Release Notes for the Cisco CGS 2520 Switch and Ethernet Switch Module for CGR 2010, Cisco IOS Release 15.0(2)SE3 and Later

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These release notes are for Cisco IOS Release 15.0(2)SE3 and later for the following products:

- Cisco 2520 Connected Grid Switch (Cisco CGS 2520 Switch)
- Cisco Ethernet Switch Module for Cisco 2000 Series Connected Grid Routers (CGR 2010 ESM)

For the complete IOS base platform release notes for this release, see *Release Notes for Catalyst 3750-X, 3750-E, 3560-X, and 3560-E Switches, Cisco IOS Release 15.0(2)SE and Later* at

http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3750/software/release/15-0_2_se/release/notes/OL25301.html

Download This Software Release from Cisco.com

You can download the switch software from this site (registered Cisco.com users with a login password): http://software.cisco.com/download/navigator.html?a=a&i=rpm

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System Requirements

This section describes the system requirement for this software release and includes the following topics:

Supported Hardware for 15.0(2)SE3 and Later

Table 1 CGR 2010 ESM and Cisco CGS 2520 Switch—Supported Hardware for 15.0(2)SE3 and Later

Models	Description	Minimum Cisco IOS Release
CGR 2010 ESM Models		
GRWIC-D-ES-2S-8PC	Copper model. Eight 10/100 Fast Ethernet ports, 4 Power over Ethernet (PoE) ports (Max 65 W), 1 dual-purpose port (10/100/1000 Base-T copper RJ-45 and 100/1000 SFP fiber), 1 100/1000 SFP fiber-only port.	Cisco IOS Release 12.2(58)EY1
GRWIC-D-ES-6S	Fiber model. Four 100BASE-FX SFP-module ports, 1 dual-purpose port (1 10/100/1000Base-T copper RJ-45 port and 1 100/1000 SFP fiber module port), 1 100/1000 SFP fiber module port.	Cisco IOS Release 12.2(58)EY1
Cisco CGS 2520 Switch Models		
CGS-2520-24TC	24 10/100 Fast Ethernet ports, 2 dual-purpose ports (2 10/100/1000BASE-T copper ports and 2 SFP module slots), and 2 AC- and DC-power-supply module slots.	Cisco IOS Release 12.2(53)EX
CGS-2520-24TC-C (China)	See CGS-2520-24TC description. China version.	Cisco IOS Release 12.2(58)EY1
CGS-2520-16S-8PC	16 100BASE-FX SFP-module slots; 8 10/100 Fast Ethernet PoE ports, 2 dual-purpose ports (2 10/100/1000BASE-T copper ports and 2 SFP module slots), and 2 AC- and DC-power-supply module slots.	Cisco IOS Release 12.2(53)EX
CGS-2520-16S-8PC-C (China)	See CGS-2520-16S-8PC description. China version.	Cisco IOS Release 12.2(58)EY1

Table 2 CGR 2010 ESM and Cisco CGS 2520 Switch—Supported Hardware Accessories

Accessory Type	Cisco Product ID
Small Form-Factor Pluggable (SFP) Modules	**Rugged and Industrial SFP modules** **Note** The CGR 2010 ESM supports SFP models ending in -RGD only. • GLC-SX-MM-RGD (rugged SFP) • GLC-LX-SM-RGD (rugged SFP) • GLC-ZX-SM-RGD (rugged SFP) • GLC-FE-100LX-RGD (rugged SFP) • GLC-FE-100FX-RGD (rugged SFP) **Commercial SFPs** • GLC-BX-D with digital optical monitoring (DOM) support • GLC-BX-U with DOM support • GLC-FE-100LX • GLC-FE-100BX-D • GLC-FE-100BX-U • GLC-FE-100FX • GLC-FE-100EX • GLC-FE-100ZX • CWDM SFP with DOM support **Extended Temperature SFP modules** • SFP-GE-L with DOM support • SFP-GE-S with DOM support • SFP-GE-Z with DOM support • GLC-EX-SMD with DOM support
SFP Module Patch Cable	CAB-SFP-50CM
Power Supply Modules	PWR-RGD-AC-DC PWR-RGD-LOW-DC **Note** For power supply module descriptions and supported configurations on switch models, see the hardware installation guide for your switch model.d

Cisco CGR 2010 Software Requirements

The Cisco Connected Grid 2010 Router (Cisco CGR 2010) must use a compatible Cisco IOS software release to support the CGR 2010 ESM. Table 3 lists the minimum software release the router requires to support the switch module.

