CISCO SYSTEMS

78-6726-04   05/15/00

Release Notes for the Cisco 6100 Series System Release 2.4.2

May 15, 2000

These release notes describe the features and caveats for the Cisco 6100 Series system Release 2.4.2, which incorporates the features and caveats from Release 2.4.0.

Note   The Digital Off-Hook (DOH) configuration features are not fully tested or supported on Release 2.4.2 hardware (Cisco 6100 or Cisco 6130) or software. DOH will be supported in Release 3.0.0.

1. Contents

These release notes describe the following topics:

- Introduction, page 2
- Module Software Versions for Release 2.4.2, page 2
- Hardware and Software Compatibility, page 3
- New Features, page 5
- Limitations and Restrictions, page 8
- Important Notes, page 9
- Open Caveats, page 10
- Resolved Caveats, page 16
- Documentation Updates, page 17
- Related Documentation, page 17
- Cisco Connection Online, page 17
- Documentation CD-ROM, page 19

2. Introduction

The Cisco 6100 Series digital subscriber line access multiplexer (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 Series system is part of the Cisco leadership architecture that transcends the DSL service profitability barrier.

The Cisco 6100 Series DSLAM:

- Supports a broad range of users by allowing differing modem pooling rates and varying degrees of subtending in a fully Network Equipment Building Systems (NEBS) Level 3 compliant package

- Offers Direct Connect configuration, which allows you to directly connect 64 subscribers using asymmetric digital subscriber line (ADSL)

- Offers Direct Connect configuration, which allows you to directly connect 128 subscribers using symmetrical digital subscriber line (SDSL)

- Offers no-truck-roll technology, which eliminates the need for basic telephone service splitters at the subscriber premises

3. Module Software Versions for Release 2.4.2

The individual module software versions (and ROM versions, as applicable) that comprise system part number SF-6100-2.4.2, which is Release 2.4.2, are shown in Table 1.

Table 1   **Software Versions for Release 2.4.2**

Release 2.4.2 Component	Software Version
System controller (SC) module software	2072-062-20
Network interface (NI) module software	9601-001-26
Subtending host module (STM) software	9601-005-09
CAP ATU-C module software	9101-001-20
DMT-2 ATU-C module software	9101-002-29
STU-C module software	9102-003-50
RDF[1]	9601-003-11

1   RDF = release definition file

The ViewRunner management software (ViewRunner for Windows or ViewRunner for HP OpenView) Release 2.4.2 is required to fully support the feature set of Cisco 6100 Series system Release 2.4.2.

To determine the module software versions, use the ViewRunner management software.

4.   Hardware and Software Compatibility

This section details the compatibility of the following Cisco 6100 Series system elements:

- Cisco 6100 Series system releases
- ViewRunner management software releases
- Two different multiplexer chassis (MCs)
    - Cisco 6100
    - Cisco 6130
- Two configurations
    - Direct Connect with a POTS splitter chassis (PSC)
    - Direct Connect without a PSC (Cisco 6130 only)
- Three module types
    - Dual-port CAP ATU-C (Cisco 6100 only)
    - Dual-port DMT-2 ATU-C

Note   DMT-2 ATU-C modules can only be ordered as spares for a Cisco 6100 chassis. If you are planning on using a Cisco 6100 chassis with DMT-2 ATU-C modules, a Cisco 6100 Thermal NEBS Compliance Retrofit Kit is required.

- Quad-port STU-C (Cisco 6130 only)

4.1   Hardware Compatibility

The following sections describe the chassis and modules available with the Cisco 6100 Series system and configuration compatibility comparisons.

4.1.1   Chassis Compatibility

There are two different chassis available with the Cisco 6100 Series system:

- Cisco 6130—Supports Release 2.4.0 and later
- Cisco 6100—Supports Release 2.4.1

Table 2 shows the configurations in which each of the chassis can be used.

