



Release Notes for the Cisco 6100/6130 with NI-1 System Release 3.2.2

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These release notes describe the features and caveats for the Cisco 6100/6130 with NI-1 system Release 3.2.2, which incorporates the features and caveats from Release 3.1.0 and Release 3.0.0.

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Introduction

The Cisco 6100/6130 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 6100/6130 system is part of the Cisco leadership architecture that transcends the DSL service profitability barrier.



The Cisco 6100/6130 DSLAM

- Supports a broad range of users by allowing differing modem pooling rates and varying degrees of subtending.
- Offers Direct Connect configuration, which allows you to directly connect up to 128 subscribers using asymmetric digital subscriber line (ADSL) technology or symmetrical digital subscriber line (SDSL) technology.
- Offers Digital Off-Hook (DOH) configuration, which allows you to connect up to 400 subscribers using ADSL technology.
- Offers no-truck-roll technology, which eliminates the need for basic telephone service splitters at the subscriber premises.

Module Software Versions for Release 3.2.2

Table 1 contains the individual module software versions (and ROM versions, as applicable) that the system part number SF-6100-3.2.2 comprises for Release 3.2.2.

Table 1 *Software Versions for Release 3.2.2*

Release 3.2.2 Component	Software Version
System controller module software	9651-001-42
NI-1 module software	9601-001-36
DS3 STM ¹ software	9601-005-13
CAP ATU-C module software	9101-001-33
DMT-2 ATU-C module main software	9101-003-08
DMT-2 ATU-C module DSP ² software	5385-579-97
STU-C module software	9101-008-05
Flexi ATU-C module software (DMT mode)	9101-005-11
Flexi ATU-C module software (CAP mode)	9101-004-13
LIM ³ controller module software	9651-002-13
SPN ⁴	9000-001-42R

1. STM = subtending host module
2. DSP = digital signal processor
3. LIM = line interface module
4. SPN = system part number

The ViewRunner management software (ViewRunner for Windows or ViewRunner for HP OpenView) Release 3.x.x is required to fully support the feature set of the Cisco 6100/6130 with NI-1 system Release 3.2.2.

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



Note

To upgrade from version 2.x.x to version 3.x.x of the Cisco 6100/6130 node software, you must use ViewRunner version 3.0.0 software or above.

Hardware and Software Compatibility

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

- ViewRunner Management and Cisco 6100/6130 with NI-1 Software Compatibility, page 3
- Cisco 6100/6130 with NI-1 Chassis and Configuration Compatibility, page 4
- Module Compatibility, page 4

ViewRunner Management and Cisco 6100/6130 with NI-1 Software Compatibility

Table 2 summarizes the compatibility among Cisco 6100/6130 system and ViewRunner management software releases.

Table 2 *ViewRunner Management Software and Cisco 6100/6130 with NI-1 System Release Compatibility*

	Cisco 6100/6130 with NI-1 System Release ^{1,2}								
	3.2.2	3.1.0	3.0.0	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									
3.1.0	Yes ³	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3.0.0	Yes ³	Yes ³	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2.4.1	No	No	No	Yes	Yes	Yes	No	No	No
2.4.0	No	No	No	No	No	Yes	No	No	No
2.3.5	No	No	No	No	No	No	Yes ³	Yes	Yes
2.3.0	No	No	No	No	No	No	No	Yes ³	Yes
2.2.1	No	No	No	No	No	No	No	Yes	Yes
2.2.0	No	No	No	No	No	No	No	No	Yes
ViewRunner for HP OpenView Release									
3.1.0	Yes ³	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3.0.0	Yes ³	Yes ³	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2.4.1	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
2.4.0	No	No	No	No	No	Yes	Yes	Yes	Yes
2.3.5	No	No	No	No	No	No	Yes ³	Yes	Yes
2.3.0	No	No	No	No	No	No	No	Yes ³	Yes
2.2.0	No	No	No	No	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 POTS splitter. Therefore, a Cisco 6100 cannot support a Direct Connect without a POTS splitter configuration.
3. The most recent FCM file may be required. ViewRunner will detect and display a warning if a newer FCM is required.

**Note**

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

Cisco 6100/6130 with NI-1 Chassis and Configuration Compatibility

There are two different chassis available with the Cisco 6100/6130 with NI-1 system:

- Cisco 6130—Supports Release 2.4.0 and later
- Cisco 6100—Supports Release 3.x.x and earlier

Table 3 shows the configurations in which each of the chassis can be used.

Table 3 Cisco 6100/6130 with NI-1 System Chassis and Configuration Compatibility

Chassis	Direct Connect with a POTS Splitter Configuration		Direct Connect Without a POTS Splitter Configuration	DOH Configuration
	With a Cisco 6120	With a Siecor POTS Splitter ¹		
Cisco 6130 ²	Yes	Yes	Yes	No
Cisco 6100 ³	Yes	Yes	No	Yes

1. The Siecor ADSL POTS Splitter Rack-Mount Shelf is compatible with the Cisco 6100 and Cisco 6130 chassis. 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. Systems with a Cisco 6100 installed must connect to the network through a POTS splitter (Cisco 6120 or Siecor POTS splitter). Therefore, a Cisco 6100 cannot support a Direct Connect without a POTS splitter configuration.

Module Compatibility

Following are the four types of Cisco 6100/6130 modules:

- Dual-port CAP ATU-C
- Dual-port DMT-2 ATU-C
- Quad-port flexi ATU-C
- Quad-port STU-C

Table 4 shows the configurations where the Cisco 6100/6130 modules can operate.

