 SCM solution. Also noted are a number of Cisco 6400 UAC hardware issues that may have an impact on the normally routine operation of the Cisco 6400 SCM software.

SCM Release 2.1(1) provides a new monitoring tool feature along with scalability enhancements and bug fixes. Like SCM Release 2.0.1, this release of SCM also runs on CEMF Release 3.0.4.

Audience

SCM Release 2.1(1) applies to both new and existing installations of SCM. Customers who are installing SCM for the first time must install SCM Release 2.1(1).

New Software Features in SCM Release 2.1(1)

In addition to the features supported in SCM Release 2.0 and SCM Release 2.0.1, SCM Release 2.1(1) supports the following features:

- A Permanent Virtual Connection (PVC) Management and Capacity Monitoring tool allows better management of PVC bandwidth resources on the Cisco 6400 UAC by providing the information required to monitor the VPC/VCC allocation and maximize memory allocation for the Cisco 6400. Currently, this feature is only documented in this release note. This feature will be documented in the next reprint of the *Cisco 6400 Service Connection Manager User Guide*.

- Runs on the Cisco EMF Release 3.0.4 platform with CEMF Release 3.0.4 patch 9

- Runs on the Cisco IOS Release 12.1(4)DB

CISCO SYSTEMS

Software Features in SCM Release 2.1(1)

SCM Release 2.1(1) runs on Cisco EMF Release 3.0.4, which implements several changes that are visible in the Cisco SCM software:

• A Quick Start deployment option to deploy a Cisco 6400 quickly with SCM—To launch this facility, use the menu option **Deployment > Deploy 6400 Quick Start**. This option deploys a fully discovered Cisco 6400 chassis at your site. Refer to the *Cisco 6400 Service Connection Manager User Guide* for more information on this feature.

• New icons on the Cisco EMF launchpad—The Cisco EMF Release 2.x Map Viewer and Object Manager applications are combined into a single Viewer application.

• Supports Telecom Graphic Objects (TGO) in the Viewer application—TGO, a TeleManagement Forum sponsored standard for element management service (EMS) and network management service (NMS) applications, displays additional icons on top of the existing object icons displayed in Map Viewer. These icons provide information such as the state of the object or event status. For details, refer to the section "Cisco 6400 SCM Services" in Chapter 2 of the *Cisco 6400 Service Connection Manager User Guide.*

• Supports carrier-class security for Cisco SCM users—Refer to Chapter 11, "Security," in the *Cisco 6400 Service Connection Manager User Guide.*

• Introduces connection templates (that is, Cisco IOS VC Classes)—Connection templates allow you to configure ingress and egress QoS parameters you can apply multiple times when you connect a subscriber to a service instance and replace subscriber QoS objects.

• Adds NRP capacity statistics—Refer to the section "Cisco 6400 NRP Capacity Statistics" in Chapter 5 of the *Cisco 6400 Service Connection Manager User Guide*.

• Supports OC-3, OC-12, and DS-3 Node Line Cards (NLC)—Previously, Release 1.x of the Cisco SCM software supported OC-3 and DS-3 NLCs only.

• Integrates a number of common components (which provide common EMS windows for a number of distinct Cisco EMF EMSs)—SCM, Cisco DSL Manager, and the GSR 12000 EMS.

• Simplified and improved Service and Subscriber provisioning windows—Subscriber QoS in SCM Release 1.x is replaced by Connection Templates (which support the use of the correct IOS VC class). Additionally, reflecting the traditional (single domain) and multidomain Service Selection Gateway (SSG) options of the Cisco 6400 service options, the Cisco 6400 SCM subscriber connection process in SCM Version 2.0 provides two methods of subscriber connection to accurately reflect the operation of Cisco 6400 IOS features.

• Support for the Cisco EMF CORBA (Common Object Request Broker Architecture) Gateway—Systems integrators intending to integrate the SCM into OSS applications through CORBA can do so by using the CEMF CORBA Gateway Developer Toolkit (http://www.cisco.com/warp/customer/cc/pd/nemnsw/emf/prodlit/crba_ds.htm).

Cisco 6400 Services Supported in Cisco 6400 SCM, Release 2.1(1)

The following Cisco 6400 aggregation services are supported in this release:

- ATM switching
- PPPoA Single Domain
- PPPoA over L2TP
- RFC 1483 Bridging
- RCF 1483 IRB
- RFC 1483 Routing (snap)
- IP Uplink, with Cisco 6400 Service Selection Gateway, subscriber connection options are as follows:
  - PPP Terminated Aggregation to Multiple Domains, PTA-MD (PPPoA and PPPoE)
  - Routed Bridge Encapsulation (RBE)

System Requirements

Cisco CEMF Version 3.0 can manage large-scale deployments. Customers planning to upgrade to this release should use the recommended deployment hardware specification for the CEMF Version 3.0 server:

- Sun Ultra 60 workstation, 2 CPUs
- 4 GB Disk, + one additional disk for database performance
- 512 MB RAM (1 GB recommended)
- 2 GB swap space
- 17-inch color monitor
- Solaris Version 2.6

Note Use the Solaris commands `swap -s` and `prtconf` to determine the available amount of swap space and RAM, respectively, on your machine.

Software Compatibility

This software release was tested on Release 2.6 of the Solaris operating environment, for Sun SPARC workstations, and for Year 2000 Compliance. This software release runs on the Cisco EMF Release 3.0.4 platform with CEMF Release 3.0.4 patch 9.

Additionally, Cisco 6400 SCM Release 2.1(1) is compatible with the following versions of Cisco IOS:

- NSP: Release 12.1(4)DB
- NRP: Release 12.1(1)DC1

Determining the Software Version

To determine installed Cisco EMF packages and version numbers, use the CEMF command:

```
<CEMFROOT>/bin/cemf install -show
```

Note `<CEMFROOT>` is the installation directory for CEMF and the Cisco 6400 SCM software. The default location is the `/opt/cemf` directory.

Alternatively, to determine installed Cisco EMF packages, use the Solaris command sequence:

```
pkginfo | grep -v SUNW
```

To determine the versions of installed Cisco EMF packages, use the Solaris command:

```
pkginfo -l <package name>
```

Upgrading to SCM Release 2.1(1)

To upgrade from an SCM 2.0(1) version to SCM Release 2.1(1), you must:

Step 1 Perform a database backup. Use the migration tool to back up and extract the existing database. Refer to the guide *Upgrading Databases to Cisco 6400 Service Connection Manager* for details on how to use this migration tool.

Step 2 Verify the patch level and install CEMF Release 3.0.4 patch 9, if it is not installed already.

To determine installed Cisco EMF packages and version numbers, use the CEMF command:

```
<CEMFROOT>/bin/cemf install -show
```

Step 3 Enter the command:

```
cemf load -upgrade CEMFSCMm
```

(or the client package (CEMFSCMc), as appropriate)

Step 4 Enter the command:

```
cemf load <new package directory> /packages CEMFSCMm
```

(or the client package (CEMFSCMc), as appropriate)

Note If the upgrade is not successful, perform a database restore from your backup.

Upgrading to SCM Release 2.0(1) from SCM Release 1.2 or SCM Release 1.3

SCM Release 2.0(1) includes a migration tool for managing an existing SCM database in an SCM 1.2 or SCM 1.3 installation so that it is accessible after upgrading to SCM 2.0(1). To upgrade from an SCM 1.x version to SCM Release 2.0(1), you must:

- Use a migration tool to back up and extract the existing database
- Uninstall CEMF Release 2.1.4
- Uninstall SCM Release 1.x
- Install CEMF Release 3.0.4
- Install SCM Release 2.0(1)
- Install CEMF Release 3.0.4 patch 5
- Use the migration tool to import data from the existing SCM Release 1.x database

For details on how to use this migration tool, refer to the guide *Upgrading Databases to Cisco 6400 Service Connection Manager.*

If you are upgrading from SCM Release 2.0, you must uninstall SCM Release 2.0, install CEMF patch 5 (or later), and then install SCM Release 2.0(1).

Installation Notes

Read these important installation notes before you begin

- Before you perform SCM installation, you must install the Cisco 6400 SCM software onto a running CEMF server. Make certain that the appropriate release of CEMF is installed. Also, check Cisco Connection Online for the latest patches that must be installed.