Table 2   Cisco 6100 Series System Chassis and Configuration Compatibility

| Chassis | Direct Connect with a PSC Configuration | | Direct Connect Without a PSC Configuration |
	With a Cisco 6120	With a Siecor POTS Splitter[1]	
Cisco 6130[2]	Yes	Yes[3]	Yes
Cisco 6100[4]	Yes	No	No

1   The Siecor ADSL POTS Splitter Rack-Mount Shelf is compatible with the Cisco 6130 chassis. Systems with a Cisco 6100 chassis installed cannot connect to the network through a Siecor POTS splitter. The Siecor POTS splitter provides secondary lightning protection from tip to ring. However, secondary lightning protection is not provided from tip to ground or ring to ground.

2   The Cisco 6130 chassis feature support is present in Release 2.4.0 or later.

3   This configuration supports only DMT-2 ATU-C modules installed in the Cisco 6130 chassis and DMT modules installed in the Siecor POTS splitter.

4   Systems with a Cisco 6100 installed must connect to the network through a Cisco 6120 to provide the secondary lightning protection required by NEBS. Therefore, a Cisco 6100 cannot support a Direct Connect without a PSC configuration.

4.1.2   Module Compatibility

Table 3 shows the configurations where the MC modules can operate.

Table 3   Cisco 6100 Series Module and Configuration Compatibility

| Module | Direct Connect with a PSC Configuration | | Direct Connect Without a PSC Configuration | | Siecor POTS Splitter[1] |
	Cisco 6130	Cisco 6100	Cisco 6130	Cisco 6100	
Dual-port CAP ATU-C[2]	No	Yes	No	No	No
Dual-port DMT-2 ATU-C[3,4]	Yes	Yes	Yes	No	Yes
Quad-port STU-C[5,6]	No	No	Yes	No	No

1   The Siecor asymmetric digital subscriber line (ADSL) POTS splitter is compatible with the Cisco 6130 in a Direct Connect with a PSC configuration.

2   If you install CAP ATU-C modules in the Cisco 6100, you must install all CAP POTS modules in the Cisco 6120.

3   The DMT-2 ATU-C module feature support is not available for the Cisco 6100 chassis in Release 2.4.0.

4   If you install DMT-2 ATU-C modules in the Cisco 6130, you must install all DMT POTS modules in the POTS splitter chassis.

5   Symmetrical digital subscriber line (SDSL) does not support POTS.

6   The STU-C module feature support is present in Release 2.4.1 or later.

4.2   Software Compatibility

Table 4 summarizes the compatibility among Cisco 6100 Series system and ViewRunner management software releases.

Table 4   ViewRunner Management Software and Cisco 6100 Series System Release Compatibility

| | Cisco 6100 Series System Release[1,2] | | | | | |
	2.4.2	2.4.1	2.4.0	2.3.x	2.2.1/2.2.5	2.2.0
ViewRunner for Windows Release						
2.4.2						
2.4.1		Yes	Yes	No	No	No
2.4.0		No	Yes	No	No	No
2.3.5		No	No	Yes[3]	Yes	Yes

Table 4   **ViewRunner Management Software and Cisco 6100 Series System**
                     Release Compatibility

	Cisco 6100 Series System Release[1,2]					
	2.4.2	**2.4.1**	**2.4.0**	**2.3.x**	**2.2.1/2.2.5**	**2.2.0**
2.3.0		No	No	No	Yes[3]	Yes
2.2.1		No	No	No	Yes	Yes
2.2.0		No	No	No	No	Yes
ViewRunner for HP OpenView Release						
2.4.1		Yes	Yes	Yes	Yes	Yes
2.4.0		No	Yes	Yes	Yes	Yes
2.3.5		No	No	Yes[3]	Yes	Yes
2.3.0		No	No	No	Yes[3]	Yes
2.2.0		No	No	No	No	Yes

1   The Cisco 6130 chassis feature support is present in Release 2.4.0 or later.
2   Systems with a Cisco 6100 installed must connect to the network through a Cisco 6120 to provide the secondary lightning protection required by NEBS. Therefore, a Cisco 6100 cannot support a Direct Connect without a PSC configuration.
3   FCM update is required.

Note   Cisco recommends upgrading the ViewRunner management software as new releases become available.