Table 4 Cisco 6100 Series Module and Configuration Compatibility

Module	Direct Connect with a POTS Splitter Configuration		Direct Connect Without a POTS Splitter Configuration		DOH Configuration ¹		Siecor POTS Splitter ²
	Cisco 6130	Cisco 6100	Cisco 6130	Cisco 6100	Cisco 6130	Cisco 6100	
Dual-port CAP ATU-C	No	Yes	No	No	No	Yes	Yes
Dual-port DMT-2 ATU-C ^{3,4}	Yes	Yes	Yes	No	No	No	Yes

Table 4 Cisco 6100 Series Module and Configuration Compatibility (continued)

Module	Direct Connect with a POTS Splitter Configuration		Direct Connect Without a POTS Splitter Configuration		DOH Configuration ¹		Siecor POTS Splitter ²
	Cisco 6130	Cisco 6100	Cisco 6130	Cisco 6100	Cisco 6130	Cisco 6100	
Quad-port flexi ATU-C ⁵	Yes	Yes	Yes	No	No	No	Yes
Quad-port STU-C ^{6,7}	No	No	Yes	No	No	No	No

1. The DOH configuration feature is not supported in Release 2.4.x with a Cisco 6100 or a Cisco 6130.
2. The Siecor ADSL POTS splitter is compatible with a Cisco 6100 or a Cisco 6130 in a Direct Connect with a POTS splitter configuration.
3. The DMT-2 ATU-C module feature support is not available for the Cisco 6100 chassis prior to Release 2.4.1.
4. If you install DMT-2 ATU-C modules in the Cisco 6100/6130, you must install all DMT POTS modules in the POTS splitter chassis.
5. The flexi ATU-C module feature support is present in Release 3.0.0 or later.
6. Symmetrical digital subscriber line (SDSL) does not support POTS.
7. The STU-C module feature support is present in Release 2.4.1 or later.

Table 5 shows interoperability between a variety of modules and Cisco's customer premises equipment (CPE).

Table 5 Cisco 6100 Series Module and CPE Compatibility

Module	Recommended CPE	Alternative CPE Works with Limitations
Quad-port flexi (CAP)	<ul style="list-style-type: none"> • Cisco 678 CBOS 2.3.0/2.3.5 • Cisco 675 CBOS 2.3.0/2.3.5 • Cisco 675 CBOS 2.2.0 (no 17 kilobaud/68 kilobaud) • Cisco 675 CBOS 2.1.0 (no 17 kilobaud/68 kilobaud) • Cisco 675 CBOS 2.0.1 (no 17 kilobaud/68 kilobaud) 	Cisco 605 PCI 210 Production
Quad-port flexi (DMT)	Cisco 678 CBOS 2.3.0/2.3.5	None
Quad-port flexi (DMT G.lite)	Cisco 678 CBOS 2.3.0/2.3.5	None
Dual-port CAP	<ul style="list-style-type: none"> • Cisco 678 CBOS 2.3.0/2.3.5 • Cisco 675 CBOS 2.3.0/2.3.5 • Cisco 675 CBOS 2.2.0 (no 17 kilobaud/68 kilobaud) • Cisco 675 CBOS 2.1.0 (no 17 kilobaud/68 kilobaud) • Cisco 675 CBOS 2.0.1 (no 17 kilobaud/68 kilobaud) 	Cisco 605 PCI 210 Production
Dual-port DMT (ADI)	Cisco 677	Cisco 627

Table 5 Cisco 6100 Series Module and CPE Compatibility (continued)

Module	Recommended CPE	Alternative CPE Works with Limitations
Dual-port DMT G.lite (ADI)	Not Supported	None
Quad-port STU-C	Cisco 673 (Ethernet to DSL)	Cisco 633 (Frame Relay to DSL)

New Features

This section details the new features for the following releases:

- Cisco 6100/6130 with NI-1 system Release 3.2.2
- Cisco 6100/6130 with NI-1 system Release 3.1.0
- Cisco 6100 Series system Release 3.0.0

New Features in Release 3.2.2

This release consists of resolving open caveats. For more information on these caveats, see the “Resolved Caveats” section on page 22.

New Features in Release 3.1.0

This release consists of resolving open caveats and releasing software support for a newer version of the flexi ATU-C module hardware. For more information on these caveats, see the “Resolved Caveats” section on page 22.

Table 6 details the module intermixing configurations in a Cisco 6100/6130 chassis for Release 3.1.0.



Note

You can only intermix the flexi ATU-C (CAP) and the flexi ATU-C (DMT-2) modules in the same chassis half.

Table 6 Cisco 6100/6130 Module Intermixing

Module Combination	Cisco 6100 Chassis	Cisco 6130 Chassis
Dual-port DMT-2 ATU-C and quad-port STU-C	Not supported	Supported
Dual-port DMT-2 ATU-C and dual-port CAP ATU-C	Supported	Not supported
Dual-port CAP ATU-C and quad-port flexi ATU-C (DMT mode)	Supported	Not supported
Dual-port CAP ATU-C and quad-port flexi ATU-C (CAP mode)	Supported	Not supported

Table 6 Cisco 6100/6130 Module Intermixing (continued)

Module Combination	Cisco 6100 Chassis	Cisco 6130 Chassis
Dual-port DMT-2 and quad-port flexi ATU-C (DMT mode)	Supported	Supported
Dual-port DMT-2 and quad-port flexi ATU-C (CAP mode)	Supported	Supported
Dual-port CAP ATU-C and quad-port STU-C	Not supported	Not supported
Quad-port flexi ATU-C (CAP mode) and quad-port flexi ATU-C (DMT mode)	Supported	Supported
Quad-port flexi ATU-C (CAP mode) and quad-port STU-C	Not supported	Supported
Quad-port flexi ATU-C (DMT mode) and quad-port STU-C	Not supported	Supported

**Note**

For a description of ViewRunner software features, refer to the *Release Notes for ViewRunner for Windows Release 3.1.0* and the *Release Notes for ViewRunner for HP OpenView Release 3.1.0*.