  CEMF Release 3.0.4 with patch 9 is required for SCM Release 2.1(1).

  ✎
  Note   CEMF Version 3 supports online element manager installation, so the Cisco 6400 SCM must be installed onto a running CEMF server.

- Leftover element manager packages that were not properly removed can cause problems, such as the commission and decommission buttons not operating correctly or the autodiscovery feature not functioning properly.

  You must determine if there are any packages named AVm or AVc in the Solaris packages directory. To do this, examine this directory by entering:

  ```
  ls -lrt /var/sadm/pkg |grep AV
  ```

  Then remove any AVm package or AVc package by entering the following commands:

  ```
  cd /var/sadm/pkg/AVm [AVc]
  rm preremove
  cd /var/sadm/pkg
  pkgrm AVm [AVc]
  cd/var/adm
  rm -rf Atlantech
  ```

The following conditions pertain to installation and startup times, especially if you are using hardware specifications less than the minimum recommended in this document.

- When installed for the first time, CEMF can take up to 30 minutes to start up. This is due to the initial database setup, which only occurs one time at the first startup. Subsequent restarts are significantly faster.

- After it is installed, CEMF starts up each time the Sun Server is booted. CEMF startup time can take up to 30 minutes in some cases, which may increase the overall boot time of the Sun Server. If you do not want CEMF to autostart during the Solaris boot process, disable it by renaming the CEMF startup file using the UNIX command:

    ```
    mv /etc/rc2.d/S99cemf /etc/rc2.d/Unused-S99cemf
    ```

- SCM installation time can take up to one hour (or more, if you do not use the recommended minimum hardware).

- If you are currently running SCM Release 1.x, you must first install SCM Release 2.0(1) and then upgrade to SCM Release 2.1(1).

Version Support

For this SCM release, the CEMF Version 3.0.4 and the CEMF 3.0.4 patch 9 components must be installed.

Uninstalling SCM

To uninstall the Cisco 6400 SCM, use the option **cemfinstall -r** as described in the *Cisco 6400 Service Connection Manager Installation Guide*.

Note If you remove an element manager, this renders any database objects related to that element manager unusable. Use the upgrade procedure in the *Upgrading Databases to Cisco 6400 Connection Manager Release 2.0.1*.

Important Notes: Adding Additional Swap Space

CEMF Version 3.0.x requires 2 gigabits of swap space. In general, if your machine requires additional swap space, you should repartition one of the disks to allocate a new swap partition. Use the Solaris command format (1M) and in particular the partition option of this command to partition appropriate swap space.

Note If you must repartition an existing disk to increase swap space, consult a Solaris system administrator. Repartitioning a disk means that you lose all data on that disk.

A simple, but less efficient (in performance terms) method of increasing swap space is to create a file as follows and add the file to your available swap. The following example shows how to add 1 gigabit swap to your Sun workstation (assuming sufficient available free disk space).

```
mkfile 1000m /opt/MY_EXTRA_SWAP_FILE
swap -a /opt/MY_EXTRA_SWAP_FILE
```

To ensure that this file is added to your swap after a system reboot, remember to add it to your machine's `/etc./vfstab` file. If in doubt, consult a Solaris system administrator.

Note This is not a particularly efficient swap file system and results in slower application performance.

Closed Caveats

Caveats Closed Since Last Release

This section list caveats that have been fixed since the last Cisco 6400 SCM software release.

- CSCat19954: Some action reports include extra debugging information that is not relevant to the user.
- CSCdr19538: In the Cisco 6400 chassis view, object names overlap and may be difficult to read.
- CSCdr19637: When you deploy objects, the object selector appears with sites grayed out. To select the correct object for deployment, remember to navigate through the View hierarchy (past the grayed-out sites) to find objects for deployment.
- CSCdr19664: Context menus are incomplete after you configure a service or subscriber.
- CSCds20126: Do not use the standard uninstall mechanism when certain Cisco EMF element managers are installed together. Specifically, if the Cisco 6400 SCM is installed on the same Cisco EMF server as one of the following element managers, you must not use the command `cemfinstall -r`. If you use this command, the cemfinstall -r routine does not remove Common Components.
- CSCds20187: If there are no profiles available and you select the Apply Profile menu option from a service configuration window (for example, L2TP Service Configuration), a core dump occurs (indicated by the window disappearing). If you select the Apply Profile menu option, no submenu appears. If you select the Apply Profile menu again, this causes a core dump. This condition also applies to the Delete Profile option.

- CSCdr34490: Occasionally, ATM port configuration changes may not be saved; MIB attribute sets on the Cisco 6400 component fail.

- CSCdr34498: It is possible to use the CEMF Delete menu option to delete subscribers and services. This deletes the CEMF object but does not remove the relevant Cisco IOS configuration from the Cisco 6400.

- CSCdr34523: The Over Subscription Management button in the L2TP RFC1483 Bridging and RFC 1483 Routed Service is redundant and should not be present. This button has no function; do not use it.

- CSCdr34627: If a line card (for example, NRP or NLC) is physically removed from the chassis, SCM correctly raises an alarm that you can view in the CEMF Event Browser. The SCM Map View does not indicate this error condition.

Cisco EMF Version 3.0.4 Open Caveats

For a full list of known problems in Cisco EMF Version 3.0.4, consult the appropriate CEMF release note.

Table 1 lists CEMF issues that affect the operation of Cisco 6400 SCM Release 2.1(1).

Table 1   Cisco EMF Version 3.0.4 Caveats

Caveats	Description
CSCdr19601	It is currently possible to deploy subscribers on objects other than ATM ports. This is not a valid deployment option and you must avoid using it. **Workaround:** None.
CSCdr19677	In the generic deployment wizard, under the select relationship dialog, if you select the PHYSICAL object more than two times, an error message appears indicating that no object was selected. **Workaround:** None.
CSCdr19684	Access security by management region (data partitioning) does not function correctly if the domain is set up at a CEMF site level. **Workaround:** None.
CSCat15804	If you attempt to perform a Cisco IOS image download to a device in the errored state, this results in an Unable to Login error message if the device is not operational. **Workaround:** None. Do not perform a Cisco IOS image download to an errored device.
CSCat20118	Excessive logging messages are output to the c6400Controller.log file, which can make it difficult to find error messages in the log file. **Workaround:** None.
CSCat20077	If an NLC is predeployed into a slot that is occupied by another type of NLC, the object may go into the normal state when commissioned instead of a mismatched state. **Workaround:** Delete the incorrectly deployed NLC and deploy the correct NLC.

SCM Release 2.1(1) Open Caveats

Table 2 lists known problems in Release 2.1(1) of the Cisco 6400 SCM. Unless otherwise noted, there is no workaround.

Table 2   Cisco SCM Release 2.1(1) Caveats

Caveats	Description
CSCds69176	After you upgrade from SCM Release 2.0.1 to SCM Release 2.1(1) and launch the PVC Usage function from a chassis object, the PVC Usage window shows a list of all deployed chassis in the chassis list box. A larger list of chassis appears rather than the list that normally appears when the PVC Usage window is launched from that point.
	Temporary Workaround:
	Launch the PVC Usage option from a Shelf or a Site instead of a chassis.
	Workaround:
	To resolve the problem:
	1. Identify the objectServer process ID (PID). Type:
	`ps -ef	grep objectServer`
	2. Abort this process (you must be root). Type:
	`kill -9 <PID of objectServer>`
	The sysmgr process will notice that objectServer has been disabled, and restart it.
	All PVC Usage chassis list boxes now populate correctly.
CSCdr21084	The system permits you to edit the NLC ATM Port window Configuration tab and More Configuration tab fields when they should not be editable. If you attempt to edit those fields, an error is generated in the Action Report.
	Workaround: None.
CSCdr34017	You cannot use the Chassis Configuration window to enable and disable power supplies. An error dialog box or Action Report appear.
	Workaround: Use the CLI.
CSCds24801	The More button on both the SysLog Messages and Command Log windows appear to serve no function.
	Workaround: Ignore the button.
CSCds25753	The tooltip text for the Connection Details list box on the Subscriber Configuration window always reads L2TP Service Connections, even though this field may contain any type of service connection.
	Workaround: Ignore the tooltip text.
CSCds25790	TAB indexing in the Deployment Wizard does not include the Forward, Cancel, and Finish buttons on the bottom of each window.
	Workaround: Use the mouse to click these buttons instead of using the Tab key.