Note   If you are currently running the Cisco 6100 Release 2.3.x, you cannot upgrade to the Cisco 6100 Series Release 2.4.x. You can upgrade when the Cisco 6100 Series Release 3.0.0 is available.

5. New Features

This section describes the new features for the following releases:

- Cisco 6100 Series system Release 2.4.2
- Cisco 6100 Series system Release 2.4.1
- Cisco 6100 Series system Release 2.4.0

5.1   New Features in Release 2.4.2

There are not new features in Release 2.4.2.

5.2   New Features in Release 2.4.1

The following sections describe the new features for Release 2.4.1.

5.2.1 Cisco 6100 New Feature Support

The Cisco 6100 supports the following new features and hardware components:

- DMT-2 ATU-C modules

- Fan tray major alarm event enhancement (modems remain trained when a major alarm event occurs)

5.2.2 Cisco 6130 New Feature Support

The Cisco 6130 supports the following new features and hardware components:

- DMT-2 ATU-C and STU-C module intermixing

- Fan tray major alarm event enhancement (modems remain trained when a major alarm event occurs)

- STU-C modules

5.2.3 DMT-2 ATU-C Module Support in the Cisco 6100

The DMT-2 ATU-C module supports the following features for the Cisco 6100:

- Two ports per module

- Offers the same level of loop performance as in the Cisco 6130

5.2.4 STU-C Module Support in the Cisco 6130

The STU-C module supports the following features for the Cisco 6130:

- Four ports per module

- DMT-2 ATU-C and STU-C module intermixing

5.2.5 Fan Tray Major Alarm Event Enhancement

The fan tray has three fans installed directly beneath the MC, with 1 rack unit (RU) of space below the fan tray, to provide forced convection cooling for the Cisco 6100 Series system. If a fan tray failure major alarm event occurs, the modems remain trained.

5.2.6 STU-C Module New Feature Support

Table 5 describes the STU-C module feature support in the Cisco 6100 Series system that is managed by the ViewRunner software.

Table 5   STU-C Module New Feature Support

New Feature Supported	Description
Circuit ID field activation	Provides more line and location detail for a particular subscriber. You can configure and display a circuit ID for each subscriber. The circuit field accepts up to 20 characters. Valid characters include A to Z, a to z, 0 to 9, and{.,-=;:'#!$%&*()<>_+/\}.

Table 5   STU-C Module New Feature Support (continued)

New Feature Supported	Description
ViewRunner support	Configuring an STU-C module is similar to configuring an ATU-C module. The STU-C module supports only a Direct Connect without a PSC configuration using a Cisco 6130. Transmission rates • Upstream from 144 kbps to 1168 kbps • Downstream from 144 kbps to 1168 kbps
DSL disconnect event	Monitoring DSL disconnect events is supported with the ViewRunner for Windows Event History and ViewRunner for HP OpenView Event browser in the **Current Alarm** dialog box.

5.3 New Features in Release 2.4.0

This following sections describe the new features for Release 2.4.0. For feature details, refer to the *Release Notes for the Cisco 6100 Series System Release 2.4.0* located on the World Wide Web at http://lbj.cisco.com/push_targets1/ucdit/cc/td/doc/product/dsl_prod/c6100/relnotes/78672601.htm

5.3.1 Cisco 6130 New Feature Support

The Cisco 6130 supports the following new features and hardware components:

- Fan tray
- Rear door
- Cables
- Persistent SNMP system name and location variables
- DMT-2 ATU-C modules

5.3.2 Cisco 6100 New Feature Support

The Cisco 6100 supports the following new features and hardware components:

- Fan tray
- Rear door
- Cables
- Persistent SNMP system name and location variables
- CAP ATU-C modules

5.3.3 DMT-2 ATU-C Module New Feature Support

The following new features for the DMT-2 ATU-C module are supported:

- Circuit ID field activation
- ViewRunner support
- Per-subscriber power setting transmittal
- Interleaved path support

- Training mode

- Priority queue support

- Performance monitoring: parameter and value

- Forward error correction (FEC)

- Overhead framing structure

- ATM virtual circuit support

5.3.4 CAP ATU-C Module New Feature Support

The following new features for the CAP ATU-C module are supported:

- Circuit ID field activation

- Per-subscriber power setting transmittal

- Priority queue support

6. Limitations and Restrictions

The following limitations and restrictions apply to Release 2.4.2:

- You must install the thermal upgrade kit, product number 6100-THERMAL-UPGD=, in a Cisco 6100 when using DMT-2 ATU-C modules.