New Features in Release 3.0.0

**Note**

Release 3.0.0 merges all of the features and functionality of Releases 2.4.x, 2.3.x, and 2.2.5 in addition to the features described in the following sections.

The following items are new node software features for Release 3.0.0. For feature details, refer to the *Release Notes for the Cisco 6100 Series System Release 3.0.0* located on the World Wide Web at http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/c6100/relnotes/7810305.htm

- Support for a quad-port flexi (CAP/DMT) ATU-C module
- Support for module intermixing
- Support for the Globespan 3.2 firmware
- Support for Reed-Solomon coding for CAP
- Support for setting the ATU-R power level
- Support for test bus capability for Direct Connect system configurations
- Performance management enhancements for ATM, DS3, and OC-3
- In-band channel performance enhancements
- Software upgrade enhancements
- Dual-port DMT-2 ATU-C module software upgrade enhancements

**Note**

For a description of the ViewRunner software features, refer to the *Release Notes for ViewRunner for Windows Release 3.0.0* and the *Release Notes for ViewRunner for HP OpenView Release 3.0.0*.

Release 3.0.0 brings support for a new Cisco 6100/6130 module—the Cisco 6100 Series quad-port flexi ATU-C. *Flexi* refers to support for both DMT-2 modulation (ANSI T1.413 Issue 2), CAP modulation, and G.lite. The module is designed for ADSL over POTS through a POTS splitter or for a direct connection to the customer loop. Loop characteristics will determine the actual data rates.

A fan tray is required when you are using either of the following chassis:

- Cisco 6130 chassis
- Cisco 6100 chassis with dual-port DMT-2 ATU-C or quad-port flexi ATU-C modules

A major alarm event occurs when a fan tray is not present. If you are installing more than one chassis, a fan tray must be installed under each chassis. For more information about the fan tray, refer to the *Cisco 6130 with NI-1 Direct Connect Installation Guide* or the *Cisco 6100 with NI-1 Direct Connect Installation Guide*.

**Note**

For more information on installing and using the quad-port flexi ATU-C module, see the *Quad-Port Flexi ATU-C Module FRU Installation and Replacement Notes*.

Limitations and Restrictions

The following limitations and restrictions apply to Release 3.0.0, Release 3.1.0, and Release 3.2.2:

- The upgrade from two ports to four ports requires a recabling action. Therefore the user must bring down the system temporarily.
- You must install a thermal guard and a fan tray in a Cisco 6100 when using flexi DMT-2 ATU-C modules.
- If you convert from a DOH configuration to a Direct Connect configuration in Release 3.1.0, you should make sure that your CPE timer settings (Session and Idle) are set properly. You might need to upgrade older CPE to a later version for CO and CPE timers to be compatible.
- You can only deactivate the Reed-Solomon error correction functionality in the downstream direction.
- You cannot use the in-band channel feature to upgrade images for released versions 2.4.x and 2.2.x. However, you can use Ethernet to upgrade these images.
- Releases prior to 3.x.x supported CAP Reed-Solomon short interleave functionality by default, but did not allow you to use the long interleave option. Release 3.x.x supports provisionable interleave delay, either long or short. The 3.x.x upgrade defaults all CAP ports to long interleave which provides better error correction but increases latency. If you prefer decrease latency over error correction, select the short interleave option.

- Table 7 compares several of the features for the dual-port CAP ATU-C module and the quad-port flexi CAP ATU-C module and provides caveats, if any, to the module functionality.

Table 7 Feature Comparison and Caveats—Dual-Port CAP ATU-C and Quad-Port Flexi CAP ATU-C Modules

Feature	Dual-Port CAP ATU-C Module	Quad-Port Flexi CAP ATU-C Module
Line Rate	Supported	Supported with caveat: Rarely CPE retrains at 952 instead of 1088 kbps upstream. (CSCdp85772)
Margin	Supported	Supported
PSD ¹	Supported	Supported
Reed-Solomon	Supported	Supported
136 kilobaud downstream	Supported	Supported
17 kilobaud and 68 kilobaud upstream	Supported	Supported

1. PSD = power spectral density

- Table 8 compares several of the features for the dual-port DMT-2 ATU-C module and quad-port flexi DMT-2 ATU-C module and provides caveats, if any, to the module functionality.