Table 2   Cisco SCM Release 2.1(1) Caveats (continued)

Caveats	Description
CSCds26818	When you decommission an interface using the Interface Configuration window, all of the values in the Configurable Parameters window go blank. **Workaround:** Select another interface, then reselect the interface that was just commissioned. The values reappear.
CSCds26825	When you decommission or commission a Port object (using the Interface Configuration window), the Action Report displays a variable name and not the appropriate message. **Workaround:** None.
CSCds28088	The Performance menu option is not available from any NLC objects, so the user cannot navigate to the Module Performance window from an NLC object. You must add the Performance option to the **Module > Manage** menu for NLC objects. **Workaround:** You can launch the Module Performance window from an NRP or NSP object and then select the NLC from the list box of modules.
CSCds33160	Not all windows contain the Commission Status field at the bottom of the window. **Workaround:** If the interface icon in the Viewer has cross-hatching, the icon is decommissioned. If there is an error with the object, you use the icon bomb or Event Browser to determine this state.
CSCds38146	When the user starts Commissioning or Decommissioning a service, the wait cursor does not appear and there is no indication in the status bar. **Workaround:** Click the Commission or Decommission button only one time and wait until an Action Report appears.
CSCds39272	When the user tries to save an invalid value in one of the Temperature Threshold Configuration frame fields (on the Cisco 6400 Chassis Management window), an error message appears. **Workaround:** None.
CSCds39899	When data is being loaded, the cursor has an arrow shape instead of a clock shape, which can be confusing. **Workaround:** None.
CSCds40231	The **Cisco 6400 UAC > Configure** drop-down menu that is accessed from the Connection Templateobject is inconsistent with the rest of the drop-down menus. The drop-down menu option should not be Configure. The Connection Template should appear first. **Workaround:** None.
CSCds40795	If you configure the NRP to use a fast Ethernet port instead of an Ethernet port and then issue the `show nrp-ip-address slot x` command, the NSP displays a blank response from the NRP. **Workaround:** None.
CSCds42811	Each time you update the Capacity Monitoring tool window using the Update button, an extra zero (0) is added to the VPI column in the VPI Statistics table of the Interface tab. **Workaround:** None.

Table 2   Cisco SCM Release 2.1(1) Caveats (continued)

Caveats	Description
CSCds64137	In the Access Manager window, the description of available feature lists does not contain the horizontal scrollbar. The description may be longer than the limits of the field box. **Workaround:** None.
CSCat16169	If a subscriber is connected to a service without a local profile configured, the `ssg vc-service` statement is bound to the zero (0) service. **Workaround:** Never set up a configuration to have `pppoa_statically` connected to an IP-Uplink service without a local service profile configured.
CSCat16713	On the Connect to Single Domain tab of the Connect window, if an IP-Uplink service instance (with no LSP configured) is selected, the Connect button should be grayed out, but it is not. **Workaround:** None.
CSCat18434	Negative values may display for In Octets, Out Octets, Out Unicast Packets, as well as in the NLC ATM performance window. **Workaround:** None.
CSCat19449	The critical alarm that occurs when you enter an improper IP address, does not clear after the chassis returns to a normal state. **Workaround:** None.
CSCat19975	In the Line Card ATM Port Management window, the following attribute values in the Fault tab window (SONET Frame Errors area) are reversed. The value for the Path FEBE Errors field reflects the value of the Line FEBE Errors field. **Workaround:** None.
CSCdr34536	The Restore option (of a previously running configuration) for the NSP object functions correctly, but falsely prints an error message stating that a problem has occurred. The error message is incorrect; the restore worked properly. For the NRP, this option functions correctly. No erroneous error message appears. **Workaround:** None.
CSCat19415 CSCat19519	You can delete a decommissioned NRP or chassis even though there is a commissioned service associated with it. **Workaround:** Examine the services associated with an NRP object or a chassis object and its cards before you delete it.
CSCds27777	If you select **Yes** for the CPE supports ARP option in the RFC 1483 Routing Service Configuration window, the PVC IP Address fields are grayed out. **Workaround:** When you select the CPE supports ARP option, do not use the PVC IP Address fields.
CSCds57219	The menu option for Cisco 6400 Profile configuration may be confusing. **Workaround:** Use the Service Uplink service profile menu option to configure RFC 1483 routing services.

Table 2   Cisco SCM Release 2.1(1) Caveats (continued)

