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Release Notes for the Cisco 6100 Release 2.2.5

March 10, 1999

These release notes describe features, resolved problem reports, and unresolved problem reports for the Cisco 6100 advanced digital subscriber line access multiplexer (DSLAM) supported in the Cisco 6100 Release 2.2.5.

For more detailed information about the features in these release notes, refer to the "Related Documentation" section on page 19. For information about electronic documentation, refer to the "Cisco Connection Online" section on page 20, and in the "Documentation CD-ROM" section on page 21.

1. Contents

These release notes describe the following topics:

2. Cisco 6100 DSLAM

The Cisco 6100 Advanced DSL Access Multiplexer (Advanced DSLAM) is a Central Office (CO) grade multiplexer that offers cost effective, high-speed services to the residential, telecommuter, and business markets. The Cisco 6100 is part of the Cisco leadership architecture that transcends the DSL service profitability barrier.

The Cisco 6100 Advanced DSLAM:

- Supports a broad range of users by allowing differing modem pooling rates and varying degrees of subtending in a fully NEBS Level 3 compliant package.

- Offers Digital Off-Hook technology. Each Cisco 6100 Advanced DSLAM can support up to 400 Asynchronous Digital Line Subscriber (ADSL) users through 64 ADSL modems. Operators can provision the Cisco 6100 Advanced DSLAM to support 1:1 modem configurations or oversubscribed pools of modems from 2:1 to 6.25:1.

- Offers Cisco EZ-DSL no-truck-roll technology, which eliminates the need for basic telephone service splitters at the premises.

3. Module Software Versions for Release 2.2.5

The individual module software versions (and ROM versions as applicable) that comprise System Part Number SF-6100-2.2.5 (9000-001-21), which is Release 2.2.5, are as follows:

System Controller software	9651-001-26
Network Interface software	9601-001-23
Subtending Host Module software	9601-005-09
ATU-C software	9101-001-17
LIM Controller software	9651-002-11
RDF File	9601-003-11

To determine the module software versions, use ViewRunner. Release 2.3.1 of ViewRunner for Windows supports Cisco 6100 Release 2.2.5.

4. Primary Fixes for Cisco 6100 Release 2.2.5

The primary fixes for Release 2.2.5 are merging previous specific customer releases and resolving problem reports.

5. New Features for Cisco 6100 Release 2.2.5

The following are the new features for Cisco 6100 Release 2.2.5.

- Margin values, default settings.

- Telnet CLI to access NI commands (NI cut-through)

- ATU-C Training Methodology

- Globespan Firmware Upgrade

5.1   Default Margin Settings

When you create a subscriber in ViewRunner, the default provisioned margin values are 6dB upstream and 3dB downstream.

5.2   Telnet CLI to Access NI Commands

The telnet CLI cut-through feature enables the user to access the command menu of the network interface (NI) module through system controller (SC). The major advantages of this feature are to eliminate a need of cable to the NI serial port, and to allow remote telnet access to the NI commands.

To open a cut-through session from SC to NI (on the multiplexer chassis (MC) slot 10)

```
>debug M.0.10
```

Once in this mode, all the NI commands can be executed on the SC terminal.(while in cut-through mode, SC commands cannot be processed from that terminal)

```
NIM>ds
```

To close the cut-through session and to come back to SC prompt.

```
>^c (cntrl + c)
```

5.2.1   Special Considerations

The following are special considerations concerning the cut-through feature:

- Only one cut-through session is allowed at a time. Attempts to open a second cut-through session from the SC will result in a "busy" message.

- There is always a serial session open, whether or not you have a terminal physically connected. Therefore, when a cut-through session is established, there are actually two sessions active. *The user should use only one of these sessions at a time.* If you are using a cut-through session, you should not try to use a serial session at the same time. Unexpected results can occur on the NI.

- All output to the cut-through screen will be echoed (duplicated) on the NI serial screen, and vice-versa. All input to the serial screen will be echoed to the cut-through screen. However, input to the cut-through screen will not be echoed to the serial screen.

Note   You should not be using both a cut-through session and a serial session at the same time. This is just a warning as to what occurs should both be running at the same time.

- If for some reason you are connected via a cut-through session and also connected to the serial port, certain commands that generate large amounts of output (roughly 200 lines of output) can overflow the output queue unless the output is throttled (limited). The throttling algorithm can cause noticeable delays on the serial screen when a cut-through session is open (approx. 30 seconds). This delay is not noticeable on the cut-through screen, because it reads the output from the NI at a controlled rate.

Note   You should not be using both a cut-through session and a serial session at the same time. This is just a warning as to what occurs should both be running at the same time.

- The output rate on the cut-through screen is noticeably slower than on the serial screen, due to the controlled rate at which the cut-through session accepts output from the NI.

5.2.2   Changes to the NI Command Menu

The following are changes made to the NI command menu for the telnet CLI cut-through feature.

- Menu no longer displays with the prompt.