Table 3 Cisco CGR 2010 IOS Release Support for the CGR 2010 ESM

Cisco CGR 2010 ESM	Cisco CGR 2010
Cisco IOS Release 12.2(58)EY or later	Cisco IOS 15.1(4)M or later

Device Manager System Requirements

The device manager is a web application stored in the switch memory that supports quick configuration. For more information about the device manager, refer to the *Cisco CGS 2520 Getting Started Guide.* This section includes these topics:

- Hardware Requirements, page 5
- Software Requirements, page 5

Hardware Requirements

Table 4 Minimum Hardware Requirements

Processor Speed	DRAM	Number of Colors	Resolution	Font Size
233 MHz minimum[1]	512 MB[2]	256	1024 x 768	Small

1. Cisco recommends 1 GHz.
2. Cisco recommends 1 GB DRAM.

Software Requirements

- Windows 2000, XP, Vista, or Windows Server 2003.
- Web browser (Internet Explorer 6.0, 7.0, or Firefox 1.5, 2.0 or later) with JavaScript enabled.

The device manager verifies the browser version when starting a session, and it does not require a plug-in.

Upgrading the Switch Software

Note In this section, except where noted, the term switch refers both to the Cisco CGS 2520 Switch and CGR 2010 ESM

These are the procedures for downloading software. Before downloading software, read this section for important information:

- Finding the Software Version and Feature Set, page 6
- Deciding Which Files to Use, page 6
- Archiving Software Images, page 6
- Upgrading a Switch Using the CLI, page 7

Finding the Software Version and Feature Set

The Cisco IOS image is stored as a bin file in a directory that is named with the Cisco IOS release. A subdirectory contains the files needed for web management. The image is stored on the compact flash memory card.

You can use the **show version** privileged EXEC command to see the software version that is running on your switch. The second line of the display shows the version.

You can also use the **dir** *filesystem***:** privileged EXEC command to see the directory names of other software images that you might have stored in flash memory. For example, use the **dir flash:** *command* to display the images in the flash memory.

Deciding Which Files to Use

The upgrade procedures in these release notes describe how to perform the upgrade by using a combined tar file. This file contains the Cisco IOS image file and the files needed for the embedded device manager. You must use the combined tar file to upgrade the switch through the device manager. To upgrade the switch through the command-line interface (CLI), use the tar file and the **archive download-sw** privileged EXEC command.

When you download the IP services image and plan to use Layer 3 functionality, you must use the Switch Database Management (SDM) routing template. To identify the active SDM template, enter the **show sdm prefer** privileged EXEC command. When necessary, enter the **sdm prefer** global configuration command to change the SDM template to a specific template. For example, if the switch uses Layer 3 routing, then change the SDM template from the default to the routing template.You must reload the switch for the new template to take effect.

Archiving Software Images

Before upgrading your switch software, make sure that you have archived copies of the current Cisco IOS release and the Cisco IOS release to which you are upgrading. You should keep these archived images until you have upgraded all devices in the network to the new Cisco IOS image and until you have verified that the new Cisco IOS image works properly in your network.

Cisco routinely removes old Cisco IOS versions from Cisco.com. See *Product Bulletin 2863* for information:
http://www.cisco.com/en/US/prod/collateral/iosswrel/ps8802/ps6969/ps1835/prod_bulletin0900aecd80281c0e.html

You can copy the bin software image file on the flash memory to the appropriate TFTP directory on a host by using the **copy flash: tftp:** privileged EXEC command.