Caveats	Description
CSCds32155	On only one occasion, leftover element manager packages that were not properly removed caused problems, such as the commission and decommission buttons not operating correctly or the autodiscovery feature not functioning properly.
	Workaround: Determine if there are any packages named AVm or AVc in the Solaris packages directory. To examine this directory, type:
	``` ls -lrt /var/sadm/pkg |grep AV ```
	Then remove any AVm package or AVc package by entering the following commands:
	``` cd /var/sadm/pkg/AVm [AVc] ```
	``` rm preremove ```
	``` cd /var/sadm/pkg ```
	``` pkgrm AVm [AVc] ```
	``` cd/var/adm ```
	``` rm -rf Atlantech ```
CSCds45025	The Configuration Restore functionality does not work.
	Workaround: If it is necessary to restore the backed-up configuration file, the user can do this using CLI commands as follows:
	1. Copy the saved config file to the startup-config file on the selected device.
	2. Restart the device.
CSCds27745	Users are required to enter CLI Password information in too many places.
	Workaround: Enter information in all appropriate fields.
CSCds27843	The Deploy and Commission process is confusing. It is easy to make mistakes.
	Workaround: Study the documentation in detail.
CSCds33065	Cisco IOS CLI Security usernames and passwords are not always visible or inherited.
	Workaround: When you select line card or other module objects, do not make entries in these fields. These entries are not used and may cause unexpected results if the entries are incorrect.
CSCds40054 CSCds40160 CSCds40172 CSCds40182	The Deployment process does not check the presence of invalid Chassis IP addresses.
	Workaround: The user must be careful not to enter an invalid Chassis IP address.
CSCds43018	You can deploy NSP and NRP objects anywhere without any errors.
	Workaround: Be careful when you deploy NSPs and NRPs. Make certain that they are being deployed under the correct object.
CSCds45085	You are allowed to delete Network tree network containment icons.
	Workaround: None.

Table 2   Cisco SCM Release 2.1(1) Caveats (continued)

Caveats	Description
CSCds46048	An Object in reset state cannot be deleted from the window.
	Workaround: Rename the current NRP object and change its IP address to a different, unused IP address such as 0.0.0.0. Then you can deploy a new NRP object to replace the old one. If an NSP fails in this manner, you must change the IP address or names of all other objects under the NSP, so that when you deploy the new objects, you do not create duplicate IP or name failures.
CSCds52514	The SSG Config button does not save configuration changes.
	Workaround: Press Save before you click the Configure button.
CSCds53247	Using the mouse, you can paste illegal values into dialog box fields even though a keyboard entry cannot.
	Workaround: Always use the keyboard for entering data in dialog box fields.
CSCdr20489	The Maximum Table Entries field in Command Log window does not get saved.
	Workaround: None. You cannot increase or decrease the number of table entries displayed.
CSCds18236	The Tech Spec Tools menu does not appear. This is inconsistent with documentation and the CDM element manager.
	Workaround: Initiate a Telnet session by using the menu option **Cisco 6400 UAC** > **Tools** > **Initiate Telnet Session** NSP and NRP icons.
CSCds23071	Object status, listed in the status bar at the bottom of several dialog boxes, does not display a new change in status.
	Workaround: Close the dialog box and reopen it.
CSCds24842	When you deploy objects with duplicate IPs, the SCM does not report any failure.
	Workaround: None.
CSCds25129	Deployment failure causes the Action Report to appear with a nondescriptive Deployment Failed error message.
	Workaround: Check to see if an object already exists in that slot and try deployment again in another slot.
CSCds26168	After the successful backup of an object's configuration, the Time Stamp of the last Backup field does not update.
	Workaround: None.
CSCds27071	All Help windows are out of date (graphics and text).
	Workaround: None.
CSCds29313	The Web Console does not launch from SCM.
	Workaround: Manually launch the web browser and enter the IP address for the device to be managed in the Browser Location field.
CSCds32056	You cannot change SNMP CommStrgs for NSP/NRP from their icons.
	Workaround: From the Site or Shelf icon in the Viewer, use the right mouse button to open the SNMP Management window. Use the selection panel in the window to select the NRP or NSP to be modified.

Table 2   Cisco SCM Release 2.1(1) Caveats (continued)

Caveats	Description
CSCds34989	If the menu for applying and deleting service profiles gets too large for the window, SCM automatically divides the window into multiple, cascading menus. This feature works correctly, but the list item that you click to get to the next menu of profiles is incorrect.
	It displays &menuMore and not the correct text, which is More or More profiles.
	Workaround: Use the menu option to properly expand the menu selections.
CSCds35202	The final remaining Service Profile does not delete properly.
	Workaround: After you delete the only profile in a profile list, close and relaunch the Service Configuration window.
CSCds37258	The Navigation menu appears in some windows erroneously.
	Workaround: The Navigation menu is not functional at this time, and should not be used when displayed.
CSCds40015	The System Name in NSP and NRP Management windows does not always match the IOS hostname.
	Workaround: Realize that the SNMP sysName object (System Name in the SCM dialog boxes) is the concatenation of the Cisco IOS CLI hostname and ip domain-name. The first dot (period) in sysName is the divider between `hostname` and `ip domain-name`. The parameter `ip domain-name` does not clear its previous settings unless a new `ip domain-name` is used either in Cisco IOS CLI or by providing a dot-delimited name with domain in the System Name field in the SCM windows.
CSCds40178	The Connection template can be deleted with active connections using it.
	Workaround: Remove all of the active connections using the template before you remove a template.
CSCds41167	The **Connection Template** > **View Connection** menu does not work.
	Workaround: Access the Service/Subscriber Connection window for each ATM service connection and check which connection template is used with each connection.
CSCds42139	Commission/decommission NSP does not have any effect on objects under it in the device tree.
	Workaround: Decommission the Chassis or Shelf icon to decommission all objects in the device tree.
CSCds23071	All Service windows always appear as Decommissioned even when they are in a normal state or commissioned.
	Workaround: To determine if the chassis is truly Commissioned or Decommissioned, view the icon status in the Viewer.
CSCds44535	You cannot turning off polling.
	Workaround: Turn off Performance Logging, then perform a `cemf stop` and `cemf start` on the manager workstation.
CSCds44538	SCM does not map SNMPv1 traps, and CEMF cannot forward SNMPv2c traps.
	Workaround: None.

Table 2   Cisco SCM Release 2.1(1) Caveats (continued)

Caveats	Description
CSCds45972	The CapMon VCC space utilization alarm does not clear automatically when the alarm is cleared. **Workaround:** Enter the Event Browser and clear the alarm manually.
CSCds52901	You cannot remove SCM using the `cemfinstall -r` command. **Workaround:** The cemfinstall routine does not remove components which may be used by other Element Managers. When you upgrade from one version of SCM to another, install the new version on top of the existing version of SCM. When an element manager needs to be removed entirely, use the CEMF command string `/opt/cemf/bin/cemf install -r`. The command `cemf load -remove` can also be used to remove named packages on an individual basis.