- Only the Cisco 6130 chassis can support DMT-2 ATU-C and STU-C module intermixing. The DMT-2 ATU-C and STU-C modules must be segregated in either the right or left half of the MC (for example, DMT-2 ATU-C modules in slots 1 to 8 and 21 to 28; STU-C modules in slots 13 to 20 and 31 to 38). An every-other-module configuration is not supported.

- When DMT-2 ATU-C and STU-C module intermixing occurs in a Cisco 6130 chassis, the ViewRunner management software will not differentiate between the two chassis halves and the modules present. However, any warnings regarding the intermixing of DMT-2 ATU-C and STU-C modules are removed from the ViewRunner management software.

- The DOH configuration is not supported in this release. It is supported only in Release 2.3.1 and earlier.

- There is one Siecor POTS Splitter Rack-Mount Shelf unit available for the Cisco 6130 only in Release 2.4.1. In a future release, there will be two Siecor POTS Splitter Rack-Mount Shelf units available: one that supports the Cisco 6130 and one that supports the Cisco 6100. Both units will have CAP and DMT modules available. If you install

  — CAP ATU-C modules in the MC, you must install CAP modules in the Siecor POTS splitter.

  — DMT-2 ATU-C modules in the MC, you must install DMT modules in the Siecor POTS splitter.

7.   Important Notes

The following items are important notes for Release 2.4.2.

7.1   Year 2000 Compliant

Currently, the Cisco 6100 Series system is Year 2000 compliant. The following URL supplies up-to-date information on Y2K compliance:
http://www.cisco.com/warp/public/cc/cisco/mkt/gen/2000/prodlit/cptbl_ov.htm

7.2   Fan Tray

Release 2.4.1 provides the following updates to fan tray alarm events:

- The ViewRunner management software is updated to remove any messages that state a fan tray can only exist with a Cisco 6130.

- Modems remain trained when a fan tray failure major alarm event occurs.

7.3   NI Module

The NI-1 module was designed to support two ports per line module and a total of 64 DSL ports. The SDSL line cards bring four port line cards and 128 DSL ports to the 6100 and 6130 product lines. The implications of this limitation are that the NI-1 module must share the resources of one switch port (for example, buffer space) with two SDSL ports. As a result, in the downstream direction, instances of head-of-queue blocking and issues of fairness may occur.

In order to minimize the effects of these conditions and to prevent cell loss at the DSLAM, you must apply traffic shaping at the ATM switch upstream from the NI-1 so that the peak cell rate for any VPI/VCI provisioned for the SDSL line card does not exceed the actual trained rate for that line port. Please refer to the *Cisco IOS Quality of Service Solutions Configuration Guide* for more information on configuring traffic shaping.

8. Open Caveats

The caveats listed in Table 6 are open as of Release 2.4.2.