Table 8 Feature Comparison and Caveats—Dual-port DMT-2 ATU-C and Quad-port Flexi DMT-2 ATU-C Modules

Feature	Dual- Port DMT-2 ATU-C Module	Quad-Port Flexi DMT-2 ATU-C Module
Line Rate	Supported with caveat: Cannot train upstream @ 128, 256, 512, 640, 768 kbps (CSCdm59472 and CSCdm81817)	Supported
Margin	Supported with caveat: Cannot set margin below 6. (CSCdm43638)	Supported
PSD	Supported with caveat: Always use default setting of –40 dbm/Hz. (CSCdm36644) If you select the –46 dbm/Hz or the –49 dbm/Hz setting, the module uses the default setting of –40 dbm/Hz. (CSCdm69047)	Supported with caveat: All settings are mapped to full power (except –49 dbm/Hz) and will automatically attenuate down to a lower power when necessary.
Overhead Framing	Supported with the following settings: 0—Full, Asynchronous 1—Full, Synchronous 2—Reduced, Separate 3—Reduced, Merged	Supported with caveat: 3—Reduced, Merged Modes 0, 1, and 2 are not supported at this time. (CSCdp39444)
Training Mode	Supported with caveat: Standard only (CSCdm36621)	Supported with caveat: Standard only (CSCdp53139)

Table 8 Feature Comparison and Caveats—Dual-port DMT-2 ATU-C and Quad-port Flexi DMT-2 ATU-C Modules (continued)

Feature	Dual- Port DMT-2 ATU-C Module	Quad-Port Flexi DMT-2 ATU-C Module
Interleaved Delay	Supported with caveat: 0, 250, 500, 1 K, 2 K, 4 K, 8 K microseconds work, all other settings equal maximum. (CSCdm76074)	Supported with the following settings: 250, 500, 1 K, 2 K, 4 K, 8 K, 16 K, 32 K, 64 K microseconds. (CSCdr23589)
FEC ¹ Redundancy	Not supported (CSCdm23668)	Supported with the following settings: 0, 2, 4, 6, 8, 12, 14, 16 bytes
Trellis Code	Supported with caveat: Trellis enabled causes data problems. (CSCdm69068)	Supported with caveat: Enable Trellis for rates over 7.6 Mbps. (CSCdp67298)
Bit Swapping	Not supported (CSCdm77285)	Not supported (CSCdp39437)
Latency Path	Supported with caveat: Fast = Interleaved at 0 Delay. (CSCdp27472)	Supported

1. FEC = forward error correction

Important Notes

There are no important notes for Release 3.1.0 or Release 3.2.2.



Note

For important notes for Release 3.0.0, refer to the Release Notes for the Cisco 6100 Series System Release 3.0.0 located on the World Wide Web at http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/c6100/relnotes/7810305.htm

Open Caveats

The caveats listed in Table 9 are open as of Release 3.2.2.