Note Although you can copy any file on the flash memory to the TFTP server, it is time consuming to copy all of the HTML files in the tar file. Cisco recommends that you download the tar file from Cisco.com and archive it on an internal host in your network.

You can also configure the switch as a TFTP server to copy files from one switch to another without using an external TFTP server by using the **tftp-server** global configuration command. For more information about the **tftp-server** command, see the “Basic File Transfer Services Commands” section

of the *Cisco IOS Configuration Fundamentals Command Reference*:
http://www.cisco.com/en/US/docs/ios-xml/ios/fundamentals/command/Cisco_IOS_Configuration_Fundamentals_Command_Reference.html

Upgrading a Switch Using the CLI

Note In this section, except where noted, the term switch refers both to the Cisco CGS 2520 Switch and CGR 2010 ESM.

This procedure is for copying the combined tar file to the switch. You copy the file to the switch from a TFTP server and extract the files. You can download an image file and replace or keep the current image.

Note When upgrading the Cisco CGS 2520 Switch, make sure that the compact flash card is inserted into the switch before downloading the software.

To download software, follow these steps:

Step 1 To download the software image file, go to the following URL, and log in to download the appropriate files:
http://www.cisco.com/kobayashi/sw-center/sw-lan.shtml

Step 2 Copy the image to the appropriate TFTP directory on the workstation, and make sure that the TFTP server is properly configured.
For more information, see the *Cisco CGS 2520 Software Configuration Guide*.

Step 3 Log into the switch through the console port or a Telnet session.

Step 4 (Optional) Ensure that you have IP connectivity to the TFTP server by entering this privileged EXEC command:

```
Switch# ping tftp-server-address
```

For more information about assigning an IP address and default gateway to the switch, see the software configuration guide for this release.

Step 5 Download the image file from the TFTP server to the switch. If you are installing the same version of software that is currently on the switch, overwrite the current image by entering this privileged EXEC command:

```
Switch# archive download-sw /overwrite /reload
tftp:[[//location]/directory]/image-name.tar
```

The **/overwrite** option overwrites the software image in flash memory with the downloaded one.

The **/reload** option reloads the system after downloading the image unless the configuration has been changed and not saved.

For **//***location*, specify the IP address of the TFTP server.

For */directory/image-name***.tar**, specify the directory (optional) and the image to download. Directory and image names are case sensitive.

This example shows how to download an image from a TFTP server at 198.30.20.19 and to overwrite the image on the switch:

```
Switch# archive download-sw /overwrite tftp://198.30.20.19/image-name.tar
```

You can also download the image file from the TFTP server to the switch and keep the current image by replacing the **/overwrite** option with the **/leave-old-sw** option.

Recovering from a Software Failure

For additional recovery procedures, see the "Troubleshooting" chapter in the software configuration guide for this release.

Installation Notes

This section describes things you should be aware of when upgrading the switch to this release, and includes these topics:

Assigning IP Information to the Switch

You can assign IP information to the switch or switch module using these methods. Refer to the document specific for your switch or switch module. See the Related Documentation, page 21 for document titles and links.

Method	Product	Product-Specific Document
Express Setup	Cisco CGR 2010 ESM	Getting Started Guide
	Cisco CGS 2520 Switch	Getting Started Guide
CLI-Based Setup	Cisco CGR 2010 ESM	Software Configuration Guide
	Cisco CGS 2520 Switch	Hardware Installation Guide
DHCP-based autoconfiguration	Cisco CGR 2010 ESM	Software Configuration Guide
	Cisco CGS 2520 Switch	Software Configuration Guide
Manually assign IP address	Cisco CGR 2010 ESM	Software Configuration Guide
	Cisco CGS 2520 Switch	Software Configuration Guide

Default PTP Profile After Upgrade

If an earlier version of the switch software is configured to use the PTP default profile (non-power profile mode), upgrading the switch to release 12.2(58)EY2 causes the switch configuration to be changed to use the PTP power profile (power profile mode). Enter the **no ptp profile power** command to re-configure the switch to use the default PTP profile.