Table 6 **Open Caveats as of Release 2.4.2**

DDTS ID	Description
CSCdl26178	4 port STU-C line card does not pass data in an upstream direction even when the ports are trained.
CSCdp52726	SDSL overhead causes 16 kbps lower throughput.
	Impact: When SDSL is utilized, measured rates will be 16 kbps lower than the trained rate. This only occurs with SDSL.
	Workaround: There is no workaround. Due to the nature of SDSL, overhead causes the traffic rate to be 16 kbps lower than the trained line rate.
CSCdp38422	SDSL Line Cards error upstream frames with NI-1 production proms.
	Impact: Possible upstream cell loss with SDSL line cards when port combinations 1/3 or 2/4 are used. This problem can only occur with 4-port SDSL line cards when port combinations 1/3 or 2/4 are used for simultaneously passing traffic. The percentage of cell loss measured during testing is approximately .1%, and is small enough that it does not cause perceptible impact to performance during normal operations, even with traffic passing at the highest trained rate. It can only be seen with precise monitoring and counting of packets on both sides of the connection, as would be done in a test environment with a packet generator.
	Workaround: No workaround is currently available.
CSCdm81817	DMT2 various mode, upstream rate combos cause high ES, CB.
	Impact: Excessively high corrected/uncorrected block ratios and errored second (ES) counts are seen when the following combinations are provisioned for a subscriber -- overhead framing mode-2, 64 Kbps upstream; or overhead framing mode-3, 96 Kbps upstream
	The high error rates only occur with the overhead framing mode-2, 64K upstream, or overhead framing mode-3, 96K upstream combinations.
	Workaround: Do not provision a subscriber with either of these combinations of overhead framing mode and upstream rate. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm77285	DMT-2 ATU-C Bit swapping has no effect.
	Impact: Enabling bit swapping for DMT-2 ATU-C has not effect. This occurs under all circumstances whenever bit swapping is set.
	Workaround: There is no workaround. Bit swapping is not supported in the current release. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm77282	DMT2 margins cannot be set lower than 6 dB.
	Impact: Setting margin for DMT-2 ATU-C lower than 6 does not change the actual setting, which will still be 6 dB. This occurs with any DMT-2 ATU-C margin setting less than 6 dB.
	Workaround: There is no workaround. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm76074	DMT 16000, 32000 and 64000 interleave all equal max.
	Impact: Setting interleave for DMT-2 ATU-C modules to 16000, 32000 or 64000 all results in the maximum interleave setting being used. This will show up on the CPE output as interleave = 64. This occurs whenever any of these interleave settings are utilized.
	Workaround: There is no workaround. This is the maximum interleave that can currently be obtained with DMT-2 ATU-C in the Cisco 6130. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.

Table 6   Open Caveats as of Release 2.4.2 (continued)

DDTS ID	Description
CSCdm69068	DMT with trellis enable,CB/UB go down, but intermittent high ES
	Impact: Trellis coding enabled for a subscriber causes the connection to show up with a high ratio of corrected/uncorrected blocks and excessive errored second (ES) counts. This occurs when trellis coding is enabled at both the CO and CPE so that trellis is then active for the connection.
	Workaround: Do not enable trellis for the subscriber. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm69047	DMT Setting PSD –43=–52;–46=–40;–49=–40
	Impact: Setting the PSD to –46 dB or –49 dB in ViewRunner results in the downstream PSD still being the default of –40 dB. This occurs only with DMT-2.
	Workaround: There is no workaround. The inability to set PSD lower than –43 dB is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem. It is strongly recommended the default PSD of –40 dB be used.
CSCdm59472	DMT cannot train at 128 K increment for upstream
	Impact: When a DMT-2 subscriber is configured for an upstream rate that is an increment of 128 K, such as 128 K, 256 K, and so on, the line card will always attempt to train at 32 K above the configured rate. This only occurs with DMT-2 upstream increments of 128 K.
	Workaround: There is no workaround to obtain an increment of 128 K. If a 128 K increment is set for a subscriber, during training the line card will always attempt to train at 32 K above the configured rate. For example, if the subscriber is set to 128 K, the line card will attempt training at a 160 K trained rate. Note that adaptive training is used, which allows a subscriber to train even if the provisioned rate cannot be obtained due to line conditions. If line conditions do not allow the 32 K higher rate to be obtained, training will occur at a rate lower than the configured rate. However, upstream training will never occur at rate which has been configured as an increment of 128 K: 128 K, 256 K, 384 K, 512 K, 640 K, 768 K.
CSCdm52542	DMT Downstream file transfer perf overly impacted by upstream rt.
	Impact: When the downstream rate is set much higher than the upstream rate—for example, 1544/96—the data transfer rates will not be as high as would be expected for downstream data transfers. This occurs when upstream rates are set very low relative to downstream rates, and particularly for file transfers that require acknowledgements, such as FTP.
	Workaround: Do not set very low upstream rates, such as below 256 K, when using high downstream rates.
CSCdm46110	DS-3 subtending bandwidth is less than 40.7 Mbps.
	Impact: When a rate greater than 40.2 Mbps of traffic is sent through the DS3 subtend ports, traffic is sent no faster than 40.2 Mbps.
	Workaround: None required. This change was needed to keep cells from being lost due to the inability of the subtend ports to handle traffic greater than 40.2 Mbps.
CSCdm43638	DMT-2 ATU-C fails to meet T1.413 loop midCSA6-cannot set margin of 3.
	Impact: When running T1.413 MidCSA 6 loop, the required rate cannot be met. MidCSA 6 requires a margin setting of 3; however, there is no way to set the margin below 6. Although you can set the value below 6 in ViewRunner, the margin will remain at 6.
	Workaround: There is no workaround. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.

