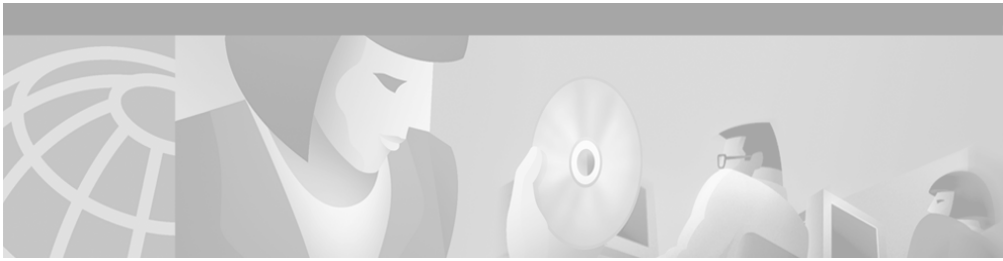

Release Notes for the Cisco 10000 ESR for Cisco IOS Release 12.0(11)SL1

February 20, 2000

These release notes provide information about Cisco IOS Release 12.0(11)SL1, which runs on the Cisco 10000 Edge Services Router (ESR).

These release notes have been updated to include a fix for an SNMP problem (see CSCdt34097). Beyond the fix for CSCdt34097, these release notes are identical to the release notes for Cisco IOS Release 12.0(11)SL, which are included for your convenience.

Cisco IOS Release 12.0(11)SL1 is based on Cisco IOS Release 12.0(11)SL. For a list of the software caveats that apply to Cisco IOS Release 12.0(11)SL1, see the "Caveats" section on page 6 and the release notes for Cisco IOS Release 12.0(S). To review the release notes for Cisco IOS Release 12.0S, go to www.cisco.com and click Technical Documents > Cisco Product Documentation > Cisco IOS Software Configuration > Cisco IOS Release 12.0 > Release Notes > Cisco 12000 Series Router > *Cisco 7000 Family and 12000 Series – Release Notes for Release 12.0(S)*.

Use these release notes in conjunction with the cross-platform *Release Notes for Cisco IOS Release 12.0*.

CISCO SYSTEMS

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Contents

Upgrading to a New Software Release

For specific information about upgrading your Cisco 10000 ESR to a new software release, see the *Cisco 10000 ESR Software Configuration Guide*.

For general information about upgrading to a new software release, see the product bulletin *Cisco IOS Upgrade Ordering Instructions* located at:

http://www.cisco.com/warp/public/cc/pd/iosw/prodlit/957_pp.htm

For additional information about ordering Cisco IOS software, refer to the Cisco IOS Software Releases URL:

http://www.cisco.com/warp/public/cc/pd/iosw/iore/index.shtml

System Requirements

We recommend that you use 512 MB of memory on the Performance Routing Engine (PRE). New PREs are shipped with 512 MB of memory. In a redundant setup, both PREs should have the same amount of memory.

Cisco 10000 ESR Software Features

The following features are supported in the Cisco 10000 ESR.

Table 1 Principal Software Features

Administration	Cisco Discovery Protocol (CDP)
	Simple Network Management Protocol (SNMP)
Availability	SONET 1+1 Automatic Protection Switching (APS)
Encapsulations	Ethernet
	High-Level Data Link Control (HDLC)
	Frame Relay
	Point-to-Point (PPP)
	Multilink Point-to-Point (MLP)
Multiprotocol Label Switching	Multiprotocol Label Switching (MPLS) edge services
Multicast Features	Multicast Static Routes
	Multicast Routing Monitor (MRM)
Multicast Services	Internet Group Management Protocol (IGMP)
	Protocol-Independent Multicast (PIM)
	Distance Vector Multicast Routing Protocol (DVMRP)
	Cisco Group Management Protocol (CGMP)
	Unidirectional Link Routing (UDLR)
	Session Directory Protocol (SDP)
	Multicast Source Discovery Protocol (MSDP)
	Border Gateway Protocol (BGP)
Quality of Service	Committed Access Rate (CAR)
	Weighted Random Early Detection (WRED)
	QoS Policy Propagation on BGP (QPPB)
	Marking packets by using IP header precedence and differentiated service code point (DSCP)