With release 12.2(58)EY2, this issue occurs only during the upgrade process. After the upgrade is complete, any time the switch reboots or reloads, it retains the configured PTP profile.

Note For more information about Precision Time Protocol (PTP) and profiles, see the Cisco CGS 2520 Switch Software Configuration Supplement, Release 12.2(58)EY.

Upgrading the GLC-FE-100FX-RGD SFP Module

When an older version of SFP module GLC-FE-100FX-RGD is used for the fiber ports in the Fiber (GRWIC-D-ES-6S) model, a message similar to the one below is displayed on the console every five minutes per interface:

```
PLATFORM-4-SFP_REVISION_WARNING: Interface FastEthernet0/1 has an obsolete SFP module that
is not recommended for this product.
```

Cisco recommends you upgrade to the latest Cisco certified version of the GLC-FE-100FX-RGD SFP. For optimum operation over the entire operating temperature range, the switch module requires Rev. 2 or higher of the GLC-FE-100FX-RGD SFP.

Limitations and Restrictions

Cisco recommends that you review this section before you begin working with the CGR 2010 ESM and the Cisco CGS 2520 Switch. These are known limitations that will not be fixed, and there is not always a workaround. Some features might not work as documented, and some features could be affected by recent changes to the switch module hardware or software.

Note In this section, except where noted, the term switch refers both to the Cisco CGS 2520 Switch and CGR 2010 ESM.

Bidirectional Forwarding Detection (BFD)

This section describes the known BFD limitations for the switch:

- **CSCsu94835**

  The BFD session with the neighbor flaps when there is close to 100 percent bidirectional line- rate traffic sent through the physical links connecting the neighbors. This happens only on those sessions in which Layer 3 BFD neighboring switches connect through a Layer 2 intermediate switch.

  Workaround: Ensure that there is no 100 percent bidirectional unknown traffic flowing through the intermediate Layer 2 switch in the same links that connect Layer 3 switches. An alternate workaround is to always directly connect the Layer 3 switches when BFD is running.

- **CSCtf31731**

When you create a BFD session between two switches and create an ACL that includes the **permit ip any any log-input** access-list configuration command, the BFD session goes down when you attach the ACL to one of the connecting interfaces. When you remove the ACL from the interface, BFD comes back up.

Workaround: Do not use the **permit ACL** entry with the log option on interfaces participating in BFD.

Connectivity Fault Management (CFM)

- **CSCtf30542**

  When the CFM start delay timer is configured to a small value, the *Crosscheck-Up* field in the output of the **show ethernet cfm domain** privileged EXEC command and the *Mep-Up* field in the output of the **show ethernet cfm maintenance-points remote crosscheck** privileged EXEC command might appear as *No* even when the CCM is learned in the remote database. This is expected behavior.

  Workaround: Set the start-delay timer value larger than the continuity-check interval by issuing the **ethernet cfm mep crosscheck start-delay** command.

Configuration

- **CSCea71176** and **CSCdz11708**

  A static IP address might be removed when the previously acquired DHCP IP address lease expires.

  This problem occurs under these conditions:

  - When the switch is booted without a configuration (no config.text file in flash memory).
  - When the switch is connected to a DHCP server that is configured to give an address to it (the dynamic IP address is assigned to VLAN 1).
  - When an IP address is configured on VLAN 1 before the dynamic address lease assigned to VLAN 1 expires.

  Workaround: Reconfigure the static IP address.

- **CSCed50819**

  The DHCP snooping binding database is not written to flash memory or a remote file.

  This problem occurs under these conditions:

  - When the Network Time Protocol (NTP) is configured, but the NTP clock is not synchronized. You can check the clock status by entering the **show NTP status** privileged EXEC command and verifying that the network connection to the NTP server and the peer work correctly.
  - The DHCP snooping database file is manually removed from the file system. After enabling the DHCP snooping database by configuring a database URL, a database file is created. When the file is manually removed from the file system, the DHCP snooping database does not create another database file. You need to disable the DHCP snooping database and enable it again to create the database file.
  - The URL for the configured DHCP snooping database was replaced because the original URL was not accessible. The new URL might not take effect after the timeout of the old URL.