Table 9 Open Caveats as of Release 3.2.2

DDTS Entry	Description
CSCdk46493 CSCdk49143	<p>When four VCs are sending data simultaneously and are configured on one port, the bandwidth is not distributed fairly.</p> <p>Impact: If four VCs are configured for one line port and sending data simultaneously, the bandwidth for some of the VCs is not distributed fairly among each of the VCs. Users on some of those VCs may not get their provisioned bandwidth.</p> <p>Workaround: There is no workaround. The network interface does not perform per-VC queuing.</p>
CSCdk53830	<p>The counter "Failed Trains due to nontimer enabled CPE" not visible while the system is in Direct Connect mode.</p> <p>Impact: If the system is in Direct Connect mode, you do not know how many times a line port failed to train because the CPE gear is not timer enabled.</p> <p>Workaround: None.</p>
CSCdk53848	<p>Life Line not preserved when POTS splitter card is removed.</p> <p>Impact: When the POTS card is removed, phone service is lost.</p> <p>Workaround: Do not remove the POTS card.</p>
CSCdk55611	<p>If you specify a bad TFTP Server IP Address from the Boot ROM Menu Screen, the system controller will fail the download and will not run.</p> <p>Impact: The system controller will not load with the proper image if you specify a bad TFTP Server IP Address from the Boot ROM Menu Screen.</p> <p>Workaround: The user must specify the proper TFTP Server IP Address during downloads.</p>
CSCdk92817	<p>CLI password command accepts illegal passwords. The command line interface accepts function keys as legal password characters.</p> <p>Impact: In password command, enter "123<F1>" when prompted for new password and then "123" when prompted to Reenter password. You will receive an error message that "passwords don't match".</p> <p>Workaround: Do not enter function keys for password characters.</p>
CSCdm01442	<p>PVC idle cell count incorrect.</p> <p>Impact: The PVC idle cell count currently is a little off when determining if a subscriber is idle or not.</p> <p>Workaround: Customer can add a 2 percent cell buffer when setting the PVC idle mark value.</p>
CSCdm03741	<p>Inaccurate time stamp given in event log as to the time that the network interface module was inserted.</p> <p>Impact: Occurs very rarely after network interface power cycle.</p> <p>Workaround: None.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdm08281	<p>A random set of modems fails to attempt to train after power cycle.</p> <p>Impact: Occurs after power cycle of the system controller, or software download. Rate of occurrence is 1/4 of 1 percent.</p> <p>Workaround: Lock/Unlock the offending modem port. Alternatively, the module may be removed and reinserted.</p>
CSCdm21026	<p>Reseating OC-3 network interface generates a buffer overflow msg in VR4W.</p> <p>Impact: When a network interface is reseated in the chassis, a message is generated in the ViewRunner log indicating the following error:</p> <p>Buffer overflow in the cell buffer on the subtend module</p> <p>This occurs whenever a network interface is reseated. Even though the message refers to a subtend module, you do not need to be present for this message to appear.</p> <p>Workaround: None required. This is a spurious error message that does not affect operations in any way.</p>
CSCdm23668	<p>FEC Redundancy bytes has no effect.</p> <p>When a subscriber is configured for any of the FEC Redundancy bytes values under the DMT-2 modem parameters, there are no variation in the trained rate and error correction rate.</p> <p>Impact: None.</p> <p>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.</p>
CSCdm25685	<p>No support for G.dmt and G.lite.</p> <p>Impact: G.lite or G.dmt cannot be configured for dual-port DMT-2 cards. This is true for all conditions.</p> <p>Workaround: No workaround. G.lite and G.dmt are not supported in this release for dual-port DMT-2. They are scheduled to be part of a future 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.</p>
CSCdm36644	<p>9000–9350 ft/–34 dBMHz, CPE cannot train.</p> <p>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.</p> <p>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.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdm40771	<p>Could not login to network interface debug mode after creating 1600 PVCs and 1.5K transit subscribers.</p> <p>Impact: Cannot login to network interface debug mode after creating 1600 PVCs and 1500 transit subscribers. Occurs after creating greater than 1600 subscribers and 1100 transit subscribers.</p> <p>Workaround: None. Due to memory limitations, you cannot enter network interface debug mode after exceeding this number of subscribers and transit subscribers. The fix is scheduled to be incorporated in the next major release.</p>
CSCdm41552	<p>SDSL downstream traffic contention between odd and even ports.</p> <p>When odd ports (1 and 3) and even ports (2 and 4) are used concurrently, there is traffic contention between the ports of the same pair downstream, for example, between 1 and 3 or between 2 and 4. One of the ports may experience significant packet loss downstream. There is no contention for upstream traffic.</p> <p>Impact: The contention happens only for downstream traffic.</p> <p>Workaround: Shape the downstream traffic rate to the trained rate on a per-PVC basis on the router that is directly terminating the PVC on the upstream side of the network interface. For example, on a Cisco 7200 router that has the PVC to a network interface, enter the IOS command "ubr rate" under the PVC, where the rate is the trained rate for the SDSL port in kilobits per second.</p>
CSCdm41964	<p>DMT-2 line card FE Corrected Blocks don't match CPE.</p> <p>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.</p> <p>Workaround: None. 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.</p>
CSCdm43638	<p>DMT-2 fails to meet T1.413 loop midCSA 6—cannot set margin of 3.</p> <p>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.</p> <p>Workaround: None. 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.</p>
CSCdm46110	<p>DS3 subtending bandwidth is less than 40.7 Mbps.</p> <p>Impact: When a rate greater than 40.2 Mbps of traffic is sent through the DS3 subtend ports, traffic will be sent no faster than 40.2 Mbps. This occurs only when attempting to send traffic at a rate greater than 40.2 Mbps through the subtend ports.</p> <p>Workaround: None. 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.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdm52542	<p>DMT Downstream file transfer performance overly impacted by upstream rate.</p> <p>Impact: When the downstream rate is set much higher than the upstream rate—for example, 1544/96—the data transfer rates will likely 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.</p> <p>Workaround: Do not set very low upstream rates, such as below 256 K, when using high downstream rates.</p>
CSCdm59472	<p>DMT cannot train at 128 K increment for upstream.</p> <p>Impact: When a subscriber is configured for an upstream rate that is an increment of 128 K such as 128 K, 256 K, and so on, the trained rate will always be at least 32 K below the configured rate. This only occurs with upstream increments of 128 K.</p> <p>Workaround: There is no workaround to obtain an increment of 128 K. If a higher rate is desired, setting the next higher rate will allow this. For example, to get greater than 128 K, provision for 160 K, which will result in a 160 K trained rate.</p>
CSCdm69047	<p>DMT Setting PSD $-43 = -52$; $-46 = -40$; $-49 = -40$.</p> <p>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.</p> <p>Workaround: None. 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. Cisco strongly recommends that the default PSD of -40 dB be used.</p>
CSCdm69068	<p>DMT with trellis enable, CB/UB go down, but intermittent high ES¹.</p> <p>Impact: Trellis coding enabled for a subscriber causes the connection to show up with a high ratio of corrected/uncorrected blocks and excessive ES counts. This occurs when trellis coding is enabled at both the CO and CPE so that trellis is then active for the connection.</p> <p>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.</p>
CSCdm76074	<p>DMT 16000, 32000 and 64000 interleave all equal maximum.</p> <p>Impact: Setting interleave for DMT-2 line cards 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.</p> <p>Workaround: None. This is the maximum interleave that currently can be obtained with DMT-2 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.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdm77282	<p>DMT-2 margins cannot be set lower than 6 dB.</p> <p>Impact: Setting margin for DMT-2 lower than 6 does not change the actual setting, which will still be 6 dB. This occurs with any DMT-2 margin setting less than 6 dB.</p> <p>Workaround: None. 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.</p>
CSCdm77285	<p>Enabling DMT-2 Bit swapping has no effect.</p> <p>Impact: This occurs under all circumstances whenever bit swapping is set.</p> <p>Workaround: None. 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.</p>