Table 1 Principal Software Features (continued)

Routing Protocols	Border Gateway Protocol (BGP)
	Intermediate System-to-Intermediate System (IS-IS)
	Open Shortest Path First (OSPF)
	Interior Gateway Routing Protocol (IGRP)
	Enhanced Interior Gateway Routing Protocol (EIGRP)
	Routing Information Protocol (RIP)
Security Features	Standard and extended access lists
	Authentication, Authorization, and Accounting (AAA)
	Kerberos authentication and client support on Telnet
	Radius authentication
	Terminal Access Controller Access Control System Plus (TACACS+)

Limitations and Restrictions

This section describes important limitations and restrictions that you should review before you use the Cisco 10000 ESR.

ChOC-12 and OC-12 ATM Line Card Support

Software support is available for the Channelized OC-12 (ChOC-12) line card and the OC-12 ATM line card.

Be sure to review the caveats described in the "Channelized OC-12 Line Card Caveats" section on page 12 and the "OC-12 ATM Line Card Caveats" section on page 14.

Automatic Protection Switching Support

Automatic protection switching is supported on the OC-12 POS line card, with the following limitation.

For APS to work properly, you must always have an OC-12 POS line card installed in the lower-numbered (odd) slot.

The system receives clocking information from the line card in the odd slot. If you remove the odd-numbered card (or if the clocking mechanism on that card fails), the clocking is lost and the data path is shut down. (Caveat CSCdr81416)

To manage this APS behavior, we recommend the following:

1. For the card pair, fully configure the lower-numbered card, and leave the higher-numbered card set to its default configuration.
2. Before you remove a card from the odd slot, run the **no associate** command and shut down the card. The following is an example of disabling APS for cards in slots 5 and 6:

   ```
   Router(config)# redundancy
   Router(config-r)# no associate 5 6
   Router(config-r-a-sl)# exit
   Router(config)# interface pos 5/0/0
   Router(config-if)# shutdown
   ```

   You can now remove the card in slot 5.
3. Move the card located in the even slot to the odd slot and enter the **no shutdown** command. Traffic flow resumes. Insert a new card into the even slot and reconfigure the pair for redundancy.

Important Notes

You can run up to 2000 Frame Relay sessions or 1300 PPP sessions, and you can configure up to 300 BGP peers on the Cisco 10000 ESR. The router also supports up to 512 Multilink Point-to-Point (MLP) protocol sessions.

Note Each T1 interface in an MLP bundle represents a single PPP session. Thus, if you configure 130 MLP bundles of 10 T1 interfaces, each results in 1300 PPP sessions (which is the maximum number of PPP sessions that are supported on the Cisco 10000 ESR).

Caveats

This section describes the caveats for the Cisco 10000 ESR running under Cisco IOS software Release 12.0(11)SL. Additional caveats can be found in the "Channelized OC-12 Line Card Caveats" section on page 12 and the "OC-12 ATM Line Card Caveats" section on page 14.

CSCdr19206	If you preconfigure a line card using the **card** command, this significantly degrades PRE performance. Workaround: Do not use the **card** command to preconfigure line cards. Instead, use the **no card** command to remove references to cards that are not in the chassis.
CSCdr25441	The router sends out DHCP INFORM and DISCOVER messages containing an incorrect Ethernet address. Workaround: No workaround is necessary. This caveat is harmless because these DHCP messages are not used to acquire IP addresses. They are used to gather environmental data such as the domain name server address.
CSCdr36564	When you use the Frame Relay autosense feature, the Cisco 10000 ESR sends all three LMI status message types immediately after the interface starts responding. However, sometimes the switch at the other end is not ready to receive messages and as a result, misses one or two messages that were sent. LMI autosense waits until the next scheduled interval (default is 1 minute) to send the messages again. This problem primarily affects clear channel CT3 interfaces. Workaround: There is currently no workaround.
CSCdr43835	When you send large numbers of packets from the Gigabit Ethernet line card to the PRE in the Cisco 10000 ESR, you may lose a small number of packets. This only occurs for some packet sizes at very high bandwidths, with loss rates of a few parts per million. Workaround: There is currently no workaround.