- A new command allows you to dump all counters on the board or to dump the counters for any one device.

  ```
  pc [all | alb | alm] [device numbers]
  ```

- A new command allows you to dump data tables associated with a connection.

  ```
  vct [ s | d [port phy vpi vci]]
  ```

  s - show default values
  d - use default values
  specific connection: port - switch port (0-2) phy (physical layer port) vpi vci

- Compiler warnings have been fixed in the menu source file.

5.3   ATU-C Training Methodology

Training rates are based solely off of signal quality tables that were developed for the 1.0.2 release. These tables were the result of performance tests run against 24 ISDN disturber near end crosstalk.

In addition to changing how the RADSL code selects rate, the user-selectable margin has been changed. The margin, which was based off of Gaussian white noise (for other release 2.x.x), is now based on the same 24-ISDN disturber NEXT from which the signal quality tables were derived. For example, if you train a unit provisioned with 3dB downstream margin and 6dB upstream margin against 24-ISDN NEXT set to the 0db Reference level (-52.6 dBm), you will be able to turn the noise up to -49.6 dBm at the CPE and -46.6 dBm at the CO and still maintain a bit error rate less than 1 bit in error for every 10 million sent (1e-7).

The performance for 2.2.5 with margins set for 3dB downstream and 6dB upstream is similar to that of 1.0.2 (which is hardcoded for 3dB downstream and 6dB upstream). However, due to the change in chipset vendor firmware, some differences may be noted against non-ISDN noise.

5.4   Globespan Firmware Upgrade

The Globespan firmware has been upgraded to version 2.4.3.

6.   Important Caveats for Release 2.2.5

The software download problems and recovery examples are contained in several DDTS entries. The following are the relevant open DDTS entries. Each of these is discussed in a separate subsection in Section 7.

Table 1   Open Software Download Problems

PR Number	Description
CSCdk90117	Software download problems during TFTP
CSCdk90118	Software download problems when ViewRunner hangs or resets
CSCdk90121	Software download problems during SNMP restore
CSCdk90126	Software download problems during save
CSCdk90127	Software download problems because of loss of communication with VR (LOC alarm)
CSCdk90128	Software download problems when 6100 hangs

The software download problems and recovery examples are contained in several DDTS entries. The following DDTS entries were replaced by those in the previous table: CSCdk50449, CSCdk50666, CSCdk52380, CSCdk63198, CSCdk64614, CSCdk80264, CSCdk81141, CSCdk81162, and CSCdk83809.

7.   Important Notes

This section contains important information that doesn't fit into other sections within these Release Notes. The important notes for this release pertain to the software download procedures.

7.1   Cautions During Software Download

Caution   Please read and consider the following cautions before beginning the software download procedure.

- Upgrading across low quality IP networks can trigger software upgrade process failures. These failures can require complicated recovery procedures to reestablish system functionality. Risk areas are networks which drop packets randomly, significant end-to-end delay (delays of 1/2 a second or more), significant intermittent end-to-end delays (random 1 second or more delays).

- Avoid upgrading software when the network integrity is compromised or congestion is high or when there is a risk of power outage for the Cisco 6100, ViewRunner workstation, or TFTP server.

- Guard against any inadvertent reset to the Cisco 6100, ViewRunner workstation, or TFTP server after the software upgrade process has begun.

- If the software upgrade process terminates due to problems, DO NOT RESET the Cisco 6100 node. Reset of the Cisco 6100 at an inappropriate time can cause the configuration to be lost and require complicated procedures to recover.

7.2 Software Download Procedures

This section details specific procedures that should help your software download process go as smoothly as possible in a variety of situations.

7.2.1 Preparation Steps

Performing the following steps before you begin software download will help to make sure your system is ready for you to begin the software download procedure.

- Do a repeating ping to the c6100 for several minutes. Verify that there are no lost ping messages and that all ping delays are less than 1/2 second. If there are lost ping messages or the delays are too long, do not start the software download process. Wait until the network connections are more stable.

- Place the software upgrade images on the workstation running the ViewRunner TFTP server. Verify that the images are in the correct place. They should be in one of the following folders (directories) depending on the platform:

  — ViewRunner Windows:

    ```
    c:\Program Files\Cisco\c6100-2.x.x
    ```
    where 2.x.x is the version number of the images in that folder

  — ViewRunner HP OpenView:

    TFTP path defined at ViewRunner installation (the default is **/tftpboot/)**

- Create a directory in the above locations with images for both the old software version and the new software version. This minimizes the risk by allowing an automated recovery under certain failure conditions.

  That is, in the hierarchy where the image files are stored, create a folder with BOTH the old and new image versions in its name (6100_2_2and2_3). Place all the image files for BOTH versions in this folder.

  For ViewRunner Windows, be sure to include the Release Definition File (RDF) for both versions of the software. For ViewRunner for HP OpenView, the RDF file will be in the **$VRS_HOME/RDF** directory.

7.2.2 Download Procedures - ViewRunner for HP OpenView

The following are the procedures to download new software images to the 6100.