CSCdm81817	<p>DMT-2 various mode, upstream rate combos cause high ES, CB.</p> <p>Impact: Excessively high corrected/uncorrected block ratios and 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.</p> <p>The high error rates only occur with the overhead framing mode-2, 64 kbps upstream, or overhead framing mode-3, 96 kbps upstream combinations.</p> <p>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.</p>
CSCdm87044	<p>ATU-C generates IPC to SMB Unable to allocate buffer!</p> <p>Impact: After training up 64 modems at 864/8032 and requesting "status x" from all 64 ATU-C channels (via serial ports), the following error occurs for all ATUCs:</p> <pre>2DMT2_0.1> IPctoSMB: Unable to allocate buffer!</pre> <p>This problem will also occur if</p> <ul style="list-style-type: none"> • All 64 CPEs are in operational mode. • The subscribers are all ready to train at 864/8032; 3) The subscribers are unlocked simultaneously using CommandRunner. As the Cisco 6100 begins training units, the buffer error will occur. <p>Workaround: None required for the status command via the serial port issue because this requires special connectors that are not available to customers. For the problem with issuing "unlock all" in CommandRunner, the workaround is to not unlock all of the line modules or subscribers at once. They should be unlocked in batches of less than 8 at a time.</p>
CSCdp12216	<p>Flexi CAP port 1 & 3, 2 & 4 pairing loss of packets.</p> <p>Impact: In NI-1 systems, each card is allocated two 9.1 Mbps data streams by the network interface. When quad-port cards are used, one network interface data stream is shared by ports 1 and 3 and the other is shared by ports 2 and 4. This means that the aggregate downstream rate of two ports that are sharing a network interface data stream cannot exceed 9.1 Mbps without data loss in the network interface.</p> <p>Workaround: None.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdp27472	<p>2xDMT module does not support the fast path option. It has been set up not to break but it is still using the interleaver. The vendors firmware does not support the fast path at this time. It has been reproduced when implemented by running the interleaved path with a depth of 0. This simulates the fast path.</p> <p>Impact: There will be a slight delay. Less than running with an interleaver delay but more than running the fast path.</p> <p>Workaround: None.</p>
CSCdp37068	<p>Flexi cards (both CAP & DMT) occasionally download their images twice before they can come up.</p> <p>Impact: Very minimal. This does not cause any problems, other than taking twice the amount of time that it normally takes to download an image.</p> <p>Workaround: None. Wait until the flexi card comes up after the second download.</p>
CSCdp39437	<p>Bit swapping for the flexi DMT ATU-C module is not supported in this release of the GlobeSpan firmware.</p> <p>Impact: Selecting bit swapping from the subscriber option menu will have no effect.</p> <p>Workaround: None.</p>
CSCdp39444	<p>Framing modes 0, 1, and 2 for the flexi DMT ATU-C module are not supported in this release of the GlobeSpan firmware.</p> <p>Impact: User will not see the effect of selecting the framing mode 0, 1 and 2.</p> <p>Workaround: Select mode 3 only.</p>
CSCdp52726	<p>SDSL overhead causes 16 K lower throughput.</p> <p>Impact: When SDSL is utilized, measured rates will be 16 K lower than the trained line rate. This only occurs with SDSL.</p> <p>Workaround: None. Because of the nature of SDSL, overhead causes the traffic rate to be 16 K lower than the trained line rate.</p>
CSCdp53139	<p>The flexi DMT ATU-C module does not support Fast Train in G.lite mode.</p> <p>Impact: Fast retrain is not supported in the current GlobeSpan firmware. Selecting fast train from the subscriber options menu will have no effect.</p> <p>Workaround: None.</p>
CSCdp53238	<p>Flexi DMT problems with 0 loop, 0 delay</p> <p>Impact: Running on loops under 1.8 kft with trellis or Reed-Solomon disabled can lead to data loss due to CRC errors and to dropped links.</p> <p>Workaround: To correct this behavior, enable trellis and Reed-Solomon at under 1.8 kft line lengths.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdp67298	<p>DMT: Intermittent CRC HEC, esp short loops</p> <p>Impact: Intermittently, certain trains result in RS Corrected Bytes, CRC and HEC counters to rise. The problems arise at lengths between 0 to 1800 ft and 5500 to 6000 feet with trellis off and when trained greater than 7680 kbps down.</p> <p>Workaround:</p> <ol style="list-style-type: none"> 1. Enabling trellis coding on the CO corrects this issue. The default setting for trellis is disabled in ViewRunner but is enabled on the 678. 2. Lowering the provisioned rate for the subscriber to 7680/864 kbps or lower.
CSCdp74006	<p>2xDMT2 won't train at 7680, 7744, 7808, 7872, 7936, and 8000. This is because the vendors firmware does not support the symbol rate (S) = 1/2. This is the symbol rate that is selected for these configurations. If the line is provisioned for a high bit rate and a high FEC redundancy byte count, then this can occur. The line will not train at the provisioned rate. It may be possible that the line will train higher than the provisioned rate.</p> <p>Impact: There is not an impact while attempting to pass data. The only impact is that the line will not train at the provisioned downstream bit rate.</p> <p>Workaround: None.</p>
CSCdp74033	<p>Wrong actual Upstream PSD Mask reported for dual-port DMT. The vendors firmware does not currently support remote reporting of the CPE PSD setting. The firmware simply reports a PSD setting of -82 dBMHz, which is the lowest possible value.</p> <p>Impact: There is no impact on traffic. This simply means that the CO (61xx) cannot read the transmit PSD setting on the CPE device. This is simply a performance reporting problem.</p> <p>Workaround: In most configurations, it may be possible to telnet to the CPE and use its CLI to view the PSD setting.</p>
CSCdp78366	<p>In the OC-3 network interface, if previously connected CPEs are powered off, the Tx and Rx cell counts as shown by ViewRunner or through the network interface keep incrementing.</p> <p>Impact: The cell counts shown might not indicate that of the actual traffic.</p> <p>Workaround: None.</p>
CSCdp79172	<p>TFTP failed after clearing NVRAM and Flash. Sometimes when the system controller is booting it displays an error message "TFTP: de_open failed for DEV_TFTP Error Code: 0x10060002". This message is displayed when the system controller does not get a response from the TFTP server (when there are problems in the network). However, the system controller would recover from the failure if the network becomes stable and the TFTP server is able to communicate with it.</p> <p>Impact: Because the system controller recovers from the failure, the TFTP succeeds in the next attempt. The impact is a slight delay while booting.</p> <p>Workaround: None.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdp79941	<p>Some STU-C modules lose packets during 12-hour traffic run.</p> <p>Impact: This is an ongoing problem that is occurring in the current 2.4.x release. The data loss is minimal and should be recoverable. This is being investigated and will be fixed in the next release.</p> <p>Workaround: None.</p>
CSCdp79976	<p>Some Cisco 677s dropped train with the dual-port DMT line card during traffic.</p> <p>This has occurred occasionally on a Cisco 6100 loaded fully with 32 dual-port DMT-2 cards provisioned at 2560/864 kbps, some ports occasionally drop train when traffic is run for around 12 hours.</p> <p>Impact: Because the ports that drop the train retrain and come up immediately, the impact is minimal.</p> <p>Workaround: None. The problem has occurred only on a fully loaded Cisco 6100/6130 with 32 DMT-2 cards.</p>
CSCdp81373	<p>System controller is not up after pulling power off/on 6100 during TFTP upgrade. If power is switched off and the Ethernet connection is also pulled down when the system controller is doing a TFTP of images while upgrading, the system controller will not come up after the power is switched on.</p> <p>Impact: None. This is a stress-test case and not a real-world scenario.</p> <p>Workaround: System controller has to be rebooted from the system controller boot prompt.</p>
CSCdp84935	<p>Occasionally a flexi CAP ATU-C module port may drop train 1 to 2 seconds after it has successfully trained. It seems to always retrain to the same rates on the second try.</p> <p>Impact: If the port drops train and then retrains, it could add 6 to 10 seconds to the total train time. The cause of this problem is still under investigation, so the solution/fix is still unknown.</p> <p>Workaround: None.</p>
CSCdp85772	<p>Intermittently, two (out of 112) flexi CAP ATU-C module ports do not train at 1088 after the system controller is reset.</p> <p>Impact: The flexi CAP ATU-C module trains at a lower rate than 1088.</p> <p>Workaround: None.</p>
CSCdp85795	<p>Flexi line ports drop train during overnight traffic.</p> <p>Impact: Since the ports will retrain to the correct rate again and the lost cells can be recovered with error handling, this is a low severity DDTS that will be investigated and fixed in the next release.</p> <p>Workaround: Error handling should automatically recover any lost cells when the port retrains.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)