CSCds53253	No error checking occurs before you run the SSG Configuration script. **Workaround:** None.
CSCds55016	A Major Alarm does not clear after an IP address is given to NRP. **Workaround:** Enter the Event Browser and clear the alarm manually.
CSCds55491	No alarms are raised in the Event Browser when the temperature is out of range. **Workaround:** View the temperature alarm in the Cisco 6400 Chassis Management window.

SCM Release 2.0(1) Open Caveats

Table 3 lists the known problems in Release 2.0(1) of the Cisco 6400 SCM. Unless otherwise noted, there is no workaround.

Table 3   Open Caveats for SCM 2.0(1)

Caveats	Description
CSCds20141	Occasionally, object lists in the IOS Download window are populated differently, depending on the Cisco EMF View from which the window is launched. In particular, if you download to a chassis this is equivalent to downloading to the Cisco 6400 NSP. Also, it is possible that duplicates will appear in this list (that is, the chassis and NSP object both appear). **Workaround:** Manually check the objects to which you choose to download (especially if you use multiselect).
CSCds20203	If you preprovision a half-height card into a slot in which the other subslot is populated with a live card, this can cause Cisco 6400 SCM to indicate that the preprovisioned card is actually present. The Cisco 6400 SCM incorrectly allows you to Commission this card. **Workaround:** None.
CSCds20210	If an NLC is removed from the Cisco 6400 chassis, the Cisco 6400 SCM correctly indicates that this card was removed. However, it is possible that ports on the card are incorrectly marked as being in the normal state. **Workaround:** None.

Table 3 Open Caveats for SCM 2.0(1) (continued)

Caveats	Description
CSCat18377	There may be a mismatch between the number of PVCs on a port as reported by SCM and the Cisco IOS **show atm pvc** command. The figure reported by SCM is accurate, but includes dynamically created PVCs used for signaling, which are not reported by the **show atm pvc** command. **Workaround:** None.
CSCat19660	If the NRP and NLC objects are deleted from a chassis in SCM, and then subchassis discovery is initiated, the cards are rediscovered correctly. However, these objects may not show all of the alarm conditions present in the alarm table on the Cisco 6400. **Workaround:** None.
CSCat19636	It is possible to commission an NRP object that has the same IP address as an existing commissioned NRP object. **Workaround:** Decommission the duplicate card and delete it.
CSCat19966	If an NRP card is removed from a Cisco 6400 chassis and inserted into another Cisco 6400 chassis, the SCM should notice this change. However, if the CEMF server fails to receive the chassis change trap from the Cisco 6400, the SCM may always notice. This can occur due to network problems, or if the Cisco 6400 is not correctly configured to send traps to the CEMF server. **Workaround:** Manually delete the NRP object from the original chassis, and redeploy it into the new chassis in SCM.
CSCat19951	In the NRP Capacity Statistics window, it is unclear that the Over-Subscription Factor attribute is a percentage value (for example, a value of 15 means that the NRP is 15% oversubscribed, not 15 times oversubscribed). **Workaround:** The attribute tooltip provides a clear explanation.
CSCat19519	A decommissioned chassis can be deleted, even though there may be active services and connections on that chassis. **Workaround:** None.
CSCat19415	An NRP object can be deleted, even though there may be active services and connections using that NRP. **Workaround:** None.
CSCat19914	A subscriber can be connected to the same service more than one time, even though it is usually inappropriate to do so. **Workaround:** Disconnect duplicate subscriber connections using the Subscriber Disconnection window.
CSCat19644	Service commission and subscriber connection actions can be launched, irrespective of the state of the port or card. **Workaround:** None. If the operation cannot be completed because a port or card is unavailable, the action will fail and revert back to a consistent state.
CSCat20061	In some rare circumstances, the Subscriber Connection window may "hang," displaying the busy watch cursor. **Workaround:** Close the window and reopen it.

Table 3   Open Caveats for SCM 2.0(1) (continued)

Caveats	Description
CSCat19789	The SSG Configuration window can be edited after the Configure action has taken place. When you perform the Deconfigure action, the system tries to remove the edited configuration, which may not match the original configuration on the device. **Workaround:** Avoid making changes to the SSG Configuration window after the Configure action has taken place.
CSCat19904	It is possible to delete a commissioned service, or a connected subscriber and connection objects, without removing the corresponding configuration from the Cisco 6400 device. **Workaround:** Avoid deleting SCM objects unless you are certain that it is safe to do so. If these objects are deleted, you should manually remove the corresponding configuration from the device using appropriate Cisco IOS commands.
CSCat20193	If you click a tooltip with an Object List, this may cause the GUI manager process to stop responding. This results in the window (and possibly other open windows) closing. Any unsaved changes on these windows are lost. **Workaround:** Reopen the window from the Map Viewer application.
CSCat19697	The Connect buttons on the Service/Subscriber Connection window can become disabled or enabled incorrectly. **Workaround:** Try selecting a different tab in the window and then returning to the original tab to enable the Connect button. If this does not work, close and reopen the window.
CSCat18935	If two windows are opened in quick succession, their contents can become mixed up, with the contents of both windows displayed in one window. **Workaround:** Close the windows and then reopen them.
CSCat19704	The Cisco 6400 UAC menu options are not available if you right-click an RBE connection object. **Workaround:** Launch the required window from a parent object or the chassis.
CSCat20005	IP address fields may accept invalid IP address values (for example, 0.0.0.0). **Workaround:** Enter a valid IP address.
CSCat19609	It is not possible to deploy a service object by launching the Deployment Wizard using the **Cisco 6400 UAC > Service > Deploy** menu from another Service object. The wizard requires that you select a containment relationship in the C6400SSManager view, which is hidden. **Workaround:** Use the **Cisco 6400 UAC > Service > Deploy** menu option from the chassis to deploy a service object.
CSCat19318	When an ATM service is commissioned, the Uplink VPI and VCI values for an ATM service are not verified. An invalid value can be entered, which subsequently causes connection to the service to fail. **Workaround:** If connection to an ATM service fails, check that the Uplink VPI and VCI values are valid on the ATM Service Configuration window.
CSCat19634	Nonnumeric characters are accepted as valid input in some fields that require numerical values. **Workaround:** Avoid using invalid characters in these fields.

Table 3   Open Caveats for SCM 2.0(1) (continued)

Caveats	Description
CSCat19554	If the Disconnect action is performed on the Service/Subscriber Disconnection window, the following incorrect error message appears: Default Action – Failed: Check Controller log file for more details. Possible error in state machine file. **Workaround:** Before you select the Disconnect button, select a Connection object.