Note   Use the **Save Configuration** wizard to save the current provisioning information and system configuration out to a file. This is so you can recover your configuration as quickly as possible.

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1 In the ViewMap window, select the 6100s that you want to upgrade by using the left mouse button to drag the mouse around the 6100 icons whose configurations you want to upgrade. Additional 6100s can be added to the list before the operation is started via the right click menu option.

2 Select the option from the **Configuration** menu on the ViewRunner **View Map** window to begin the software download.

3 The first screen that appears provides instructions to the user with a list at the bottom of the 6100s to have software downloaded to them. The list includes their current software release information. Read the instructions and verify that you want to download new software images to these 6100s.

Note If you have a BOOTP server present, the SC image used will be the one specified in the BOOTP table, not the one in the RDF.

4 Click **Next** to continue to the next screen where you choose which software version to download.

5 Once you select the software version you want to download and click **Next**, you will be asked to confirm that you want this version downloaded to all the 6100s you selected. If so, click **OK**.

6 If the images to be downloaded are not on the TFTP path configured during ViewRunner installation, you will get a warning message telling you that the images needed for the download are not where expected. You are given an opportunity to cancel the operation and place the images where they are expected.

Note If either the images or the TFTP server is not available, then the software download operation will fail.

7 Once you click OK, the software download starts. You can get a detailed status of the progress of the download on any 6100 in the list by double clicking on that 6100.

8 Double click on the status line of the 6100 that shows a software download failure to get a log of the exact problems encountered to cause the failure.

7.2.3   Download Procedures - ViewRunner for Windows

The following are the procedures to download new software images to the 6100. You should use version 2.3.x or later.

Note Use the Save Configuration and Restore Configuration wizards to save the current provisioning information and system configuration out to a file. This is so you can recover your configuration as quickly as possible.

1 Select the **Tools > View 6100 Software Image Data** option to find out information about the current software images. This will help you determine which images are current and which should be updated.

2 Select **Tools > Upgrade 6100 Software** option from the ViewRunner main menu. The command will only be enabled if a 6100 has been discovered and the system controller (SC) SwVersion matches a release in the FCM file with support for this feature. ViewRunner will display a progress bar along with a description of status, while the upgrade is taking place.

3 The user will be presented with a wizard that will be a guide throughout the process.The first wizard panel describes the upgrade procedure. Please read each wizard panel carefully to understand various warnings and consequences of continuing the procedure. Select **Next** to continue.

> **Note** If you have a BOOTP server present, the SC image used will be the one specified in the BOOTP table, not the one restored.

4 In the second panel, you must select the correct RDF. Use the **Browse** button to find the required RDF.

The default folder for the images is c:\Program Files\Cisco. The system can be upgraded as long as the release definition file (RDF) and the images have been installed. See the *ViewRunner for Windows Provisioning and Operation Manual* for a full discussion of the RDF file.

5 You will be asked to confirm your choice before continuing.

6 The third wizard panel identifies a default IP Address and IP Path. The user has the choice of selecting a local or a remote TFTP server. If you choose local, the IP address is the IP address of the PC where ViewRunner is running since ViewRunner for windows functions as a TFTP server. If you choose remote, you have to enter the path and IP address of the workstation running the TFTP server. The path is the path to the images to which you want to upgrade.

7 Depending on your choice of software to download, in the fourth panel, you are informed of any conditions which were discovered and that the software download may interrupt service. You may choose **Next** to continue or **Cancel** to stop the process before the download begins.

8 If you choose to continue, the following screen appears informing you that the download procedure is beginning and cannot be interrupted.

9 If the user continues, the following dialog displays showing the progress of the download. The remainder of the procedure will run unattended.

10 If the SC image has changed, the Save and Restore Configuration utility is used to store the NVRAM of the older system, replacing all configuration items but updating all software images.

If the SC image has not changed, you do receive a message when the process is complete, informing you that the SC must be reset. You can choose to reset immediately or wait until later.

11 See the CPE Cisco 675 and/or Cisco FireRunner documentation for procedures on how to download software to those devices.

7.3 Problem and Recovery Examples

The following sections describe specific problems that could occur during software download and procedures for recovering in the event of software download failures.

7.3.1 Problems During TFTP (CSCdk90117)

The software download process fails because of errors during the TFTP process.

- Problem Description:
  — 6100 node still actively running and carrying traffic
  — ViewRunner indicates that the software upgrade process has terminated because of problems trying to TFTP the image files. The error log should list the image in question.

- Conditions where problem encountered:
  — IP address of TFTP server not entered properly
  — TFTP directory not entered properly

— TFTP server not functioning

— Network integrity causing problems for the TFTP transfer

- Recovery Procedures:

  — DO NOT RESET THE c6100

  — Start continuous ping to verify that the network integrity is adequate (fix the network integrity before continuing)

  — Verify that all upgrade files are in the right directory (and all old version files are in place)

  — Verify that the IP address and TFTP paths are correct

  — Restart software download

7.3.2 Problems When ViewRunner Hangs or Resets (CSCdk90118)

The software download process fails because the ViewRunner server hangs or resets during the software download process.