CSCdr47500	During periods of heavy traffic (approaching interface line rate), some interfaces may experience inconsistent performance between interfaces of the same type. Workaround: There is currently no workaround.
CSCdr50586	You cannot generate FDL Bellcore remote loopback requests. The Bellcore keyword in the **t1** <*t1-number*> **loopback remote line fdl bellcore** command is not supported. Bellcore (Telcordia) began phasing out their standard in favor of the ANSI standard in the early 1990s. The software responds to FDL Bellcore remote loopback requests, but does not generate these requests. Workaround: Use the **t1** <*t1-number*> **loopback remote line fdl ansi** command to run a remote loopback.
CSCdr52081 and CSCdj94209	The PRE may crash if you repeatedly change a port back and forth from channelized to unchannelized. Repeated conversions of a T3 port from channelized mode to unchannelized mode and back, with intervening assignments of IP addresses to the interfaces and ping testing, may cause the PRE crash. Workaround: Reload the chassis.
CSCdr52708	If you remove a line card during periods of heavy traffic and then reinsert it (or another line card of the same type), on rare occasion the card fails to pass traffic. Workaround: Use the **shutdown** command to shut down interfaces and controllers before you remove the line card. If a failure occurs, you can activate the card by entering the privileged EXEC mode **microcode reload pxf** command.
CSCdr62013	If large MLP configurations are in use, and you attempt to copy the configuration from a TFTP server directly into the running config, the copy may fail. Failures may include interfaces not appearing or IPCP or LCP states not opening correctly. Workaround: These failures are far less likely to occur if the configuration is copied to bootflash, and then from bootflash to the running config. Copy the configuration file to the startup config and then reload the router.
CSCdr81416	Limited support for APS. For detailed information, refer to the “Automatic Protection Switching Support” section on page 5.
CSCdr92058 and CSCdr98370	Large multicast groups may cause CPU hog issues in the PIM process. The tested number of 500 destinations in one group caused CPU hog messages (max limit is unknown). Workaround: There is currently no workaround.

CSCdr95685	Packet throughput may be less than optimal on all interfaces when a large number of MLP bundles are configured or during periods of heavy MLP traffic. Workaround: Limit the number of MLP bundles you configure.
CSCdr98341	The Flash disk can fall into the chassis when you insert the disk into the empty space to the right of the slot B in the PRE flash assembly. Workaround: Pay extra attention when inserting a flash disk into the PRE flash assembly. Do not insert the disk in the empty space to the right of the slot B—*if you insert a card in that space, it will fall into the chassis*.

CSCds01233	If you send a large number of small packets in large multicast groups, this may cause the following debug messages to appear on the console:
	
	`### ASSERTION FAILURE in ../src-4k-c10k/c10k_isr_ct3.c, line 548 <idb invalid on vc 0x624FA974, slot 12 port 0 chan 104 dh 05E0001F 680100FF> 60044EB4 60016E48 60017238 601F2C9C 601D0404`
	
	`### ASSERTION FAILURE in ../src-4k-c10k/c10k_isr_ct3.c, line 535 <port 7 invalid> 60044CEC 60016E48 60017238 601F2C9C 601D0404`
	
	Workaround: Decrease the number of small packets.

CSCds04367	When older CT3 line cards are powered on with live DS3 signals present at the receive BNC connector, the receive line interface device on the board may lock up, preventing the controller from running. You can verify this symptom by using the **show controller t3** command, which shows that the controller is down, the Receiver has Loss of Frame, and the Line Code Violations counter is counting errors at a rapid rate. Workaround: Replace the CT3 line card with an upgraded line card. CT3 line cards with Version 800-05547-04 Revision A0 or later have a hardware design change to avoid this problem. On older cards, you can work around the problem by removing the receive signal momentarily after the line card is powered on. For example, remove and reinsert the coaxial cable on the associated RX BNC connector on the rear of the chassis.
CSCds20932	When a Cisco 10000 is reloaded with a large number interfaces configured as Frame Relay DCE, line cards may report down and up again before the chassis stabilizes. Workaround: Wait for couple of minutes until the chassis stabilizes.