CSCat19470	The Connection Template Configuration window and Service/Subscriber Connection windows do not display connection template objects that were created since the window was opened. **Workaround:** To display the new connection templates, close and reopen the window.
CSCat19871	The PPP Authentication type mschap does not work correctly on the L2TP and PPPoA-SD configuration windows. The service commission action fails. **Workaround:** To use this authentication type, open the Object Configuration window for the L2TP or PPPoA-SD service (right-click the Service object, and select **Tools > Open Object Configuration**). From the Object Types selector, select **VirtualTemplate**, then enter **ms-chap** as the value for the attribute C6400SSControl-MIB.vtAuthenticationType. Save this change, and close the Object Configuration window. The service can now be commissioned.
CSCat19791	In the SSG Configuration window, if the Deconfigure button on the PPPoE Configuration tab is selected, and PPPoE was not configured (or was deconfigured already). An incorrect error message appears (PPPoA is already Deconfigured). **Workaround:** None.
CSCat19295	The Connection Template Configuration window does not validate QoS values. Incorrect values are rejected if the connection template is used to connect a subscriber. **Workaround:** If an error occurs when you connect a subscriber, check that the connection template contains valid values.
CSCat19399	The Current Connections object list on the ATM Service Configuration window may remain empty, even though there is a connection to this service. **Workaround:** Open the Service/Subscriber Disconnection window from the ATM Service object. This shows details of the connection to this service.
CSCat20202	In the Line Card Management window, the Module Type attribute is incorrectly reported for OC-12 NLCs. It should be reported as OC-12 Single Mode Fiber. **Workaround:** None.

Table 3   Open Caveats for SCM 2.0(1) (continued)

Caveats	Description
CSCat19582	In the Service/Subscriber Connection window, the Service Type attribute on the Single Domain tab uses an old SCM service naming convention. **Workaround:** The correct name mappings are as follows: ATM = ATM Bridged-Bridged = RFC 1483 Bridging Bridged-Routed = RFC 1483 IRB PPP-L2TP = L2TP PPP-IP = PPPoA-SD PTA-MD = IP Uplink RFC 1483 = RFC 1483 Routing
CSCat18410	The Global Performance Logging button on the Chassis Configuration window does not turn on bandwidth utilization monitoring on ATM ports. **Workaround:** Turn on bandwidth utilization manually from the Interface Performance window.
CSCat17425	If an RFC 1483 Routing service is decommissioned while there are subscribers connected to the service, the decommission action may fail and show the following error message: Updating ATM port bulk list result in error. **Workaround:** Do not decommission a service while there are subscribers connected to it.
CSCat17727	It is possible that some SCM help files could be overwritten by the installation of another EM package onto the same CEMF server. In particular, the installation of Cisco DSL Manager overwrites the help files for some of the common windows used by both applications. The help file is still relevant for the window, but may link to other CDM help files instead of SCM files. **Workaround:** None.
CSCat16899	The Username and Password fields should be separated. Currently these are combined into a single field, with Username and Password separated by a space. **Workaround:** None.
CSCat17632	It is possible to delete connection templates, even if the template is being used by a subscriber connection. **Workaround:** None. Use the Delete button on the Connection Template Configuration window to delete connection templates.
CSCat16770	Cisco IOS interaction scripts can time out under severe adverse network conditions. **Workaround:** The default timeout setting is 60 seconds. You can change this by creating a timeout file that contains the new timeout value in seconds. Create the file in the directory `<CEMFROOT>/config/perl`. For example, the following command, executed as root, sets the timeout value to 120 seconds (where `/opt/cemf` is the default CEMF installation directory): `echo 120 > `**`/opt/cemf/config/perl/timeout`**

Table 3   Open Caveats for SCM 2.0(1) (continued)

Caveats	Description
CSCat18441	The Service/Subscriber Connection window requires that you use the Save button or the **File > Save** menu option to save attribute changes before selecting an action button. Otherwise, updated values are not used by the action. This is inconsistent with the operation of the Service Configuration windows, which automatically save changes when an action button is selected. **Workaround:** Save changes before you select an action button.
CSCat16269	The Deployment Wizard incorrectly allows the deployment of objects directly beneath the root of a view. Deploying certain SCM objects incorrectly (such as Services or Subscribers) may cause operations to fail. **Workaround:** Avoid deploying Service or Subscriber objects beneath the root of the Service or Subscriber views. Delete incorrectly deployed objects, and deploy them correctly.
CSCat16404	The Encapsulation Type options on the Service/Subscriber Connection window may not be appropriate for the selected service. For example, the options `aal5mux ppp` and `aal5cisco ppp` are available for connections to RFC 1483 Routing services. **Workaround:** Ensure that the correct encapsulation type is selected.
CSCat17607	The status bar at the bottom of some SCM windows incorrectly displays the state of some objects as having no value. **Workaround:** Determine the correct state of the objects by launching the corresponding management window (for example, NRP Management window for NRPs).
CSCat16042	In the IP Uplink Service Configuration window, it is possible to enter duplicate values in the Next Hop Gateway Key field, which could affect the stability of the service. **Workaround:** Avoid entering duplicate values in this field. If a service was commissioned with a duplicate key, decommission the service and correct the error.
CSCat15857	The value of the Administration Status attribute on the Cisco 6400 NRP Management window cannot be changed. **Workaround:** Use Cisco IOS to change the Administration Status of the card.
CSCat18672	In the RFC 1483 Routing Service Configuration window, if you select the Add button on the Service Uplink tab, this creates a new Service Uplink. However, selecting this button, causes unsaved changes to the service to be lost. **Workaround:** Before you create a new Service Uplink, click the **Save** icon or the **File > Save** menu option to save any changes to the service.
CSCat16179	It is possible to connect a Subscriber to the same Service more than one time. Although this is usually not a logical action, SCM does not prevent it. **Workaround:** Use the Service/Subscriber Disconnection window to disconnect additional connections.

Table 3   Open Caveats for SCM 2.0(1) (continued)

Caveats	Description
CSCat19916	Data migration from SCM Release 1.x to SCM Release 2.0(1) may fail if all of the following conditions are true: • In SCM Release 1.x, there is an NRP object deployed with no IP address set in SCM. • The NRP is deployed in a slot that is empty on the actual Cisco 6400 chassis. • There is an NRP in another slot in the Cisco 6400 chassis, but there is no corresponding NRP object in SCM. **Workaround:** In SCM Release 1.x, delete the NRP object and deploy a new NRP object that correctly matches the Cisco 6400 device configuration.