  Workaround: No workaround is necessary; these are the designed behaviors.

- **CSCed79734**

  When dynamic ARP inspection is enabled on a switch, ARP and RARP packets greater than 2016 bytes are dropped by the switch or switch stack. This is a hardware limitation.

  Workaround: When dynamic ARP inspection is not enabled and a jumbo MTU is configured, ARP and RARP packets are correctly bridged in hardware.

- **CSCed95822**

  Dynamic ARP inspection log entries might be lost after a switch failure. Any log entries that are still in the log buffer (have not been output as a system message) on a switch that fails are lost.

  When you enter the **show ip arp inspection log** privileged EXEC command, the log entries from all switches in the stack are moved to the switch on which you entered the command.

  Workaround: There is no workaround.

- **CSCee93822**

  When port security is enabled on an interface in restricted mode and the **switchport block unicast interface** command has been entered on that interface, MAC addresses are incorrectly forwarded when they should be blocked.

  Workaround: Enter the **no switchport block unicast** interface configuration command on that specific interface.

- **CSCef59331**

  A trace back error occurs when a crypto key is generated after an SSL client session.

  Workaround: There is no workaround. This is a cosmetic error and does not affect the functionality of the switch.

- **CSCeh70503**

  When the switch starts, SFP ports can become active before the Cisco IOS software loading process is complete. Packets arriving at these ports before the switch software is completely loaded are lost. This is a hardware limitation when the switch uses small form-factor pluggable (SFP) modules with copper connections.

  Workaround: Use switch ports other than those specified for redundancy and for applications that immediately detect active links.

- **CSCsk65142**

  When you enter the **boot host retry timeout** global configuration command to specify the amount of time that the client should keep trying to download the configuration and you do not enter a timeout value, the default value is zero, which should mean that the client keeps trying indefinitely. However, the client does not keep trying to download the configuration.

  Workaround: Always enter a non-zero value for the timeout value when you enter the **boot host retry timeout** *timeout-value* command.

- **CSCsh12472**

  The switch might display trace backs similar to this example when an EtherChannel interface port-channel type changes from Layer 2 to Layer 3 or the reverse:

  ```
  15:50:11: %COMMON_FIB-4-FIBNULLHWIDB: Missing hwidb for fibhwidb Port-channel1
  (ifindex 1632) -Traceback= A585C B881B8 B891CC 2F4F70 5550E8 564EAC 851338 84AF0C
  4CEB50 859DF4 A7BF28 A98260 882658 879A58
  ```

  Workaround: There is no workaround for this issue.

- **CSCsj46992**

A CiscoFlashMIBTrap message appears during switch startup. This does not affect switch functionality.

- **CSCsl02680**

  When the configuration file is removed from the switch module and the switch is rebooted, port status for VLAN 1 and the management port (Fast Ethernet 0) is sometimes reported as *up* and sometimes as *down*, resulting in conflicts.

  This status depends on when you respond to the reboot query:

  ```
  Would you like to enter the initial configuration dialog?
  ```

  - After a reboot, when the Line Protocol status of VLAN 1 appears on the console before responding, VLAN 1 line status is always shown as *down*. This is the correct state.
  - The problem (VLAN 1 reporting *up*) occurs when you respond to the query before VLAN 1 line status appears on the console.

  Workaround: Wait for approximately 1 minute after rebooting and until the VLAN 1 interface line status appears on the console before you respond to the query.

- **CSCtg31923**

  CPU utilization increases when the traffic on a switch is disrupted by an Address Resolution Protocol (ARP) broadcast storm even when broadcast storm control is enabled.

  Workaround: There is no workaround.