CSCds25069	The default logging parameter (logging rate-limit console all 10 except critical) sets console logging to disabled. Workaround: Enter the **logging console critical** command to view the most important events such as card up/down and toaster failure events.
CSCds26407	If you are running more than 1300 PPP sessions on a Cisco 10000, some of those sessions may not come up after you reload the Cisco 10000. In the **show interface** command display, those sessions may appear in an LCP closed state or an IPCP closed state. Workaround: Shut/no shut the underlying interface.
CSCds36117	If you enter the **clear ip mroute** command on a system with large multicast groups, CPU hog issues may arise that cause problems of moderate severity (such as losing keepalives). Workaround: Do not use the **clear ip mroute** command in large multicast groups.

CSCds41791	If you reload a Cisco 10000, some initialization messages are logged to the console before the startup-config is loaded. These initialization messages are transitional and may report an incorrect state, especially for the FastEthernet interface.
	
	`00:00:15: Downloading Microcode: file=system:pxf/ucode_file, version=2.0(21.4), description=Nightly Build Software created Wed 13-Sep-00 00:38`
	`00:00:21: %LINK-3-UPDOWN: Interface Ethernet0/0/0, changed state to up`
	`00:00:21: %LINK-5-CHANGED: Interface FastEthernet0/0/0, changed state to reset`
	`00:00:23: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0/0, changed state to up`
	`0:00:23: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0/0, changed state to down`
	
	These messages are not displayed in the buffered log.
	
	Workaround: Ignore these messages.

CSCds42218	Under heavy load on the Cisco 10000, serial line keepalives may be dropped, which causes serial lines to go down and then recover. Workaround: There is currently no workaround.

CSCds49957	When you boot the Cisco 10000, the system may display the following messages: `*Oct 17 12:32:48.287: %SNMP-3-TRAPBLOCK: Attempt to generate SNMP trap from a process with blocking disabled -Traceback= 60565064 606A6B34 60678238 60678438 6067AD88 6067AF30 602FCBDC 6024817C 60248168` Workaround: Ignore the messages.
CSCds50146	If you run the **show interface** command on interfaces with HDLC encapsulation, the input bytes statistics do not update properly. The input bytes display (or polling the mib value if InOctets) reports a very large (a negative value) number. Workaround: There is currently no workaround.
CSCds50249	If incoming multicast packets match an input access list that has the log option enabled, the output of the **show log** command and **show access-list** commands display double the number of matches. Workaround: There is currently no workaround.
CSCds50625	If the PRE microcode is reloaded because of an unusual condition (such as a system crash), multiple pxf_crashinfo files are produced within a 1 or 2 seconds of each other. Workaround: There is currently no workaround.
CSCds51102	If you perform an SNMP walk or view entries in the if table, cef-layer internal interfaces appear in the interface table. Workaround: Ignore interfaces whose descriptor contains the string .0-cef layer.
CSCds51521	Inverse ARP requests are sometimes generated for only 5 of 10 configured PVCs. Workaround: There is currently no workaround.
CSCds53043	A large number of BGP networks can cause 100% CPU utilization on the PRE. If this occurs, the line cards may reload. Workaround: There is currently no workaround.

CSCds55172

The CLI help text for the **access-list** command does not show the A.B.C.D option for the source address. For example:

```
Router(config)#access-list 1 ?
  deny    Specify packets to reject
  permit  Specify packets to forward
```

Workaround: Disregard the help text and, enter the complete **access-list** command as you normally do. For example:

```
Router(config)#access-list 1 permit 1.1.1.1  0.255.255.255 log
Router(config)#
```

CSCds55817

If you copy a large set of reconfiguration instructions to a large configuration using TFTP, the Cisco 10000 can crash. For example, if the configuration instructs the system to run the **no channelized** command on each T3 controller, the router may crash.

Workaround: Either limit the number of reconfiguration instructions, or reload the router with a blank configuration before you copy config information into the running config.

CSCds55838

When you change the configuration of the two PRE slots from redundant to nonredundant, TBB_LENGTH_ERRORs appear and the PXF reloads.

```
#config t
(config)#red
(config-r)#no associate slot 1 2
<now TBB_LENGTH_ERROR message appear, and toaster reload>
```

This problem occurs if you first boot the system without APS, then configure APS, then deconfigure APS while there is active traffic on the redundant slot.

Workaround: Boot the system with APS configured before deconfiguring it, or turn off all traffic, keepalives, and CDP packets on the secondary slot before deconfiguring APS.

CSCds57109

On rare occasions, a hardware timing problem may cause a PRE fault.

If this error occurs, the event below is logged in SysLog as follows:

```
%C10KEVENTMGR-1-MAJOR_FAULT: PXF DMA TBB Length Error, Restarting PXF
```

Workaround: There is no workaround for this problem. The PXF is restarted by Cisco IOS and normal communications should resume.

Channelized OC-12 Line Card Caveats

This section describes the caveats for the Cisco 10000 ESR ChOC-12 line card.

CSCdp96265	If you configure a DS3 BERT pattern 2^20-O153 on any unchannelized DS3 (by using the **bert pattern 2^20-O153 interval** *1-14400* command), and you then connect the line card to T-Bird 310 test set, the pattern does not synchronize with T-Berd 310. Workaround: Use a different BERT pattern.
CSCdr32279	When you enter the **hw-module** *slot_number* **reset** command, the event sequence is displayed in a different order than that shown by the **reload** command if the logging console is configured to informational. Workaround: There is currently no workaround. You only encounter this problem if you change the default logging (critical) to informational.
CSCdr37991	If you configure an STS-1 on a ChOC-12 line card as unchannelized and then configure the remote side to send idle-character marks (namely, 0xFF), the T3 line stops responding and transmits a Remote Alarm Indication (RAI). Workaround: When you use unchannelized T3 mode, configure the remote side to send idle-character flags (0x7E). To set this value, use the interface configuration mode **idle-character** command.
CSCdr81671	On rare occasions, the system may not be able to retrieve remote performance data if you are using a ChOC-12 line card that has its T1s configured with ANSI FDL enabled. Workaround: There is currently no workaround.
CSCdr82363	When the encapsulation mode is changed from PPP to HDLC or vice-versa, the system drops about 3 of the next 10 packets transmitted. After that, the packets are transmitted normally. Workaround: There is currently no workaround.
CSCdr82579	When a ChOC-12 line card is reconfigured from a channelized T3 configuration to an unchannelized T3 configuration or vice-versa, the initial packets are not forwarded. Workaround: Save the configuration and then remove and reinsert the ChOC-12 line card. When the card restarts, it does not drop the initial packets.

CSCds30124	The T1 framer associated with a T1 that was removed continues to send out a valid frame, even though the T1 no longer exists. This prevents the remote side from knowing that the T1 is no longer there (since it is getting a valid frame). Workaround: There is currently no workaround.

CSCds40839	Occasionally an alarm LED appears as active even though no alarms are indicated after you enter the **show controller** command.
	
	Workaround: Perform **shut/no shut** commands on the SONET controller. For example:
	
	`conf t`
	`controller sonet 7/0/0`
	`shut`
	`no shut`
	`end`

CSCds52566	The ChOC-12 serial interface may receive pings at a very slow rate. On average, the receiving interface only increments at approximately 10 to 15 packets-per-second during a sweeping ping. In addition to sweeping pings, this problem occurs if you send other types of pings (for example, 1000 pings, 1000 bytes in size). Workaround: There is currently no workaround.
CSCds55667	Kentrox DS3 subrate mode does not work when you set it to full bandwidth (45.2 Mbps on Kentrox CSU, 44210 Kbps on a Cisco10000 ESR). Workaround: Set the subrate mode on the ChOC-12 board to Digital Link mode, bandwidth = 44210. This fix works with and without scrambling.
CSCds56116	If you load multiple configurations (greater than 5) and if you clear large configurations (for example, 336 T1s, each on two ChOC-12 cards), the router crashes. Workaround: Reload the router before you reload a large configuration file.

OC-12 ATM Line Card Caveats

This section describes the caveats for the Cisco 10000 ESR OC-12 ATM line card.

CSCdr69332	To use the **loopback diagnostic path** command, use a loopback connector, or else the loopback continuously cycles through the framer interrupt handler. Workaround: Ensure that there is a loopback connector in place before you enable a diagnostic path loopback.
CSCdr85805	Under normal (IMIX) traffic loads, the OC-12 ATM line card segmenter may not keep up with line rate. This is indicated by an increase in "output queue drops" or "output buffer failure" counts as displayed by the **show interface** command. Workaround: There is currently no workaround.
CSCdr98087	When an access list is applied to the main interface of an ATM card that contains PVCs on subinterfaces, the access list does not apply to the subinterfaces. It is correctly expected that any access list applied to a main interface should affect the subinterfaces as long as they do not have access lists of their own. Workaround: If an access list needs to affect the subinterface, place it directly on the subinterface.
CSCds04457	Sometimes, the **show interface** command output for the packets input and bytes input counters displays erroneous values of 4 trillion plus. Workaround: There is currently no workaround.
CSCds04605	In certain situations, the interface stops responding when a PVP is deleted. This occurs when the only VCs on the ATM interface are the two F4 OAM VCs associated with a PVP, and those VCs are in a down state. If the PVP is deleted at this point, the line protocol for the interface stops responding briefly and then returns to an up state. Workaround: If this momentary change in line protocol state is causing undesirable effects, make sure an additional VC is created on the interface before you delete the PVP.

CSCds09403	Under rare circumstances, closure of VBR-nrt VCs fail, leaving the associated VPI/VCI value unavailable for future use. This can occur for VCs with relatively small rates (such as PCR and SCR values under 1500 Kbps) that are actively passing traffic at the time the VC is being closed. The symptoms are a Cisco IOS error message alerting the user to an Open_Channel failure with a status of 4 and an associated PVC that transitions to the inactive state. Workaround: Ensure that all traffic is stopped on a PVC before modification or deletion. If this situation is encountered, use the **hw-module slot** *slot_number* **reset** command to reload the line card.
CSCds15765	Under somewhat loaded conditions, in which a large number of VCs are configured and receiving traffic simultaneously, and many end-of-packet cells line up (arrive at the reassembler at the same time), the reassembler is unable to keep up and applies back-pressure on the framer. This back-pressure can lead to framer input FIFO overflow that results in incomplete packets being presented to the reassembler. These incomplete packets are dropped by the reassembler and counted as input errors. Workaround: There is currently no workaround.

CSCds24440	Under conditions where the OC-12 ATM line card is reloaded while traffic is actively passing over multiple VCs, some or all of the VCs may not successfully reopen after the line card is reloaded.
	
	This is indicated by one or more of the following error messages:
	
	`%C10K-4-LC_WARN:Slot[2/0] 1oc12atm-1 SAR:0/100 no Open_Channel ack returned for reassembly device (handle 0x0001)`
	
	`%C10K-4-LC_WARN:Slot[2/0] 1oc12atm-1 SAR:0/100 Open_Channel failure for reassembly device (handle 0x0001), status 2`
	
	Workaround: Reload the line card firmware by using the **hw-module slot** *slot_number* **reset** command. If the problem persists, stop the traffic and reload the line card firmware.

CSCds34116	For VBR-nrt VCs with low SCR values (400 kbps and below), a steady stream of small packets (for example, 64 byte packets) only achieves roughly 85% of the requested SCR. Workaround: There is currently no workaround for this problem.

CSCds36324	Mass configuration (which occurs during boot/reload and can occur during link state changes) takes a long period of time (for example, over 40 minutes for 2000 VCs associated with a main interface) with large numbers of PVCs (100s to 1000s). This problem occurs when attempting to configure large numbers of PVCs on the main interface (or multipoint subinterfaces) with static maps on each PVC. Workaround: Do not configure more than 500 PVCs on a single OC-12 ATM line card or more than 900 PVCs on a Cisco 10000 ESR.

CSCds43831	If you associate a VC-class containing an unsupported traffic class (for example, UBR+ traffic class) with a PVC on an OC-12 ATM line card, this results in multiple error messages.
	
	Example:
	
	`router(config)#vc-class atm class1`
	`router(config-vc-class)#ubr+ 10000 1000`
	`router(config-vc-class)#exit`
	`router(config)#int atm3/0/0`
	`router(config-if)#pvc 0/200`
	`router(config-if-atm-vc)#class-vc class1`
	`router(config-if-atm-vc)#end`
	`UBR + not supported on interface ATM3/0/0`
	`UBR + not supported on interface ATM3/0/0`
	`.`
	`.`
	`.`
	`UBR + not supported on interface ATM3/0/0`
	`router#`
	
	Workaround: Do not associate VC-classes that contain unsupported traffic classes to OC-12 ATM line cards.

CSCds47946	MPLS over a Cisco 10000 ESR OC-12 ATM line card sub-interface (running either OSPF or ISIS) fails when directly connected to an OC-12 ATM interface on a GSR router if the default MTU values remain unchanged. The default MTU for the Cisco 10000 ESR OC-12 ATM line card is 9180, while the default MTU for the GSR OC-12 ATM line card is 4470. Workaround: Reconfigure the MTU value on either the Cisco 10000 ESR OC-12 ATM line card or the GSR OC12 ATM line card to match the other end.

CSCds48405	Under normal (IMIX) traffic loads, the OC-12 ATM line card reassembler may inappropriately drop packets, yielding less than line rate. This is indicated by an increase in "input error" and "abort" counts in the **show interface** display for the line card in question. Workaround: There is currently no workaround.
CSCds49057	If you reload PXF while traffic is being sent, this brings down the IPC connection. This problem occurs when microcode is reloaded while sending traffic through hundreds of PVCs. Workaround: If you want to reload the microcode, stop sending traffic and then reload the microcode.
CSCds49948	With multiple PVP tunnels, if the aggregate traffic received by one or more of the PVPs is heavily oversubscribed (starting at about 110% of the tunnel's PCR rate), the traffic on companion PVP tunnels on that interface may experience throughput that is lower than expected. Workaround: There is currently no workaround.
CSCds63821	If multiple VBR and UBR VCs are configured together and traffic is flowing over both types of VCs, throughput on the VBR VCs may suffer (i.e., may fall noticeably below the associated Sustainable Cell Rate [SCR]) while UBR traffic appears unaffected. Workaround: There is currently no workaround.

CSCds65348	On rare occasions, the OC-12 ATM line card segmenter fails to respond to requests for statistics. This is indicated by one or more of the following error messages:
	
	`%C10K-4-LC_WARN:Slot[2/0] 1oc12atm-1 SAR:no Get_Channel_Stats ack returned for segmentation device, continuing`
	
	`%C10K-4-LC_WARN:Slot[2/0] 1oc12atm-1 SAR:segmentation device Get_Channel_Stats failure, status is 0x02, continuing`
	
	Workaround: Reload the line card firmware by using the **hw-module slot** *slot_number* **reset** command.

CSCds66332	Under some conditions the OC-12 ATM line card reassembler may be unable to process all incoming packets and the reassembler may inaccurately count these erroneous packets as aborts. This may be indicated by an increase in the input "abort" counter in the **show interface** command display. Workaround: There is currently no workaround for this problem.

Resolved in Cisco IOS Release 12.0(11)SL1

This section lists problems that are resolved in Cisco IOS Release 12.0(11)SL1. For a list of problems that were resolved in previous Cisco IOS Releases, refer to the release notes for those particular versions.

CSCdt34097

Snmpwalk skips OIDs, so some interfaces are missed in the walk.

Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- http://www.cisco.com
- http://www-china.cisco.com
- http://www-europe.cisco.com

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:

  http://www.cisco.com/cgi-bin/order/order_root.pl

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

  http://www.cisco.com/go/subscription

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS (6387).

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Technical Assistance Center

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Contacting TAC by Using the Cisco TAC Web Site

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC web site:

http://www.cisco.com/tac

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC web site to quickly find answers to your questions.

To register for Cisco.com, go to the following web site:

http://www.cisco.com/register/

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following web site:

http://www.cisco.com/tac/caseopen

Contacting TAC by Telephone

If you have a priority level 1(P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following web site:

http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.