- Problem Description:

  — ViewRunner server workstation hangs during software download

  — ViewRunner server workstation is reset during software download

- Conditions where problem encountered:

  — ViewRunner server workstation has a system failure

  — ViewRunner server workstation experiences a power outage

  — ViewRunner software goes down

- Recovery Procedures:

  — DO NOT RESET THE c6100

  — Restart the ViewRunner software or reboot the ViewRunner server workstation

  — Rediscover the node

  If the node is discovered, continue as described below

  — Start continuous ping to verify that the network integrity is adequate (fix the network integrity before continuing)

  — Verify that all upgrade files are in the right directory (and all old version files are in place)

  — Verify that the IP address and TFTP paths are correct

  — Restart software download

  If the node is not discovered, follow the recovery procedures in one of the following sections depending on when the failure happened.

7.3.3 Problems During SNMP Restore (CSCdk90121)

The software download process fails during the restore phase. During this phase, the images are already in the node and the hardware associations have been made.

- Problem Description:

  — Wizard indicates that the configuration restore is in progress

  — Images have been downloaded

- Conditions where problem encountered:

  — SNMP times out

  — Network integrity problems

- Recovery Procedures:

  — DO NOT RESET THE c6100

  — Locate the saved configuration file created during the save operation which will have a extension **.nss**

    ViewRunner Windows (in the same folder at the ViewRunner executable)

    ```
    ~uplr.nss
    ```
    ViewRunner HP OpenView

    ```
    $VRS_HOME/NSS/<ip address>.<date>.<time>.nss
    ```

  — Start continuous ping to verify that the network integrity is adequate (fix the network integrity before continuing)

  — Verify that all upgrade files are in the right directory (and all old version files are in place)

  — Verify that the IP address and TFTP paths are correct

  — Perform a configuration restore process with the .nss file to recover the configuration of the node

7.3.4 Problems During Save (CSCdk90126)

The software download process fails during the save phase.

- Problem Description:

  — Wizard indicates that the configuration save is in progress

  — Communication with the node is lost (ViewRunner should generate an LOC alarm)

- Conditions where problem encountered:

  — SNMP timeouts

  — Network integrity problems

  — Incorrect FCM

- Recovery Procedures:

  — DO NOT RESET THE c6100

  If the ping recovers,

  — Start continuous ping to verify that the network integrity is adequate (fix the network integrity before continuing)

  — Verify that all upgrade files are in the right directory (and all old version files are in place)

  — Verify that the IP address and TFTP paths are correct

  — Restart software download

  If the ping does not recover, follow the procedures in the following section.

7.3.5 Problems Because of Loss of Communication (CSCdk90127)

- Problem Description:
  - Wizard indicates that the configuration save is in progress
  - Communication between the node and the ViewRunner is lost
- Conditions where problem encountered:
  - 6100 has a power loss
  - 6100 hangs or goes down
- Recovery Procedures:
  - DO NOT RESET THE c6100
  - Start continuous ping (for at least 5 minutes) to verify that the 6100 node is indeed down

  If the ping recovers, do the following:

  - Verify that communication between the node and ViewRunner has been re-established

    If communications between the node and ViewRunner are active but the download has terminated, restart the software download.

  If the ping does not recover, do the following:

  - Reset the node.

    The reset will recover correctly if you have saved both versions of the image files in the same folder/directory as recommended in the preparations for software download in Section 6.1.1. That is, in the hierarchy where the image files are stored, you have created a folder with BOTH the old and new image versions in its name (6100_2_2and2_3), and have placed all the image files for BOTH versions in this folder. This may take ten minutes or longer to complete.

  - Verify that the reset is loading the older version of the software, not the new images.

  If the ping does not recover and there is no communication with the ViewRunner, follow the procedures in Section 7.3.6.

7.3.6 Problems During When the 6100 Hangs (CSCdk90128)

The software download process fails during the restore phase, the node does not answer pings, and there is no communication between the node and ViewRunner.

- Problem Description:
  - No pings from the node
  - No ViewRunner communication with the node
- Conditions where problem encountered:
  - 6100 has a power loss
  - 6100 hangs or goes down
- Recovery Procedures:
  - Reboot the ViewRunner software
  - Using a terminal emulation package (or an xterm), go to the Administrative Setup screen to begin recovery procedures

— At the screen prompt, enter **999**

— Enter **9** to **Set TFTP Path & File to Load**

Be sure to set these to the older version of the software.

— Enter **7** to **Save IP Values to EEPROM**

— Enter **0** to exit the Administrative Setup screen and the following appears - enter **Y** to reset the node hardware

```
Hardware Reset? [Y]
Transferring Data to RAM prior to Placing in Flash
Starting the TFTP download of /tftpboot/<image>
...............
Valid Completion of TFTP download of /tftpboot/<image>
TFTP to RAM Complete.
FLASH Processing Begins.
Begin checksum calc.
End checksum calc.
...............
SC Image DB Complete
```

— When you have restored the older version image, use ViewRunner to discover the node and check on the configuration status and database.