EtherChannel

- **CSCsh12472**

  The switch might display trace backs similar to this example when an EtherChannel interface port-channel type changes from Layer 2 to Layer 3 or the reverse:

  ```
  15:50:11: %COMMON_FIB-4-FIBNULLHWIDB: Missing hwidb for fibhwidb Port-channel1
  (ifindex 1632) -Traceback= A585C B881B8 B891CC 2F4F70 5550E8 564EAC 851338 84AF0C
  4CEB50 859DF4 A7BF28 A98260 882658 879A58
  ```

  Workaround: There is no workaround.

- **CSCtf77937**

  When an EtherChannel is configured for 802.1ad and a channel member that is up is removed from the EtherChannel, the 802.1ad configuration is removed. However, when the member channel is shut down and then removed from the EtherChannel, the 802.1ad configuration is not removed.

  Workaround: Enter the **no shutdown** interface configuration command on the member channel before removing it from the EtherChannel.

IP

- **CSCea21674**

  The switch does not create an adjacent table entry when the ARP timeout value is 15 seconds and the ARP request times out.

  Workaround: Do not set an ARP timeout value lower than 120 seconds.

- **CSCeb59166**

  When the rate of received DHCP requests exceeds 2000 packets per minute for a long time, the response time might be slow when you are using the console.

Workaround: Use rate limiting on DHCP traffic to prevent a denial of service (DoS) attack from occurring.

IP Service Level Agreements (SLAs)

- When the IP SLAs configured reaction type (configured by entering the **ip sla reaction-configuration** global configuration command) is round-trip time (RTT), an RTT event causes duplicate SNMP traps.

  Workaround: There is no workaround.

IP Telephony

- **CSCea85312**

  After you change the access VLAN on a port that has IEEE 802.1x enabled, the IP phone address is removed. Because learning is restricted on IEEE 802.1x-capable ports, it takes approximately 30 seconds before the address is relearned.

  Workaround: No workaround is necessary.

- **CSCsf32300**

  The Cisco 7905 IP Phone is error-disabled when the phone is connected to wall power.

  Workaround: Enable Power over Ethernet (PoE) and configure the switch to recover from the PoE error-disabled state.

Fallback Bridging

- **CSCdw81955**

  When a bridge group contains a VLAN to which a static MAC address is configured, all non-IP traffic in the bridge group with this MAC address destination is sent to all ports in the bridge group.

  Workaround: Remove the VLAN from the bridge group or to remove the static MAC address from the VLAN.

- **CSCdz80499**

  Known unicast (secured) addresses are flooded within a bridge group when secure addresses are learned or configured on a port and the VLAN on this port is part of a bridge group. Non-IP traffic destined to the secure addresses is flooded within the bridge group.

  Workaround: Disable fallback bridging or to disable port security on all ports in all VLANs participating in fallback bridging.

  To remove an interface from a bridge group and to remove the bridge group, use the **no bridge-group** *bridge-group* interface configuration command. To disable port security on all ports in all VLANs participating in fallback bridging, use the **no switchport port-security** interface configuration command.

MAC Addressing

- **CSCeb67937**

  When a MAC address is configured for filtering on the internal VLAN of a routed port, incoming packets from the MAC address to the routed port are not dropped.

Workaround: There is no workaround.

Multicasting

- The switch does not support tunnel interfaces, including DVMRP and PIM tunneling.
- **CSCdu25219**

  Non-reverse-path forwarded (RPF) IP multicast traffic to a group that is bridged in a VLAN is leaked onto a trunk port in the VLAN even when the port is not a member of the group in the VLAN, but it is a member of the group in another VLAN. Because unnecessary traffic is sent on the trunk port, it reduces the bandwidth of the port.

  Workaround: There is no workaround for this problem because non-RPF traffic is continuous in certain topologies. As long as the trunk port is a member of the group in at least one VLAN, this problem occurs for the non-RPF traffic.
- **CSCdy09008**

  Non-reverse-path forwarded (RPF) IP multicast traffic to a group that is bridged in a VLAN leaks when the number of multicast routes and Internet Group Management Protocol (IGMP) groups are more than the maximum number specified by the **show sdm prefer** global configuration command, the traffic received on unknown groups is flooded in the received VLAN even though the **show ip igmp snooping multicast-table** privileged EXEC command output shows otherwise.