DDTS Entry	Description
CSCdr17543	<p>Flexi DMT does not pass Mid-CSA T1.413 CAT1 Loop.</p> <p>Impact: MidCSA6 T1.413 Category 1 performance is not met by 0.7 dB, the DSL system vendor is currently working on improving its performance but it is well known that not a single vendor currently meets this specification. Subsequent releases of software will address this issue.</p> <p>Workaround: None.</p>
CSCdr19535	<p>2xDMT2 Upstream rate of 32 does not pass data.</p> <p>Impact: This is the lowest upstream bit rate available and as such should not impact most users who will train at much higher upstream rates. This will be fixed in a future release.</p> <p>Workaround: Provision for a higher upstream bit rate.</p>
CSCdr19781	<p>2xDMT Actual margins less than provisioned for up and down.</p> <p>Impact: It is a reporting problem, no operational impact.</p> <p>Workaround: None.</p>
CSCdr23589	<p>When a Flexi DMT subscriber is provisioned with a short interleave delay (less than 8000 usec's) and a long line length (greater than ~10,000 ft), passing traffic will generate CRC errors, HEC errors and lost data in the downstream direction only. Upstream traffic works fine.</p> <p>Impact: Errors in downstream traffic when interleave delay is less than 8000 usec and long line lengths (more than 10 k).</p> <p>Workaround: Force the subscriber to train at a lower downstream rate.</p> <p> Note For more information on this DDTS, please contact your Cisco marketing representative.</p>
CSCdr25430	<p>The CLI command “ds vc x y” reports wrong for 2nd STM port transit subscriber.</p> <p>Impact: The queries on vpi values for trsub connected to subtend port 2 fail.</p> <p>Workaround:</p> <ol style="list-style-type: none"> 1. At NI user interface type "ds all" to get ConnTag(s) of all active connections. 2. Query on the ConnTag gives the necessary info.
CSCdr28130	<p>In DOH configuration, if the CPE signature of the subscriber is set to a high value, the CPE Rejects counter on the subscriber would not get incremented whenever the CPE tries to train. A major alarm would be asserted against the line port to which the subscriber is connected.</p> <p>Impact: Impact of the bug is low. Only the counter that can be viewed by the user will not be incremented.</p> <p>Workaround: None.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdr31073	<p>4xSDSL loses packets when at 18K length and 1168 Kbps line rate.</p> <p>Impact: This happens only at very long lengths (18k) 24AWG wire.</p> <p>Workaround: Try to train at relatively lower length or lower line rate.</p>
CSCdr35295	<p>Cell leakage on trunk port when DS3 internal loopback enabled.</p> <p>Impact: Cell loss only when in loopback testing mode.</p> <p>Workaround: None.</p>
CSCdr35687	<p>Between one and four frames are lost (per minute) downstream on a G.lite port when the downstream margin is set between 0 and 4 dB when the line length is 15000 feet of 26 AWG. There were no losses at 2 k or 9350 feet.</p> <p>Impact: Loss of frames in downstream G.lite, at lower margins (less than 4) and 15 k plus line lengths.</p> <p>Workaround: Use higher margin than 4 dB.</p>
CSCdr43807	<p>Wrong alarm asserted when inserting 2xDMT preprovisioned for Flexi DMT.</p> <p>Impact: “No image exists for the module type present in the slot.” This alarm is being reported instead of “A module was inserted in the slot that did not match the type that was preprovisioned for the slot.”</p> <p>Workaround: None.</p>
CSCdr44770	<p>Unnecessary modem disconnect alarms observed. Whenever the ATU-C line card loses train, an INFO level event (MC ATU-C CPE modem disconnected) is logged by the chassis.</p> <p>Impact: If excessive disconnects occur on the modem, this can cause a performance degradation to Viewrunner. Viewrunner has to be restarted.</p> <p>Workaround: Set the Event Level filter in Viewrunner to Minor and above for filtering the INFO level traps. This prevents the Viewrunner from being flooded by the CPE disconnect events.</p>
CSCdr74800	<p>When passing data between Ethernet and in-band port, the system controller and network interface reset when the Cisco 6100 is used as a router,</p> <p>Impact: Customer will not be able to use the Cisco 6100 as a router for asynchronous traffic flowing to/from Ethernet to in-band port.</p> <p>Workaround: Customer can use the in-band channel of the DSLAM for "stop and wait" management traffic (i.e. SNMP) to manage the remote DSLAM as well as to manage one more equipment attached to the ethernet port of the remote DSLAM. Customer should not use the DLSAM's in-band channel for any other traffic. The DSLAM should never be used for aggregating the IP traffic at Ethernet port.</p>