If the database is not there, perform a restore from the original saved configuration (not the .nss file), and restart the software download.

If the database and configuration are there, restart download.

8. Resolved Problem Reports as of Cisco 6100 Release 2.2.5

The problems listed in Table 2 are resolved as of Release 2.2.5.

Table 2   Resolved Problems as of Release 2.2.5

PR Number	Description
CSCdk36088	Image Current Alarms returns false alarms. *(resolved in Release 2.2.1)*
CSCdk38999	SNMP memory leak in lrBoardOveride Image. *(resolved in Release 2.2.1)*
CSCdk39512	Modems on ALMI limited to 4.5 Mbps. *(resolved in Release 2.2.1)*
CSCdk40180	An Invalid ASC to Download Server causes FATAL ERROR. *(resolved in Release 2.2.1)*
CSCdk42949	Delete LIM chassis fails when there are unlocked LIMs. *(resolved in Release 2.2.1)*
CSCdk46909	Modem ports not placed in pool when deleted and created. *(resolved in Release 2.2.1)*
CSCdk47025	NI cannot open a cut-through session after continual open/close. *(resolved in Release 2.2.1)*
CSCdk47318	SC reset caused by terminating telnet session. *(resolved in Release 2.2.1)*
CSCdk52153	NI cut-through fails to clean up if cut-through creation fails. *(resolved in Release 2.2.1)*
CSCdk55215	The Boot Rom Menu Screen does not perform any SC image validation. *(resolved in Release 2.2.5)*
CSCdk55931	The Watchdog Reset circuitry on the NI does not function properly. *(resolved in Release 2.2.5)*
CSCdk56332	Holding down return key crashes SC during NI cut-through. *(resolved in Release 2.2.1)*
CSCdk57346	Subtending ports drops cells in downstream direction when total traffic rate is more than 40 Mbps. *(resolved in Release 2.2.5)*
CSCdk61392	SHM cell mux causing DS3 FIFO overflow. *(resolved in Release 2.2.1)*

Table 2   Resolved Problems as of Release 2.2.5 (continued)

PR Number	Description
CSCdk67443	All PVC connections not restored after NI reset. *(resolved in Release 2.2.1)*
CSCdk71639	Subtend traffic locks up 2601-019-04 H Running *Release* 2.2.1. *(resolved in Release 2.2.1)*
CSCne00157	The NI becomes active in the redundant position (Slot 11). *(resolved in Release 2.2.5)*
CSCne00185	User can change physical pool of logical pool while pools has members. *(resolved in Release 2.2.1)*
CSCne00561	The SC and LIM controller become active in the redundant position (Slot 30 for SC and Slot 12 for LIM controller). *(resolved in Release 2.2.5)*
CSCne00684	Occasionally, upon system startup from reset, a disconnected NI fiber is not reported. *(resolved in Release 2.2.5)*
CSCne01190	SNMP times out in delete chassis. *(resolved in Release 2.2.1)*
CSCne01689	SC Ethernet port becomes non-functional. *(resolved in Release 2.2.0)*
CSCne01704	Sometimes short DS3 loopback cables cause data transmission errors (Hardware fix - Ferrite added). *(resolved in Release 2.2.0)*
CSCne01710 CSCne01785	Infrequently, ViewRunner shows ports Out of Service despite the subscribers, ports, and modules being unlocked. *(resolved in Release 2.2.5)*
CSCne01722	Direct connect ATU-C generated alarm when unlocked and reset. One time occurrence. *(resolved in Release 2.2.5)*
CSCne01832	SC serial number not reporting correctly. *(resolved in Release 2.2.1)*
CSCne01842	During heavy management IP network congestion, software download if images from the management station to the SC can fail. *(resolved in Release 2.2.0)*
CSCne01920	A single instance of an ATU-C with solid Status and Active LEDs occurred, but not discovered through ViewRunner. *(resolved in Release 2.2.5)*
CSCne01956	A single instance of being unable to transmit data occurred after DS3 port on SHM was disconnected and reconnected. *(resolved in Release 2.2.5)*
CSCne01997	Download server ASSERTs and CLEARs INFO event for DL underway. *(resolved in Release 2.2.0)*
CSCne02001	Loss Of Service alarm is not reported by NI DS3. *(resolved in Release 2.2.0)*
CSCne02009 CSCne02030	The downstream modem connections are limited to a 3.2 Mbs bandwidth. *(resolved in Release 2.2.0)*
CSCne02017	NI and SHM LEDs do not behave the same as other modules if there is an error in the download process. *(resolved in Release 2.2.5)*
CSCne02035	Five events for the subtend ports have incorrect severity. The events are FC_DS3_FIFO_FULL (currently info), FC_DS3_TX_PARITY (currently info), FC_DS3_RX_HEC_ERROR (currently info), FC_DS3_PLCP_OOF (currently critical), FC_DS3_PLCP_LOF (currently info). *(resolved in Release 2.2.0)*
CSCne02044	GFC multiplexing bit does not clear on the SHM port 2 connections. *(resolved in Release 2.2.0)*
CSCne02060	SNMP returns error on clear provisioning. *(resolved in Release 2.2.1)*
CSCne02073	Repeated power-up cycles on OC3 NIUs (6 to 8 times) can result in a switch failure. *(resolved in Release 2.2.5)*
CSCne02080	Date setting fails to reject invalid dates. *(resolved in Release 2.2.1)*
CSCne02114	LIMC does not reset on the event 'Loss of communication'. *(resolved in Release 2.2.5)*
CSCne02278	DS3 NI drops all cells for port 2 of SHM. *(resolved in Release 2.2.0)*