  Workaround: Reduce the number of multicast routes and IGMP snooping groups to less than the maximum supported value.
- **CSCdy82818**

  IGMP filtering is applied to packets that are forwarded through hardware. It is not applied to packets that are forwarded through software. Hence, with multicast routing enabled, the first few packets are sent from a port even when IGMP filtering is set to deny those groups on that port.

  Workaround: There is no workaround.
- **CSCdz86110**

  When you use the **ip access-group** interface configuration command with a router access control list (ACL) to deny access to a group in a VLAN, multicast data to the group that is received in the VLAN is always flooded in the VLAN, regardless of IGMP group membership in the VLAN. This provides reachability to directly connected clients, if any, in the VLAN.

  Workaround: Do not apply a router ACL set to deny access to a VLAN interface. Apply the security through other means. For example, apply VLAN maps to the VLAN instead of using a router ACL for the group.
- When an IGMP report packet has two multicast group records, the switch removes or adds interfaces depending on the order of the records in the packet:
  - When the ALLOW_NEW_SOURCE record is before the BLOCK_OLD_SOURCE record, the switch removes the port from the group.
  - When the BLOCK_OLD_SOURCE record is before the ALLOW_NEW_SOURCE record, the switch adds the port to the group.

  Workaround: There is no workaround.
- **CSCee16865**

  When IGMP snooping is disabled and you enter the **switchport block multicast interface** configuration command, IP multicast traffic is not blocked.

The **switchport block multicast** interface configuration command is only applicable to non-IP multicast traffic.

Workaround: There is no workaround.

- **CSCef42436**

  Incomplete multicast traffic can be seen under either of these conditions:

  - You disable IP multicast routing or re-enable it globally on an interface.
  - A switch mroute table temporarily runs out of resources and recovers later.

  Workaround: Enter the **clear ip mroute** privileged EXEC command on the interface.

- **CSCsc02995**

  When IP routing is disabled and IP multicast routing is enabled, IGMP snooping floods multicast packets to all ports in a VLAN.

  Workaround: Enable IP routing or to disable multicast routing on the switch. You can also use the **ip igmp snooping querier** global configuration command when IP multicast routing is enabled for queries on a multicast router port.

QoS

- **CSCsk58435**

  When several per-port, per-VLAN parent policies are attached to the input of one or more interfaces and a child policy of these parent policies is modified, the parent policies are detached from the interfaces and reattached during the process. Because the modified policy is large, the TCAM entries are being used up, and the attached policies should be removed. However, some of the parent policies are not removed from the interface, and the TCAM entries are cleared. When you save the configuration and reload the switch, the policies are detached, but the TCAM is full, and you cannot attach other policies.

  The following error message appears:

  ```
  QOSMGR-4-QOS_TCAM_RESOURCE_EXCEED_MAX: Exceeded a maximum of QoS TCAM resources
  ```

  Workaround: Manually detach the policy maps from all the interfaces by entering the **no service-policy input** *policy-map-name* interface configuration command on each interface.

- **CSCsb98219**

  When you use the **bandwidth policy-map class** command to configure more than one class in a policy map for Class-based Weighted Fair Queuing (CBWFQ), and the committed information rate (CIR) bandwidth for any of the classes is less than 2 percent of the interface rate, the CBWFQ classes in the policy might not receive the configured CIR bandwidths.

  Workaround: There is no workaround, but it is unlikely that a CBWFQ class would be configured with such a low CIR bandwidth.

REP

- Although you can configure a REP segment without configuring REP edge ports, Cisco recommends that you configure REP edge ports whenever possible because edge ports enable these functions:
  - Selecting the preferred alternate port.
  - Configuring VLAN load balancing.
  - Configuring topology change notifications (TCNs) toward STP, other REP segments, or an interface.

  - Initiating the topology collection process.
  - Preemption mechanisms.