Table 9 Open Caveats as of Release 3.2.2 (continued)

DDTS Entry	Description
CSCdr83336	<p>System controller is unable to log software trace logs after continuous IP traffic. You will not be able to see the software trace logs from the system controller command line interface (CLI). The CLI reports no software trace logs. The problem will happen only if the total number of software trace logs that are logged are more than 65535 and you clear the software trace log before it crossed over 65535 logs.</p> <p>Impact: The impact to the customer is minimal, because this feature is only used for debugging.</p> <p>Workaround: To prevent the problem from occurring, do not clear the software trace log. To rectify the problem after it has occurred, you can clear the software trace log, which will correct the problem temporarily until the next 65535 trace logs.</p>
CSCne01131	<p>During a network interface reset, active OC-3 cell flow may cause network interface alarm and network interface shutdown on power-up.</p> <p>Impact: If the fiber is currently plugged in and active, during install or reset of the system, then the network interface may shut down. The following alarm in ViewRunner is provided to alert the user of this problem: "ATM SWITCH POLLING RATE IS INADEQUATE, CELLS DROPPED."</p> <p>Workaround: Disconnect fiber and restart network interface.</p>
CSCne01901	<p>Infrequently, in a single LIM chassis system, if you replace a LIM controller, this causes ViewRunner to display two LIM chassis.</p> <p>Impact: Displays a LIM chassis, which does not exist.</p> <p>Workaround: Delete second LIM chassis.</p>
CSCne01912 CSCne01913	<p>DS3 subtending port does not block data flow upon port or module lock. Unimplemented feature at this time.</p> <p>Impact: Cannot block data by unlocking subtend port.</p> <p>Workaround: To block the data, pull out the DS3 cable.</p>
CSCne02176	<p>When locked, Cisco 6100 modules still respond with alarms when pulled from chassis.</p> <p>Impact: No system impact; unimplemented feature.</p> <p>Workaround: None.</p>
CSCne02362 CSCne02112	<p>System control IP information becomes corrupted after save or after BOOTP is completed.</p> <p>Impact: Only an installation impact when you use the BOOTP capability.</p> <p>Workaround: Reenter the system controller IP address in the boot menu.</p>

1. ES = errored second

Resolved Caveats

The caveats listed in Table 10 are resolved in Release 3.2.2.

Table 10 *Resolved Caveats in Release 3.2.2*

DDTS ID	Description
CSCdr50225	In-band management connections use DLP0 instead of DLP2.
CSCdr51358	2.x/3.x system controller buffer filling up when packets are not delivered.
CSCdr56443	Some network interface commands do not print in cut-through mode.
CSCdr61589	In-band channel fails when continuously routing large packets.
CSCdr68274	Software trace logs errors for DuplicatePkts message during high traffic.
CSCdr72151	Output of some network interface commands is not correct.
CSCdr80832	2xCAP line card will not quick train at 15,000 feet.
CSCdr82218	Mismatch in software revision for LIM controller module.
CSCdr92085	2xCAP and flexi CAP will not train to a higher rate after quick train fails to train to lower rate.

Related Documentation

The following sections list the CO and CPE publications that relate to the Cisco DSL product family.

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

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.

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- Telnet: cco.cisco.com
- Modem using standard connection rates and the following terminal settings: VT100 emulation; 8 data bits; no parity; and 1 stop bit.
 - From North America, call 408 526-8070
 - From Europe, call 33 1 64 46 40 82

You can e-mail questions about using CCO to cco-team@cisco.com.

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Spanish	tac@cisco.com
Thai	thai-tac@cisco.com

In North America, TAC can be reached at 800 553-2447 or 408 526-7209. For other telephone numbers and TAC e-mail addresses worldwide, consult the following web site: <http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>.

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