Table 2   Resolved Problems as of Release 2.2.5 (continued)

PR Number	Description
CSCne02279	Partial Packet discard does not function on SHM. *(resolved in Release 2.2.0)*
CSCne02328	SMB address reset can cause a LCM to retry SMB message to LIM. *(resolved in Release 2.2.0)*
CSCne02335	IPC congestion, packet loss between LCM and LIM. *(resolved in Release 2.2.0)*
CSCne02336	Incorrect image creation date. *(resolved in Release 2.2.5)*
CSCne02352	Cannot reset the SC twice through SNMP. *(resolved in Release 2.2.1)*
CSCne02354	Restore does not always create a Hardware Revision table. *(resolved in Release 2.2.5)*
CSCne02368	NI reports HEC errors for valid cells from SHM port 2. *(resolved in Release 2.2.0)*
CSCne02375	Image creation files. *(resolved in Release 2.2.1)*
CSCne02393	SW-FATAL loops in calls to sumit-Error. *(resolved in Release 2.2.1)*
CSCne02405	Node hangs when tftp path greater than 45 characters. *(resolved in Release 2.2.1)*
CSCne02407	Configuration Manager not cleaning up nvram image info after failed image create. *(resolved in Release 2.2.1)*
CSCne02409	SC crashes with 960 tr-pvcs after reset. *(resolved in Release 2.2.1)*
CSCne02421	In-band management fails to work when VCI bit 3 set. *(resolved in Release 2.2.1)*

9. Open Problem Reports as of Cisco 6100 Release 2.2.5

The problems listed in Table 3 are open as of Release 2.2.5.

Table 3   Open Problems as of Release 2.2.5

PR Number	Description
CSCdk34684	ATU-C margin can be lower than specified for 1024K and 896K. *(opened in Release 2.2.1)* **Impact:** After training is completed, the margin may not be as high as specified. **Workaround:** This problem has two workarounds: **1** Provision the line for different rates (such as 1280 for 1024, 960 for 896) **2** Provision the line with an additional 3 dB of downstream margin.
CSCdk37403	If you are using a snmp command line tool or mib browser, the set fails. This is not a problem when using ViewRunner. If the Cisco 6100 is sent a snmp "row create" of a subscriber with the line port of the subscriber included in the set (lrSubscrRowStatus.1=createAndGo; lrSubscrLinePort.1=lrLpLPoolId.2.1.1), the set fails. *(opened in Release 2.2.1)* **Impact:** This is only an impact if not using ViewRunner. **Workaround:** Send in the set to separate SNMP PDUs. First send the "row create," and then the Line port for the subscriber.
CSCdk43208	Disconnecting tip/ring momentarily causes loss of upstream data *(opened in Release 2.2.1)* **Impact:** If the tip/ring cable is momentarily removed for under 1 second, the upstream data path does not operate until the modem power is recycled. **Workaround:** Cycle the power on the CPE equipment.
CSCdk43651	LIM controller SMB failure over Temperature and Humidity. *(opened in Release 2.2.1)* **Impact:** After a temperature transition from +50 C at 10% humidity to +70 C at 50% humidity, the LIM controller stops responding to the System Monitor on the SC over the external SMB bus. **Workaround:** There is no workaround for this problem.

Table 3   Open Problems as of Release 2.2.5 (continued)