CSCat19936	The ATM Port management windows may not work correctly with ATM port objects migrated from SCM Release 1.x. Cisco 6400 IOS software includes a workaround for nonmigrated ATM port objects, but not for migrated ones. **Workaround:** Open the Object Configuration window for the ATM Port object (right-click the **ATM Port object**, and select **Tools > Open Object Configuration**). Select **snmpManageable**, and enter the value **1** for the attribute `snmp-varbinds-per-packet`. Save this change and close the Object Configuration window.
CSCat19685	The Authentication Type attribute of an L2TP service may not be correctly migrated from SCM Release 1.x to SCM Release 2.0(1). **Workaround:** Select the correct Authentication Type before you commission the service (also see CSCat19871).

SCM Release 2.0 Caveats

Table 4 lists known problems in this release of the SCM. Unless otherwise noted, there is no workaround.

Table 4   Open Caveats for SCM Release 2.0

Caveats	Description
CSCdr34047	If you manually deploy a Cisco 6400 chassis and subsequently run CEMF autodiscovery over this range, this chassis appears two times.
CSCdr34055	It can take up to 5 minutes to detect that a card (such as an NRP or NLC) has been physically removed from the Cisco 6400 chassis (that is, an alarm condition appears in the Map Viewer application).
CSCdr34070	If you launch CEMF autodiscovery from the NSP object in a Cisco 6400 chassis, this categorizes all discovered network elements as children of the NSP in the Physical View.
CSCdr34493	When CEMF IP autodiscovery is run, NRPs can be discovered. Each time autodiscovery is launched from a site, the physical view is populated with the respective shelves and the NRPs lying in that range underneath it, giving the impression that the NRPs are contained within the site, which is not correct. They should be either placed under the chassis or should not appear at all until the chassis is commissioned.
CSCdr34504	Occasionally, the deconfiguration of the PPPoE base configuration on the SSG Configuration window fails. If this happens, retry the deconfiguration.
CSCdr34648	It is possible to delete connection templates using the CEMF Map Viewer Delete menu while subscribers are still connected using this connection template. **Workaround:** Before you delete the connection template object, ensure that all subscribers are disconnected first.

Documentation Changes

A new feature, the Capacity Monitoring tool, appears in the Cisco 6400 Service Connection Manager software Release 2.1(1). The information that describes this new feature and explains how to use it will be added to the next revision of the *Cisco 6400 Service Connection Manager User Guide* (OL-0569-02) and then removed from this release note.

PVC Management and Capacity Monitoring Tool

The Permanent Virtual Connection (PVC) Management and Capacity Monitoring tool allows you to better manage your PVC bandwidth resources by providing the information required to monitor the VPC/VCC allocation and maximize memory allocation for the Cisco 6400 Universal Access Concentrator (UAC).

Note The Management and Capacity Monitoring tool is only compatible with releases of Cisco IOS Release 12.1(4)DB and later that contain the **show atm input-xlate-table** and **show atm input-xlate-table inuse** commands for the NSP. Refer to the *Cisco 6400 Software Configuration and Command Reference Guide* for more information about ITT enhancements.

The Cisco 6400 Service Connection Manager software's new Capacity Monitoring tool allows you to view all Input Translation Table (ITT) usage, which includes the:

- Blocks used
- Blocks available
- Identity of the port to which the blocks are allocated

This tool helps you to closely control PVC memory allocation on the Cisco 6400 Node Switch Processor (NSP). ITT memory size may be limited and blocks may be large, so ITT allocation space should be monitored closely.

Cisco IOS Input Translation Table

The Input Translation Table is a hardware data structure used in the Cisco 6400 NSP for handling incoming cells. The ITT table consists of entries that are allocated in contiguous blocks for Virtual Circuit (VC) switching, and each block is dedicated to a Virtual Path Identifier (VPI) on an interface.

The entire NSP consists of a single ITT, which is organized in two banks of 32,000 entries each. This limits the use of large Virtual Channel Identifier (VCI) values and also limits the distribution of VCIs on VPIs as the number of VCs approach 32,000. When an additional VC is added to a VPI that requires a larger block size than the current block, the current block is copied to a new larger block, and the original block is freed. This leaves a series of small unused blocks. As a result, ITT memory is fragmented. The ITT blocks grow to accommodate higher VCI values for a specific port or VPI, but ITT space is not returned unless the entire ITT is full.

The ITT enhancements provide new NSP functions to minimize fragmentation and enable the NSP to automatically determine the minimum ITT block size required to support the PVCs configured for each interface and VPI.

Common Terms

The following list describes common terms used for the Capacity Monitoring tool:

- ITT—Input Translation Table
- PVC—Permanent Virtual Connection
- UAC—Universal Access Concentrator
- VCC—Virtual Channel Connection
- VCI—Virtual Channel Identifier
- VCL—Virtual Channel Link
- VPC—Virtual Path Connection
- VPI—Virtual Path Identifier
- VPL—Virtual Path Link

Capacity Monitoring Tool

The Capacity Monitoring tool:

- Graphically displays memory block allocation by initializing a Telnet session with the NSP. The relevant ITT commands are executed (in Cisco IOS software) to collect information, collate it, and then store the results in the SCM local database. The ITT entry information is then displayed in a tabular format in the SCM database (see Figure 1).
- Allows you to monitor the VPC/VCC allocation and generate an early alert informing you that the VCC space utilization has reached the threshold that you configured it to be.

At the report phase, you can set a threshold value. If this value is exceeded, an alarm occurs. The alarm is logged to the Event Browser. The default threshold is set to the maximum value.

Using the PVC Usage Feature

The PVC Usage feature is a menu option that allows you to display a window with information invoked from the Input Translation Table from Cisco IOS Release 12.1(4) DB operating software. The Cisco 6400 Chassis Management PVC Usage window displays two tabs:

- Chassis
- Interface

To access or use the PVC Usage option:

Step 1 Navigate to a relevant chassis, site, or shelf icon.

Step 2 Select the **Cisco 6400 UAC** > **Chassis** > **Manage** > **PVC Usage** option.

The Cisco 6400 Chassis Capacity Monitoring window appears with the Chassis Tab selected (Figure 1).

Figure 1 Cisco 6400 Chassis PVC Usage Window—Chassis Tab
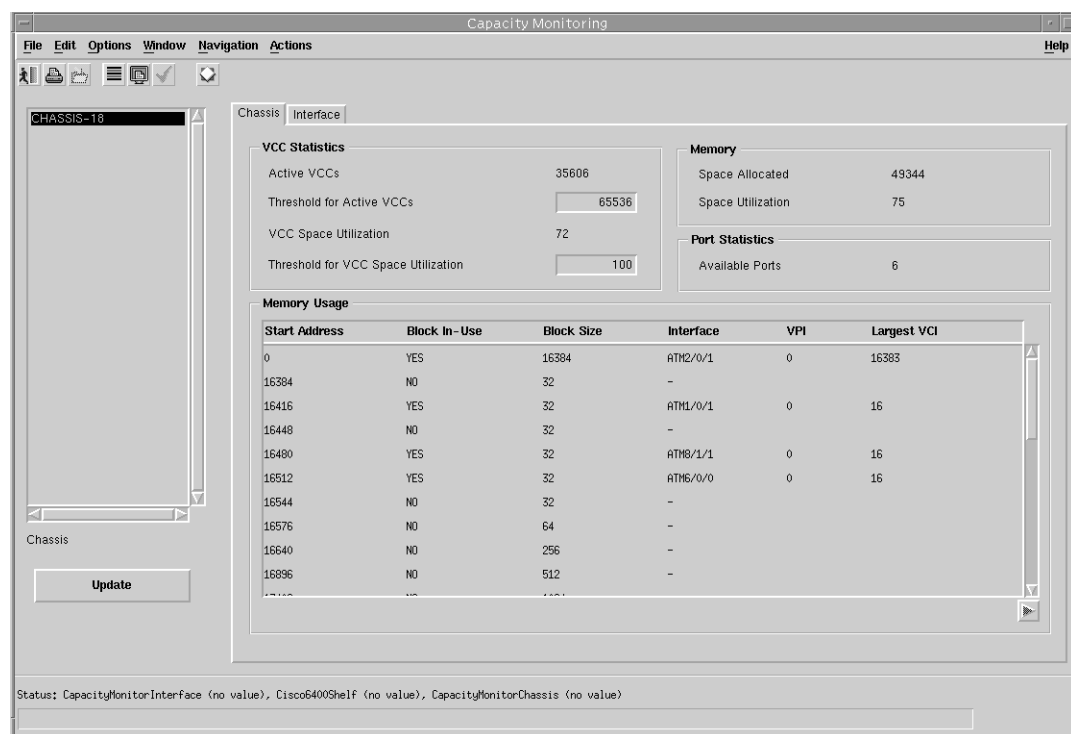
The Cisco 6400 Chassis Management Capacity Monitoring window displays a number of VCI statistics and port statistics (available ports), and a list of memory usage parameters. A Cisco 6400 chassis list box appears at the left side of the window. This list box is populated with all of the Cisco 6400 chassis available from your launch point.

Chassis Tab

To view the Chassis tab in the Capacity Monitoring window, follow these steps:

Step 1 Open the Cisco 6400 Chassis Management PVC Usage window (see Figure 1).

Step 2 From a relevant chassis, site, or shelf icon, select the
Cisco 6400 UAC > **Chassis** > **Manage** > **PVC Usage** menu option to display the Chassis tab. The
Capacity Monitoring window for the selected chassis appears.

The Chassis tab displays four panels:

- VCC Statistics

- Memory

- Port Statistics

- Memory Usage

The Chassis Tab panel (see Figure 1) displays the following information:

- A list box of defined chassis

- VCC (Virtual Channel Connection) Statistics

  - Active VCCs—Total number of active VCCs in this chassis with a status of Up