Table 6   Open Caveats as of Release 2.4.2 (continued)

DDTS ID	Description
CSCdm41964	DMT-2 ATU-C module FE Corrected Blocks dont match CPE. **Impact:** When corrected/uncorrected blocks are checked at the CO side then compared with similar statistics on the CPE side, the values may not necessarily match. Other statistics may also be out of sync. This can occur with any kind of connection. **Workaround:** There is no workaround. There are slight differences in the manner in which the firmware reports statistics to the CO and the CPE side. The discrepancies are not severe enough to impact accurate reporting of general functionality. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm40771	Could not login to NI debug mode after creating 1600 PVCs and 1. **Impact:** Can not login to NI debug mode after creating 1600 PVCs and 1500 transit subscribers. Occurs after creating greater than 1600 subscribers and 1100 transit subscribers. **Workaround:** There is none. Due to memory limitations, you cannot enter NI debug mode after exceeding this number of subscribers and transit subscribers. The fix is scheduled to be incorporated in the next major release.
CSCdm36644	9000-9350 ft/ –34 dBM/Hz, CPE cannot train. **Impact:** Setting a subscriber to a PSD setting other than the default value of –40 dB may cause unpredictable results. In particular, a setting of –34 dB will cause the subscriber to continually retrain. **Workaround:** Leave the subscriber PSD setting at the default of –40 dB. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm35128	Active Connections causes 100% CPU for 75 secs on 400 Mhz PC. **Impact:** On a fully-loaded Cisco 6100/6130 chassis, when attempting to show Active Connections in ViewRunner, it takes over one minute before the active connections are displayed. This occurs even on a fast PC, such as a 400 Mhz Pentium. This happens on systems with many line modules. **Workaround:** There is no workaround. The problem manifests itself in ViewRunner, but is due to the speed at which the information can be reported by the Cisco 6100.
CSCdm33344	ATU-C Perf Cmnd - Has no real data. **Impact:** When viewing "More Parameters" in ViewRunner to see statistics for DMT-2 ATU-C, most of the statistics do not display a value. This is applicable only to DMT-2 ATU-C. **Workaround:** There is no workaround. The values are not yet available to be reported. This is only an issue with reporting statistics. Operations are not affected. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm28106	No data is passed when Fastpath is selected for DMT-2 ATU-C. **Impact:** Applicable only to the DMT-2 ATU-C. When setting latency for the DMT-2 ATU-C, only interleave can be used. Fastpath is not available. If Fast were set, no data would pass. **Workaround:** The current DMT-2 ATU-C implementation in the 6130 only supports interleave. A setting of 0 interleave should yield the same effective results as using Fastpath. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.