PR Number	Description
CSCdk46493 CSCdk49143	When four VCs are sending data simultaneously and are configured on one port, the bandwidth is not distributed fairly. *(opened in Release 2.2.1)* **Impact:** If four VCs are configured for one line port and sending data simultaneously, the bandwidth for some of the VCs are not be distributed fairly amongst each of the VCs. Users on some of those VCs may not get their provisioned bandwidth. **Workaround:** There is no workaround. The NI does not perform per VC queuing.
CSCdk47034	Concurrent NI debug sessions may give incorrect output values. *(opened in Release 2.2.1)* **Impact:** Only if both serial and telenet sessions are open and same command is entered in both sessions simultaneously. Moreover it is hard to enter commands simultaneously because of the fact that the output of commands are scrolled through both the sessions. **Workaround:** Do not enter same commands simultaneously in two sessions.
CSCdk51475	NI debug command DS3 status (ss all) shows an unexpected m23 format. *(opened in Release 2.2.1)* **Impact:** No impact. **Workaround:** There is no workaround.
CSCdk52588	Interrupted upgrade causes system controller (SC) to be orphaned. *(opened in Release 2.2.1)* **Impact:** If an upgrade is interrupted after the old SC image is deleted and before the new SC image has been successfully tftp'd, the Cisco 6100 will be orphaned. **Workaround:** The user must download the new SC image by using the Craft interface.
CSCdk53806	Command Line Interface does not show "CPE NOT TIMER ENABLED" alarm text. *(opened in Release 2.2.1)* **Impact:** When showing the alarms through the Command Line Interface, an alarms appears that shows no textual information about the alarm. The "CPE not Timer Enabled" Alarm is not visible from the Command Line Interface. **Workaround:** Show the alarms with ViewRunner.
CSCdk53830	The counter "Failed Trains due to non timer enabled CPE" not visible while the system is in Direct Connect Mode. *(opened in Release 2.2.1)* **Impact:** If the system is in Direct Connect Mode, you not know how many times a line port failed to train because the CPE gear is not timer-enabled. **Workaround:** There is no workaround.
CSCdk53848	Life Line not preserved when POTS splitter card is removed. *(opened in Release 2.2.1)* **Impact:** When the POTS card is removed, phone service is lost. **Workaround:** Do not remove the POTS card.
CSCdk55611	If you specify a bad TFTP server IP address from the Boot Rom Menu Screen, the SC fails the download and does not run. *(opened in Release 2.2.1)* **Impact:** The SC does not load with the proper image if you specify a bad TFTP server IP address from the Boot Rom Menu Screen. **Workaround:** The user must specify the proper TFTP server IP address during downloads.
CSCdk55957	ATU-C does not give enough margin when trained to a c660. *(opened in Release 2.2.1)* **Impact:** Lowers performance when using a c660. **Workaround:** If you want to use this release against a c660, the system administrator should set the downstream margin to 12 to avoid problems, or if this is unacceptable, the system administrator should set the margin setting and analyze it on a case by case basis. (By analyzing RS Error counters at the CPE.) Upstream margin of 6 should prove sufficient to prevent problems, but the real margin may vary depending on the rate selected.

Table 3   Open Problems as of Release 2.2.5 (continued)

PR Number	Description
CSCdk57362	If the system is in Direct Connect mode, the CPE TIMER alarm is not cleared after lock/unlock of the line port. *(opened in Release 2.2.1)*
	Impact: This only impacts systems in Direct Connect Mode. If a CPE TIMER alarm is raised against a port in Direct Connect Mode, the alarm will not clear until the hour timer has expired.
	Workaround: The user must wait the whole hour before the alarm is cleared against the line port.
CSCdk57824	Downstream RS errors when adjacent modem channel hangs up. *(opened in Release 2.2.1)*
	Impact: If both channels of an ATU-C central office modem card are trained to customer premise equipment and one channel hangs up, the other channel on the card produces a burst of downstream reed-soloman errors.
	Workaround: These errors are corrected by the CPE equipment.
CSCdk59039	This problem only occurs in a lab debug environment. If a user is sending debug messages and enters an invalid instance type in the message, the SC can crash. *(opened in Release 2.2.1)*
	Impact: There is no impact. This only occurs in a lab debug environment.
	Workaround: Do not enter a debug message with invalid insttype.
CSCdk60677	NIM debug i/f "dr" and "mr" cmds not range checking device number argument. *(opened in Release 2.2.1)*
	Impact: There is a potential to harm the device that the user is attempting to look at.
	Workaround: Use only valid device arguments to these commands.
CSCne01131	During an NI reset, active OC3 cell flow may cause NI alarm and NI shutdown on power-up. *(opened in Release 2.2.0)*
	Impact - If the fiber is currently plugged in and active, during install or reset of the system, then the NI may shutdown. An alarm in ViewRunner is provided to alert the user of this problem: **"ATM SWITCH POLLING RATE IS INADEQUATE, CELLS DROPPED"**
	Work around - Disconnect fiber and restart NI.
CSCne01497	Identical fault message text is provided when NI DS3 C-bit parity detection is asserted and cleared. *(opened in Release 2.2.0)*
	Impact -The message "Unexpected frame format" is provided in both the asserting and clearing cases.
	Work around - Not required.
CSCne01854	Following an NI reset, the following non-fatal events are seen in the event window: *(opened in Release 2.2.0)* FC_SUBTEND_PORT_BUFFER_OVERFLOWINFO
	FC_SUBTEND_PORT_UTOPIA_ERRORINFO
	FC_SUBTEND_PORT_INGRESS_ERRORINFO
	FC_SUBTEND_PORT_INGRESS_2_ERRORINFO
	FC_SUBTEND_PORT_EGRESS_PARITYINFO
	Impact - No impact, events are generated at start up and is based on the startup sequence of NI and SHM.
	Work around - Not required.
CSCne01901	Infrequently, in a single LIM chassis system, if you replace a LIM controller, this causes ViewRunner to display two LIM chassis. *(opened in Release 2.2.0)*
	Impact - Displays a LIM chassis, which does not exist.
	Work around - Delete second LIM chassis.