  - Threshold for Active VCCs—Default threshold is 65536. If this threshold value is exceeded, an alarm is generated when the update action is completed.

  - VCC Space Utilization—Percentage of memory blocks populated with VCCs (formula is UTIL = Active VCCs/Space Allocated)

  - Threshold for VCC Space Utilization—Default threshold value is set to the maximum value of 100 percent. If this threshold value is exceeded, an alarm is generated when the update action is completed.

- Memory

  - Space Allocated—Sum of the size of memory blocks currently allocated on this chassis

  - Space Utilization—Percentage of the total device memory which has been allocated (formula is UTIL = Space Allocated/65536)

- Port Statistics—Lists the number of ports with a status of Up in the chassis which have no VCCs with VCI numbers greater than 31 and also ports which may have VCC numbers greater than 31 whose status is Down.

- Memory Usage—Displays the status of block allocation usage in the Input Translation Table. ITT memory blocks are allocated only to active VCCs.

  - Start Address—Identifies the starting address of the memory block

  - Block In-Use—Specifies if the block is in use:

  - Yes, this block of memory is currently assigned

  - No, this block of memory is free for allocation

  - Block Size—Specifies the size of the memory block for each VPI on an interface. Values range from 32 to 16384. This value is rounded up to the smallest power of 2 greater than or equal to the entered value. (The blocks allocated must be a power of two in size such as 16, 32, 64, and so on.)

  - Interface—Specifies the interface type and port to which the memory blocks are allocated

  - VPI—VPI number to which the memory block is allocated. Values are 0 to 255.

  - Largest VCI—The current largest VCI allocated to the VPI which this memory block is assigned to

Interface Tab

The Interface tab displays the interface selection list box and four areas: Port Statistics, Memory, VPI Statistics, and the Threshold for VCC Space Utilization field.

To view the Interface tab, follow these steps:

Step 1 Open the Cisco 6400 Chassis Management PVC Usage window.

Step 2 Select the **Interface** tab. The interface information for the selected chassis appears (Figure 2 and Figure 3).

Figure 2 Cisco 6400 Chassis PVC Usage Window—Interface Tab (1)

> **Note** The Interface Tab in the Capacity Monitoring window contains a scroll bar to view the entire VPI Statistics table of parameters. For purposes of viewing the entire VPI Statistics area, the Interface Tab window is displayed in Figure 2 and Figure 3.

Figure 3   Cisco 6400 Chassis PVC Usage Window—Interface Tab (2)
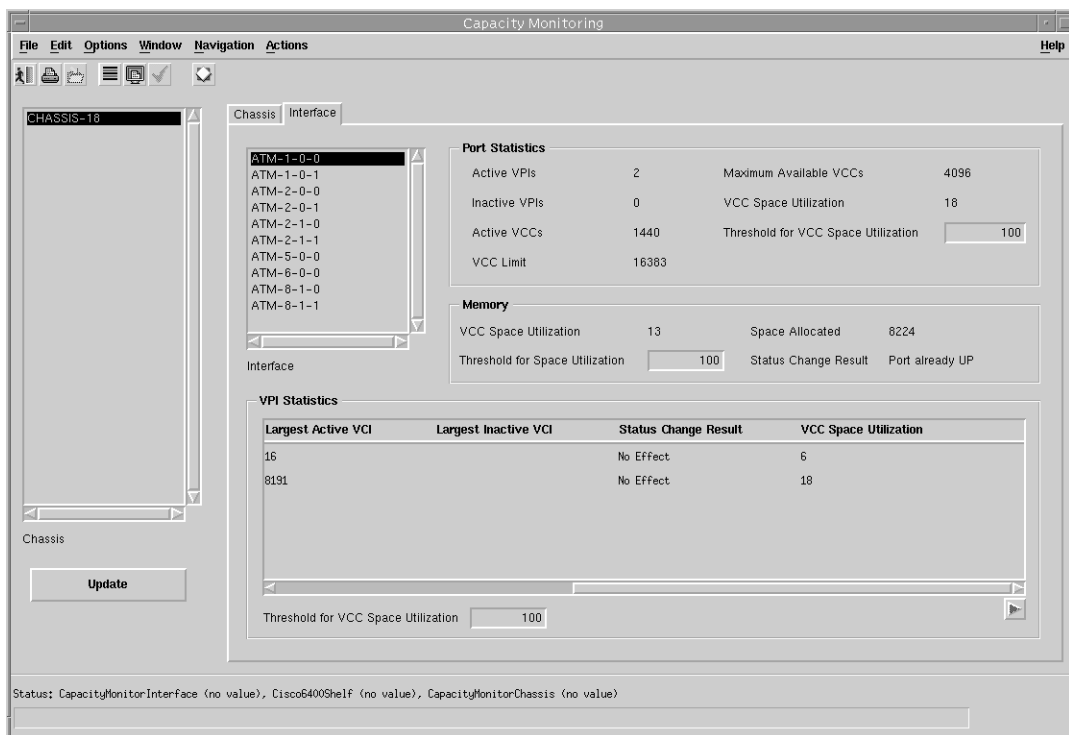
The Interface Tab panel displays the following information:

- List of defined chassis

- List of selectable ATM ports (Interface) in the selected chassis

- Port Statistics

    - Active VPIs—Number of active VPIs on this port with a status of Up

    - Inactive VPIs—Number of VPIs with a status of Down

    - Active VCCs—Total number of VCCs on this port with a status of Up

    - VCC Limit—The limit of VCCs that you can provision on this port. (Use Cisco IOS or SNMP to configure this parameter.)

    - Maximum Available VCCs—Maximum number of VCCs that you can provision onto a new VPI on this port

    - VCC Space Utilization—The percentage of the memory allocated to this port which is populated with active VCCs

    - Threshold for VCC Space Utilization—The default threshold value is the maximum value of 100 percent. The threshold value in the Interface tab window applies only to the interface that you select from the list box and not on the entire chassis. Therefore, select the interface and then set the threshold value for that interface. If this threshold is exceeded, an alarm is generated when the Update action is completed.

- Memory

  - VCC Space Utilization—Percentage of the total device memory allocated to this port (formula is UTIL = Space Allocated/65536)

  - Threshold for Space Utilization—Default threshold value is set to the maximum value of 100 percent. If this threshold is exceeded, an alarm is generated when the Update action is completed.

  - Space Allocated—Sum of the size of all memory blocks currently allocated to this port

  - Status Change Result—The effect on the allocated memory if the port status changes to Up

- VPI Statistics—Lists in tabular format:

  - VPI—Number of the VPI

  - Active VCCs—Number of VCCs on this VPI with a status of Up

  - Inactive VCCs—Number of VCCs on this VPI with a status of Down

  - Space Allocated—The size of the memory block currently allocated to this VPI

  - Largest Active VCI—The highest VCI number allocated to this VPI with a status of Up

  - Largest Inactive VCI—The highest VCI number allocated to this VPI with a status of Down

  - Status Change Result—The effect on the allocated memory block if the VCC with the largest inactive VCI changes to a status of Up (For example, No Effect, Port already Up, Increase allocated space, Space not available)

  - VCC Space Utilization—Percentage of the memory block allocated to the VPI which is populated with VCCs

- Threshold for VCC Space Utilization field (at the bottom of the window)—If this threshold is exceeded, an alarm is generated when the Update action is completed. The default threshold value is set to the maximum value of 100 percent and applies only to the interface that is selected.

Using the Update Button

The Update button initiates the collection, report, and alert phases of the PVC Usage function. The results of this update appear in tabular format in the Capacity Monitoring windows. If the threshold value is exceeded, an alarm notifies the operator.

To refresh the PVC statistics, you must press the **Update** button on the Capacity Monitoring windows.

**Note** The update process may vary in time depending on the size of your configuration.

To display updated parameters on the Capacity Monitoring windows, for the entries in the Input Translation Table:

Step 1 Open the Cisco 6400 Chassis Management PVC Usage window.

Select the desired tab and press the **Update** button. A dialog box prompts you to update or not (Figure 4).

*Figure 4   Cisco 6400 Chassis PVC Usage Update Button*
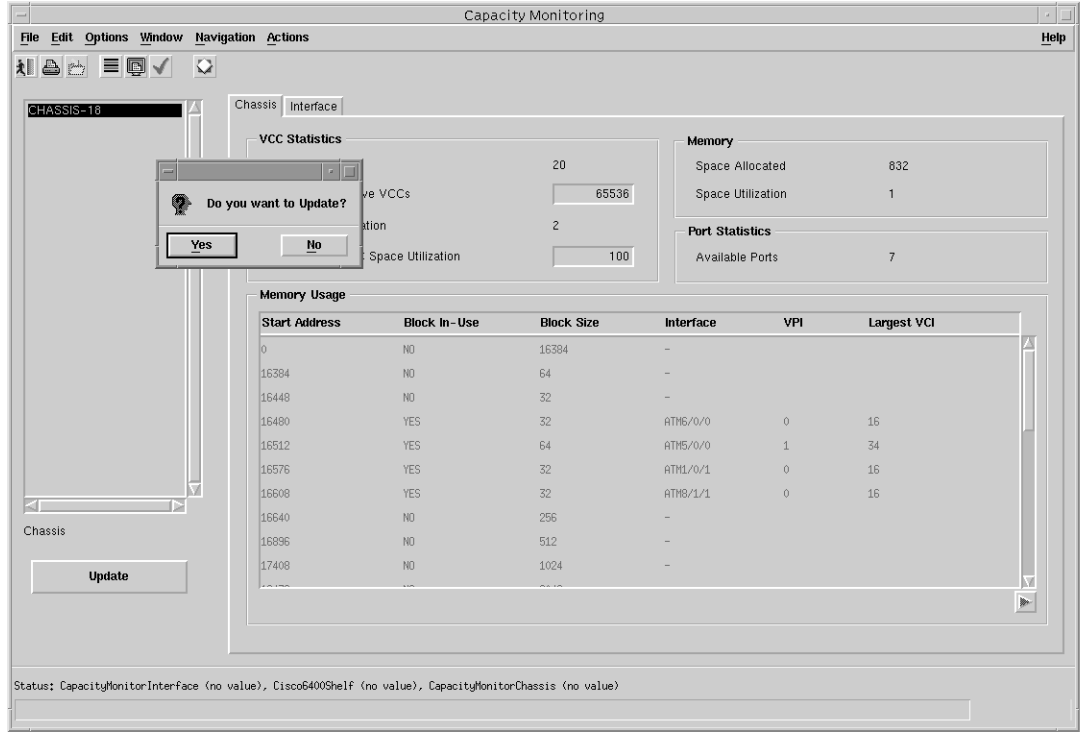
If you press:

- **Yes**, the Action Report window appears (Figure 5).
- **No**, the initial Capacity Monitoring window reappears.

Step 2   If you press Yes, an Action Report window appears with a series of status messages. Figure 5 is an example of a status message that can be appear in the Action Report window.

Figure 5   *Cisco 6400 Chassis PVC Usage Action Report Window*
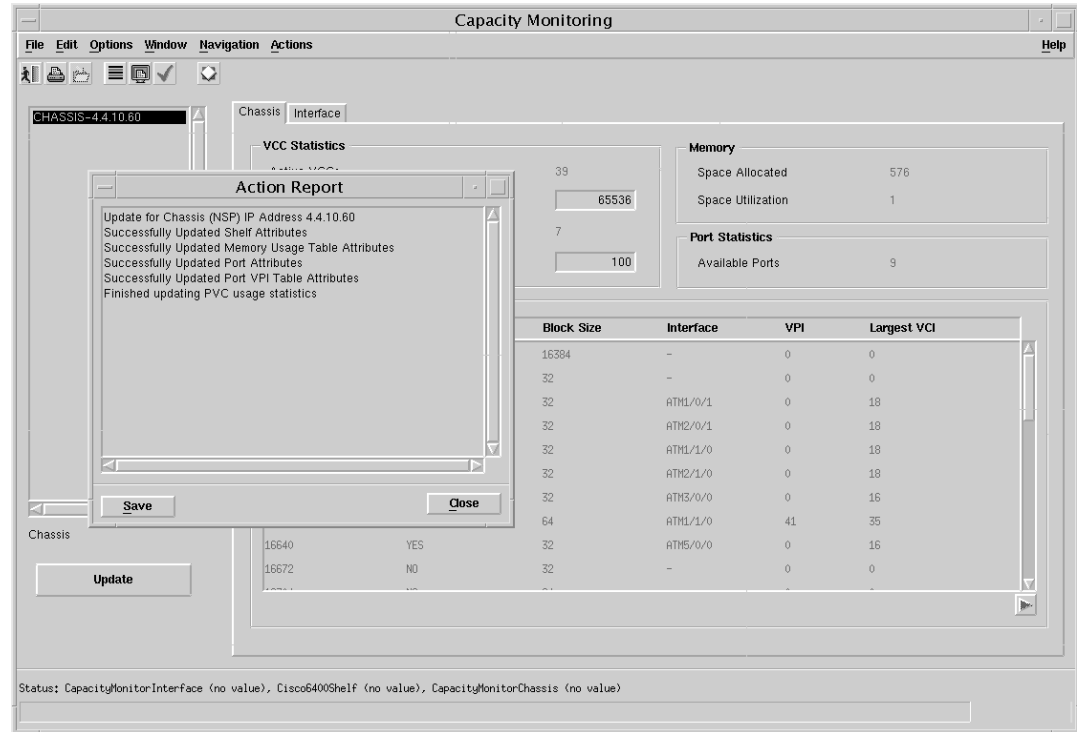
Note   If you press the **Save** button, then the messages (for example, Update for Chassis
(NSP) IP Address x.x.xx.xx, Successfully Updated Port Attributes) displayed from
the Action Report window are stored in a text file.

Related Documentation

In addition to the Cisco 6400 Service Connection Manager Release 2.0(1) documentation, refer to the *Cisco Element Management Framework User Guide* and *Cisco Element Management Framework Installation Guide* for Cisco EMF Release 3.0.4.

Obtaining Documentation

The SCM Release 2.0(1) user and installation guides are available on Cisco Connection Online (CCO) at http:.//www.cisco.com in both HTML and PDF format.

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: http://www.cisco.com
- WWW: http://www-europe.cisco.com
- WWW: http://www-china.cisco.com
- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact the Cisco Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

Documentation CD-ROM

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