Table 6   Open Caveats as of Release 2.4.2 (continued)

DDTS ID	Description
CSCdm23668	FEC Redundancy bytes has no effect. **Impact:** When a subscriber is configured for any of the FEC Redundancy bytes values under the DMT-2 ATU-C modem parameters, there is no variation in the trained rate and error correction rate. **Workaround:** There is no workaround. This problem is due to a limitation with third-party hardware. There is currently no scheduled date from the vendor for resolution of the problem.
CSCdm21026	Reseating OC-3 NI generate buffer overflow msg in VR4W. **Impact:** When an NI is reseated in the chassis, an error message is generated in the ViewRunner log indicating the following: `Buffer overflow in the cell buffer on the subtend module` This occurs whenever an NI is reseated. Even though the message refers to a subtend module, one need not be present for this message to appear. **Workaround:** None required. This is a spurious error message that does not affect operations in any way.
CSCdm20798	DMT2 does not accurately report trained/not trained. **Impact:** When checking in ViewRunner on module status or when viewing Active Connections, a connection may be incorrectly reported as not trained although it actually is. With Active Connections, the problem manifests itself by not listing all actual active connections. **Workaround:** Refresh status. Due to limitations in how quickly information can be reported, there will be periodic incorrect reporting regarding module connection status.
CSCdk90117	Software Upgrade Arch: LR Image transfer in background mode. **Impact:** The software download process fails because of errors during the TFTP process. The 6100 node is 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 include: • 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 **Workaround:** Do not reset the Cisco 6100. 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.
CSCdk90118	Software Upgrade Arch: SW version transfer window must be minimal. **Impact:** The software download process fails because the ViewRunner server does not respond or resets during the software download process. Conditions include: • ViewRunner server workstation has a system failure • ViewRunner server workstation experiences a power outage • ViewRunner software goes down **Workaround:** Do not reset the Cisco 6100. 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.

Table 6   Open Caveats as of Release 2.4.2 (continued)

DDTS ID	Description
CSCdk90121	Software Upgrade Arch: New Image NMS communication **Impact:** 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. Conditions include: • SNMP times out • Network integrity problems **Workaround:** Do not reset the Cisco 6100. Locate the saved configuration file created during the save operation (.nss extension): • ViewRunner for Windows (in the same folder at the ViewRunner executable)— ~uplr.nss • ViewRunner for 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. Restart software download.
CSCdk90126	SW Upgrade Arch: Orphaned Upgrade state information. **Impact:** The configuration database is too large to have two copies in NVRAM to do the config-restore without NMS intervention during the upgrade. **Workaround:** There is no workaround.
CSCdk90127	SW Upgrade Arch: SW Release update reestablishes data without NMS. **Impact:** Incomplete data transfer will not be activated until the last SWAP command. **Workaround:** There is no workaround.
CSCdk90128	SW Upgrade Arch: VR should not lock on LR failure. **Impact:** 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. **Workaround:** Restore an older version image and 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 the download.
CSCdk59039	If a user is sending debug messages and enters an invalid instance type in the message, the SC can crash. This problem only occurs in a lab debug environment. **Impact:** There is no impact. This only occurs in a lab debug environment. **Workaround:** Do not enter a debug message with invalid insttype.
CSCdk57824	Downstream RS errors when adjacent modem channel does not respond. **Impact:** If both channels of an ATU-C central office modem module are trained to customer premise equipment and one channel does not respond, the other channel on the module produces a burst of downstream reed-solomon errors. **Workaround:** These errors are corrected by the CPE equipment.
CSCdk57362	If the system is in Direct Connect mode, the CPE TIMER alarm is not cleared after lock/unlock of the line port. **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.

Table 6   Open Caveats as of Release 2.4.2 (continued)

DDTS ID	Description
CSCdk55957	ATU-C does not give enough margin when trained to a c660. **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.
CSCdk53848	Life Line not preserved when POTS splitter module is removed. **Impact:** When the POTS module is removed, phone service is lost. **Workaround:** Do not remove the POTS module.
CSCdk53830	The counter "Failed Trains due to non-timer enabled CPE" not visible while the system is in Direct Connect Mode. **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.
CSCdk53806	Command Line Interface does not show "CPE NOT TIMER ENABLED" alarm text. **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.
CSCdk51475	NI debug command DS3 status (ss all) shows an unexpected m23 format. **Impact:** No impact. **Workaround:** There is no workaround.
CSCdk43208	Disconnecting tip/ring momentarily causes loss of upstream data **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.
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. **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.
CSCdk34684	CAP ATU-C margin can be lower than specified for 1024 k and 896 k. **Impact:** After training is completed, the margin may not be as high as specified. **Workaround:** **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.
CSCne02362 CSCne02112	System control IP information becomes corrupted after save or after BOOTP is completed. **Impact:** Only an installation impact when you use the BOOTP capability. **Workaround:** Reenter the SC IP address in the boot menu.