Table 3   Open Problems as of Release 2.2.5 (continued)

PR Number	Description
CSCne01912 CSCne01913	DS3 Subtending port does not block data flow upon port or module lock. Unimplemented feature at this time. *(opened in Release 2.2.0)* **Impact** - Cannot block data by unlocking Subtend port. **Work around** - To block the data, pull out the DS3 cable.
CSCne01970 CSCne02364	Fabric Control does not configure transit VPCs. *(opened between Release 2.1.0 and Release 2.2.0)* **Impact** - No system impact, unimplemented feature. **Work around** - Use VCCs only.
CSCne02002	On the SHM module, the RAI and OCD alarms do not clear when the alarm condition is corrected. *(opened in Release 2.2.0)* **Impact** - Incorrect alarms. **Work around** - No work around.
CSCne02176	When locked, Cisco 6100 modules still respond with alarms when pulled from chassis. *(opened between Release 2.1.0 and Release 2.2.0)* **Impact** - No system impact, unimplemented feature. **Work around** - Not required.
CSCne02362 CSCne02112	System control IP information becomes corrupted after save or after BOOTP is completed. *(opened between Release 2.1.0 and Release 2.2.0)* **Impact** - Only an installation impact when you use the BOOTP capability. **Work around** - Re-enter the SC IP address in the boot menu.

10. Information from Previous Releases

The following subsections list the new features for previous 6100 System Releases.

10.1   New Features for Cisco 6100 Release 2.2.1

The following new features are supported by the Cisco 6100 DSLAM in Cisco 6100 Release 2.2.1. Each feature is described in the subsections indicated in parentheses.

- Customer Premise Equipment (CPE) version detection

- 136 K Baud enable/disable

- NI Congestion Detection

- NI Sequence Error Detection

- System Alarm Additions and Changes

To determine the module software versions, use ViewRunner. Release 2.2.0 of ViewRunner for Windows supports Cisco 6100 Release 2.2.0.

10.2   New Features for Cisco 6100 Release 2.2.0

The following new features are supported by the Cisco 6100 DSLAM in Cisco 6100 Release 2.2.0. Each feature is discussed in the subsections indicated in parentheses.

- Cisco 6100 in-band management channel

- Multiple trap recipients

- RFC1213 IP routing tables (supporting the in-band management channel and multiple trap recipients)

- ADSL Layer 1 disconnect (subscriber session and idle timeouts)

- 136 K baud train rates

- Reliable dial for faster trains after the first

- Adjustable training margins of 0-12 dB upstream/downstream (per subscriber)

- Increased number of Cisco 6100s which can be configured for selection (no limitation on the number of nodes)

- Feature capability matrix

- Software upgrade changes

11.   Related Documentation

Use these release notes in conjunction with the following documents:

- *Cisco 6100 Setup and Installation Manual, Version 2.2.0*
  Part Number 78-5481-02

- *Cisco 6100 Series Maintenance and Troubleshooting Manual, Version 2.2.0*
  Part Number 78-5480-02

- *ViewRunner for Windows Setup and Installation Manual, Version 2.2.0*
  Part Number 78-5505-02

- *ViewRunner for Windows Provisioning and Operation Manual, Version 2.2.0*
  Part Number 78-5485-02

- *ViewRunner for HP OpenView Setup and Installation Manual, Version 2.2.0*
  Part Number 78-5484-01

- *ViewRunner for HP OpenView Provisioning and Operation Manual, Version 2.2.0*
  Part Number 78-5483-01

Note   You can find the following documents at http://www.netspeed.com/. Click **Technical Support**.

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12. 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's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, description of service offerings, and download access to public and authorized files.

Note The Cisco 6100 documentation will be found on CCO in the next release. In the meantime, the documents can be found at http://www.netspeed.com/. Click **Technical Support**.

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 Cisco's 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.

For the latest information on caveats and known problems, follow these steps to consult CCO:

Step 1   Connect to CCO as directed in the section above.

Step 2   On the CCO home page, click LOGIN, which appears in green in the menu bar at the top of the page, and log into CCO. (If you are not a registered CCO user, follow the instructions to register so that you can log in.)

Step 3   After you log in, click Software & Support on the CCO home page.

Step 4   On the Software & Support page, click Technical Tools.

Step 5   On the Technical Tools page, click Bug Toolkit II. (Bug Toolkit II is not visible on the Technical Tools page unless you log in to CCO as directed in Step 2.)

Step 6   Use one of the tools to get up-to-date bug information. For example, click Search for Bug by ID Number, then enter a bug ID, such as CSCdk09616, when prompted. For instructions on using the bug tools, go to the bottom of the Bug Toolkit II page and click Help—How to Use the Bug Toolkit.

13. Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

Note   The Cisco 6100 documentation will be found on CCO in the next release. In the meantime, the documents can be found at http://www.netspeed.com/. Click **Technical Support**.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments.