



Release Notes for the Cisco 10000 ESR for Cisco IOS Release 12.0(14)SL

January 31, 2001

These release notes provide information about Cisco IOS Release 12.0(14)SL, which runs on the Cisco 10000 Edge Services Router (ESR).

These release notes are updated as needed to describe new features, memory requirements, hardware support, software platform deferrals, and changes to the microcode and related documents.

Cisco IOS Release 12.0(14)SL 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(14)SL, 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*.



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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

Table 1 lists the features 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 ant limitations and restrictions that you should review before you use the Cisco 10000 ESR.

Automatic Protection Switching Support

Automatic protection switching is supported on the OC-12 Packet Over SONET (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

This section contains issues that you should be aware of with Cisco IOS Release 12.0(14)SL.

Frame Relay and PPP Sessions

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).

Cisco Discovery Protocol

Starting with this release, the Cisco Discovery Protocol (CDP) is disabled by default. You can enable CDP on an interface using the **cdp enable** command.

Caveats

This section describes the caveats for the Cisco 10000 ESR running under Cisco IOS software Release 12.0(14)SL.

CSCdp96265	<p>If you configure a DS3 BERT pattern <code>2^20-O153</code> 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.</p> <p>Workaround: Use a different BERT pattern.</p>
CSCdr19206	<p>If you preconfigure a line card using the card command, this significantly degrades PRE performance.</p> <p>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.</p>
CSCdr25441	<p>The router sends out DHCP INFORM and DISCOVER messages containing an incorrect Ethernet address.</p> <p>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.</p>
CSCdr32279	<p>When you enter the hw-module slot_number reset command, the event sequence appears in a different order than that shown by the reload command if the logging console is configured to informational.</p> <p>Workaround: There is currently no workaround. You only encounter this problem if you change the default logging (critical) to informational.</p>
CSCdr36564	<p>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.</p> <p>This problem primarily affects clear channel CT3 interfaces.</p> <p>Workaround: There is currently no workaround.</p>

CSCdr37991	<p>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).</p> <p>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.</p>
CSCdr43835	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
CSCdr47500	<p>During periods of heavy traffic (approaching interface line rate), some interfaces may experience inconsistent performance between interfaces of the same type.</p> <p>Workaround: There is currently no workaround.</p>
CSCdr52081 and CSCdj94209	<p>The PRE may crash if you repeatedly change a port back and forth from channelized to unchannelized.</p> <p>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.</p> <p>Workaround: Reload the chassis.</p>
CSCdr62013	<p>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.</p> <p>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.</p>
CSCdr81416	<p>Limited support for APS. For detailed information, refer to the “Automatic Protection Switching Support” section on page 4.</p>
CSCdr81671	<p>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.</p> <p>Workaround: There is currently no workaround.</p>

<p>CSCDr82363</p>	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
<p>CSCDr82579</p>	<p>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.</p> <p>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.</p>
<p>CSCDr85805</p>	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
<p>CSCDr92058</p>	<p>Large multicast groups may cause CPU hog issues with PIM.</p> <p>Workaround: There is currently no workaround.</p>
<p>CSCDr98341</p>	<p>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.</p> <p>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—<i>if you insert a card in that space, it will fall into the chassis.</i></p>
<p>CSCDs01233</p>	<p>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:</p> <pre> ### 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 </pre> <p>Workaround: Decrease the number of small packets.</p>

CSCds04367	<p>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.</p> <p>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.</p>
CSCds09403	<p>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 an 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.</p> <p>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.</p>
CSCds24440	<p>Under conditions in which 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.</p> <p>This is indicated by one or more of the following error messages:</p> <pre>%C10K-4-IC_WARN:Slot [2/0] 1oc12atm-1 SAR:0/100 no Open_Channel ack returned for reassembly device (handle 0x0001)</pre> <pre>%C10K-4-IC_WARN:Slot [2/0] 1oc12atm-1 SAR:0/100 Open_Channel failure for reassembly device (handle 0x0001), status 2</pre> <p>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.</p>

CSCds25069	<p>The default logging parameter (logging rate-limit console all 10 except critical) sets console logging to disabled.</p> <p>Workaround: Enter the logging console critical command to view the most important events such as card up/down and toaster failure events.</p>
CSCds34116	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
CSCds36117	<p>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).</p> <p>Workaround: Do not use the clear ip mroute command in large multicast groups.</p>
CSCds36324	<p>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.</p> <p>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.</p>
CSCds40839	<p>Occasionally an alarm LED comes up as active even though no alarms are indicated after entering the show controller command.</p> <p>Workaround: Perform a shut/no shut configuration on the SONET controller. For example:</p> <pre data-bbox="290 1060 575 1182">conf t controller sonet 7/0/0 shut no shut end</pre>

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
00:00:23: %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.

CSCds43837

The **show atm pvc** command displays 'Unexpected QoS type' for its traffic parameters. This occurs when a PVC was previously configured with only an ATM vc-class, and then the vc-class was subsequently deleted.

For example:

```
sw-apollo-3(config)#vc-class atm test
sw-apollo-3(config-vc-class)#vbr-nrt 1000 1000 10
sw-apollo-3(config-vc-class)#exit
sw-apollo-3(config)#int atm 3/0/0
sw-apollo-3(config-if)#pvc 200
sw-apollo-3(config-if-atm-vc)#class-vc test
sw-apollo-3(config-if-atm-vc)#end
sw-apollo-3#sh atm vc
```

		VCD /		Peak Avg/Min					
Burst									
Interface	Name	VPI	VCI	Type	Encaps	Kbps	Kbps	Cells	Sts
3/0/0	1	0	200	PVC	SNAP	1000	1000	10	UP

Now delete the vc-class :

```
sw-apollo-3#conf t
sw-apollo-3(config)#no vc-class atm test
sw-apollo-3(config)#end
sw-apollo-3#sh atm vc
```

		VCD /		Peak Avg/Min					
Burst									
Interface	Name	VPI	VCI	Type	Encaps	Kbps	Kbps	Cells	Sts
3/0/0	1	0	200	PVC	SNAP	%Unexpected qos type			UP

Workaround: Configure the vc directly using conventional means (non ATM vc-classes), or remove the vc and recreate it with a new ATM vc-class.

CSCds48362

The **show interface** output occasionally displays an extremely large number of configured VCs which do not truly exist.

Workaround: There is currently no workaround.

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.

CSCds49948	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
CSCds49957	<p>When you boot the Cisco 10000, the system may display the following messages:</p> <pre>*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</pre> <p>Workaround: Ignore the messages.</p>
CSCds50249	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
CSCds51102	<p>If you perform an SNMP walk or view entries in the if table, cef-layer internal interfaces appear in the interface table.</p> <p>Workaround: Ignore interfaces whose descriptor contains the string .0-cef layer.</p>
CSCds55667	<p>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).</p> <p>Workaround: Set the subrate mode on the ChOC-12 board to Digital Link mode, bandwidth = 44210. This fix works with and without scrambling.</p>
CSCds63025	<p>Line Protocol on one or two T1s may not come up when you perform a reload with a large configuration (for example, 1008 T1s with PPP encap or 504 MLPPPs).</p> <p>Workaround: Reload the linecard using the command hw slot slot_number reset.</p>
CSCds63387	<p>When a redundant power supply is removed or a line card is OIRed, the SNMP traps are generated by the syslog mib. There is a request to generate these traps using the env, mon, and entity mibs respectively.</p> <p>Workaround: Filter the SNMP traps using the syslog mib.</p>
CSCds63821	<p>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 (may fall noticeably below the associated Sustainable Cell Rate [SCR]) while UBR traffic appears unaffected.</p> <p>Workaround: There is currently no workaround.</p>

CSCds64134	<p>Occasionally, after you reload routers (with background traffic load equal to no_drop rate), the throughput is some 3 to 400 pps below the expected rate.</p> <p>Workaround: The rate does not recover until the traffic is stopped and restarted.</p>
CSCds65348	<p>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:</p> <pre>%C10K-4-LC_WARN:Slot [2/0] 1oc12atm-1 SAR:no Get_Channel_Stats ack returned for segmentation device, continuing</pre> <pre>%C10K-4-LC_WARN:Slot [2/0] 1oc12atm-1 SAR:segmentation device Get_Channel_Stats failure, status is 0x02, continuing</pre> <p>Workaround: Reload the line card firmware by using the hw-module slot slot_number reset command.</p>
CSCds65431	<p>On rare occasion, after a single reload while under load, the Gigabit Ethernet line card is up but drops nearly all packets on the output queue.</p> <p>Workaround: Reset the linecard from the console with the hw-module slot n reset command.</p>
CSCds66332	<p>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.</p> <p>Workaround: There is currently no workaround.</p>
CSCds68294	<p>In the unlikely event of a total failure of the cooling fan tray, or any other scenario resulting in high-temperature operation, the Cisco 10000 continues running, and does not power off.</p> <p>Workaround: If you observe fan failure or over-temperature alarms or log messages are observed, you should immediately power down the chassis until the problem is corrected.</p>
CSCds68394	<p>You may get a redundancy error message on cards that are not redundant.</p> <p>Workaround: There is no workaround for this message, but it does not affect service. The message may be ignored.</p>

CSCds72326	<p>If you execute more than 126 PVP creation commands, this leads to Open Tunnel failures on the line card.</p> <pre>%ATM: PVP, interface specific setupvp failure %C10K-3-LC_ERR: Slot[3/0] loc12atm-1 SAR: Open_Tunnel failure for segmentation device (vpi 2), status 1 02:46:12: config_vp event failure vpi=2, reason code=3</pre> <p>Workaround: Reload the line card firmware using the hw-module slot n reset command, where n is the number of the slot where the line card resides.</p>
CSCds86293	<p>When the dir or show slot0: or show slot1: command is issued, the router reports "Open device slot0 failed (Device not ready)."</p> <p>Workaround: Use the dir disk0: and dir disk1: commands.</p>
CSCds86646	<p>ISIS adjacencies recalculated with 65-85MB of tcp traffic to rtr.</p> <p>Workaround: Because this problem is caused by hackers we recommend that you use access lists to block out hackers. Access lists prevent packets from punting to the RP and take down the router.</p>
CSCds86767	<p>A Cisco 10000 router running Release 12.0(10)SL may experience a buffer leak when interfaces are down but not administratively down.</p> <p>Workaround: Administratively shut down the interfaces.</p>
CSCds89640	<p>If large OIDs (1024 .1 fields) are sent to the router, the Cisco 10000 stops responding.</p> <p>Workaround: There is currently no workaround.</p>
CSCds91966	<p>When a t1/e1 is deleted, ip routes associated with subinterfaces are not removed.</p> <p>Workaround: Manually issue a no ip route ip_address.</p>
CSCdt00312	<p>The flash file delete function may choose the wrong default device when you request deletion of a file from flash storage. The incorrect default used is slot0:.</p> <p>Workaround: Prefix the filename with disk0: when specifying the filename.</p>
CSCdt07642	<p>The no pos report all command does not work. The pos report all configuration line remains in the configuration file.</p> <p>Workaround: There is currently no workaround.</p>

CSCdt08501	<p>PVCs in the down state can still pass traffic. When a PVP is created with associated F4 OAM VCs and those F4 OAM VCs do not come up (for instance, because there is no VP at the far end or the VP at the far end did not create F4 OAM VCs), traffic can still be passed on the PVCs associated with the PVP in question. When the F4 OAM loopback cells are not returned, IOS declares all PVP associated PVCs to be down. It does not, however, notify the forwarding engine or the line card. This allows traffic routed over the PVCs in question to pass.</p> <p>Workaround: There is currently no workaround.</p>
CSCdt11328	<p>When configuring CAR on the Cisco 10000, CAR does not differentiate between user traffic and control traffic. Because of this, if a user sets up CAR on an interface to restrict the amount of bits per second allowed on the interface, CAR may drop control packets. This may cause line flaps or lost routing updates on the interface.</p> <p>Workaround: Use access lists to help tag which traffic to drop.</p>
CSCdt11390	<p>On a Cisco 10000 system with channelized OC-12 line cards, the output of the show controllers command is incomplete and incorrect:</p> <ul style="list-style-type: none"> • The output does not show any information about SONET controllers. • The output shows information on data structures which are not relevant to the C10000 system. • The output mixes the information between paths configured in T3 mode and those configured in VT mode (which has not yet been released). <p>Workaround: Issue show controller commands for each controller individually. The aggregated command does not work.</p>
CSCdt12602	<p>If in a Frame-Relay environment a handful of interfaces are flapping continuously, the interface statistics report input errors (overruns) on the flapping interfaces.</p> <p>Workaround: There is currently no workaround.</p>
CSCdt14802	<p>Exit is displayed two times in config mode under the policy-map class section of IOS. If you are in config mode and are configuring policy-map statements, you cannot use the exit statement to get back to global config mode.</p> <p>Workaround: Use Ctrl-Z to exit config mode, or enter a global config mode command that accesses config mode.</p>

CSCdt19582	<p>Following a reload of the Cisco IOS software, the Gigabit Ethernet interface does not always come back up. The interface remains in the "GigabitEthernet1/0/0 is down, line protocol is down" state.</p> <p>Workaround: Perform a shut/no shut to the interface to restore communications.</p>
CSCdt25901	<p>During a reload, if the router is continuously receiving IP packets, you may see CPUHOG messages in the log, and the router may take longer to come up. The problem only occurs during initialization.</p> <p>Workaround: There is currently no workaround. After the interfaces and PVCs are all up and functional, you do not see the CPUHOG messages in the log.</p>

Resolved Problems

This section lists resolved problems in Cisco IOS Release 12.0(14)SL.

Resolved in Cisco IOS Release 12.0(14)SL

This section lists problems that are resolved in Cisco IOS Release 12.0(14)SL. For a list of problems that were resolved in previous Cisco IOS Releases, refer to the release notes for those particular versions.

CSCdr50586

You cannot generate FDL Bellcore remote loopback requests.

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.

CSCdr69332

To use the **loopback diagnostic path** command, you need a loopback connector, or the loopback continuously cycles through the framer interrupt handler.

CSCdr98370

Large multicast groups may cause CPU hog issues in the PIM process.

CSCds02306

When the Gigabit Ethernet line card receives jumbo frames whose size are 17000-18000 bytes (not including 4 byte CRC), the linecard reloads.

CSCds04605

If a PVP is deleted, the interface stops responding.

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.

CSCds26407

If you are running more than 1300 PPP sessions on a Cisco 10000, some of those sessions may not return 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.

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).

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.

CSCds49057

If you reload PXF while traffic is being sent, this brings down the IPC connection.

CSCds55172

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

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.

CSCds56116

The router crashes if you load multiple configurations (greater than 5) and if you clear large configurations (for example, 336 T1s, each on two ChOC-12 cards).

CSCds57109

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

Other Resolved Caveats

This section includes caveats listed in previous release notes that are regarded as resolved because they are unreproducible or do not affect the behavior of the Cisco 10000 ESR. In the event a caveat listed in this section causes problems, please contact Cisco customer service.

For a list of unreproducible caveats in previous Cisco IOS Releases, refer to the release notes for those particular releases.

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.

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.

CSCds04457

Sometimes, the **show interface** command output for the packets input and bytes input counters displays erroneous values of 4 trillion plus.

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.

CSCds42218

Under heavy load on the Cisco 10000, serial line keepalives may be dropped, which causes serial lines to go down and then recover.

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.

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.

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.

CSCds51521

Inverse ARP requests are sometimes generated for only 5 of 10 configured PVCs.

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).

CSCds53043

A large number of BGP networks can cause 100% CPU utilization on the PRE. If this occurs, the line cards may reload.

CSCds55838

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

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.

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Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

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

<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 website to quickly find answers to your questions.

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

<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 website:

<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 website:

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

P1 and P2 level problems are defined as follows:

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