Table 6 **Open Caveats as of Release 2.4.2 (continued)**

DDTS ID	Description
CSCne02176	When locked, Cisco 6100 modules still respond with alarms when pulled from chassis. **Impact:** No system impact, unimplemented feature. **Workaround:** Not required.
CSCne02002	On the SHM module, the RAI and OCD alarms do not clear when the alarm condition is corrected. **Impact:** Incorrect alarms. **Workaround:** No workaround.
CSCne01970 CSCne02364	Fabric Control does not configure transit VPCs. **Impact:** No system impact, unimplemented feature. **Workaround:** Use VCCs only.
CSCne01912 CSCne01913	DS3 Subtending port does not block data flow upon port or module lock. Unimplemented feature at this time. **Impact:** Cannot block data by unlocking Subtend port. **Workaround:** To block the data, pull out the DS3 cable.
CSCne01854	Following an NI reset, the following non-fatal events are seen in the event window: 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. **Workaround:** Not required.
CSCne01497	Identical fault message text is provided when NI DS3 C-bit parity detection is asserted and cleared. **Impact:** The message "Unexpected frame format" is provided in both the asserting and clearing cases. **Workaround:** Not required.

9. Resolved Caveats

The caveats listed in Table 7 are resolved as of Release 2.4.2.

Table 7 **Resolved Caveats as of Release 2.4.2**

DDTS ID	Description
CSCdp30545	System crashes while creating transit PVCs.
CSCdm87985	ADI/Aware DSP Upload Can Corrupt ADI/Aware Flash
CSCdm45054	Clearing of fan shelf alarm causes system reset.
CSCdm87044	ATUC: generates IPCtoSMB Unable to allocate buffer!
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.

Table 7   Resolved Caveats as of Release 2.4.2 (continued)

DDTS ID	Description
CSCdk46493 CSCdk49143	When four VCs are sending data simultaneously and are configured on one port, the bandwidth is not distributed fairly.
CSCdk43651	LIM controller SMB failure over Temperature and Humidity.
CSCne01131	During an NI reset, active OC3 cell flow may cause NI alarm and NI shutdown on power-up

10. Documentation Updates

The CAP ATU-C module references in the *Cisco 6100 Direct Connect Installation Guide* should be changed to the following product numbers:

CAP-05 ATU-C module—Product number ATUC-2-CAP-DIR-2

11. Related Documentation

The following sections list the central office (CO) and customer premises equipment (CPE) publications that relate to the Cisco DSL product family.

11.1   CO Publications

A complete list of all released Cisco 6100 Series system with NI-1 related documentation is available on the World Wide Web at http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/c6100/index.htm.

The following ViewRunner management software is used to provision and manage the Cisco 6100 Series system with NI-1. A complete list of all released ViewRunner documentation is available on the Word Wide Web.

- ViewRunner for Windows
  http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/vrmgtsw/vr4w/index.htm

- ViewRunner for HP OpenView
  http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/vrmgtsw/vr4ov/index.htm

11.2   CPE Publications

The Cisco CPE, also known as the Cisco 600 Series, is part of the Cisco end-to-end DSL product family. CPE comprises modems and routers at the customer site primarily used by home office and corporate LAN personnel. Most CPE uses the Cisco Broadband Operating System (CBOS) as its operating system. CBOS provides a comprehensive command set and web interface that allow you to configure your Cisco CPE modem or router.

A complete list of all released Cisco 600 Series documentation is available on the World Wide Web at http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/c600s/index.htm.

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, 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 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.

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 Online Technical Support on the CCO home page.

Step 4   On the Online Technical Support page, click Software Bug Toolkit. (Bug Toolkit is not visible on the Software Bug Toolkit page unless you log in to CCO as directed in Step 2.)

Step 5   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 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.

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