  You cannot enable these functions on REP segments without edge ports.

- **CSCth18662**

  When you configure two or more connected REP segments to send segment topology change notices (STCNs) by entering the **rep stcn segment** *segment-id* interface configuration command on REP interfaces, and segments inject messages simultaneously, an STCN loop occurs, and CPU usage can increase to 99 percent for one to two minutes before recovering.

  Workaround: Avoid configuring multiple STCNs in connected segments. This is a misconfiguration.

- **CSCsz40613**

  On a switch running both Resilient Ethernet Protocol (REP) and Bidirectional Forwarding Detection (BFD), when the REP link status layer (LSL) age-out value is less than 1000 milliseconds (1 second), the REP link flaps when the BFD interface is shut down and then brought back up.

  Workaround: Use the **rep lsl-age-out timer** interface configuration command to configure the REP LSL age timer for more than 1 second.

Routing

- The switch does not support tunnel interfaces for routed traffic.
- **CSCea52915**

  A route map that has an ACL with a Differentiated Services Code Point (DSCP) clause cannot be applied to a Layer 3 interface. The switch rejects this configuration and displays a message that the route map is unsupported.

  Workaround: There is no workaround.

- **CSCed53633**

  A spanning-tree loop might occur when all of these conditions are true:

  - Port security is enabled with the violation mode set to Protected.
  - The maximum number of secure addresses is less than the number of switches connected to the port.
  - There is a physical loop in the network through a switch whose MAC address has not been secured, and its BPDUs cause a secure violation.

  Workaround: Change any one of the listed conditions.

SPAN and RSPAN

- **CSCdy72835**

  An egress SPAN copy of routed unicast traffic might show an incorrect destination MAC address on both local and remote SPAN sessions. This limitation does not apply to bridged packets.

  Workaround: For local SPAN, use the **replicate** option. For a remote SPAN session, there is no workaround.

- **CSCdy81521**

Egress SPAN routed packets (both unicast and multicast) show the incorrect source MAC address. For remote SPAN packets, the source MAC address should be the MAC address of the egress VLAN, but instead the packet shows the MAC address of the RSPAN VLAN. For local SPAN packets with native encapsulation on the destination port, the packet shows the MAC address of VLAN 1. This problem does not appear with local SPAN when the **encapsulation replicate** option is used. This limitation does not apply to bridged packets.

Workaround: Use the **encapsulate replicate** keywords in the **monitor session** global configuration command. Otherwise, there is no workaround.

- **CSCeb01216**

  The egress SPAN data rate might degrade when fallback bridging or multicast routing is enabled. The amount of degradation depends on the processor loading. Typically, the switch can egress SPAN at up to 40,000 packets per second (64-byte packets). As long as the total traffic being monitored is below this limit, there is no degradation. However, when the traffic being monitored exceeds the limit, only a portion of the source stream is spanned. When this occurs, the following console message appears: *Decreased egress SPAN rate.* In all cases, normal traffic is not affected; the degradation limits only how much of the original source stream can be egress spanned. When fallback bridging and multicast routing are disabled, egress SPAN is not degraded.

  Workaround: There is no workaround. When possible, disable fallback bridging and multicast routing. When possible, use ingress SPAN to observe the same traffic.

- **CSCeb23352**

  Some IGMP report and query packets with IP options might not be ingress-spanned. Packets that are susceptible to this problem are IGMP packets containing 4 bytes of IP options (IP header length of 24). An example of such packets would be IGMP reports and queries having the router alert IP option. Ingress-spanning of such packets is not accurate and can vary with the traffic rate. Typically, very few or none of these packets are spanned.

  Workaround: There is no workaround.

- **CSCed24036**

  Cisco Discovery Protocol (CDP) packets received by network node interfaces (NNIs) from a SPAN source are not sent to the destination interfaces of a local SPAN session.

  Workaround: Use the **monitor session** *session_number* **destination** {**interface** *interface-ID* **encapsulation replicate**} global configuration command for local SPAN.

- **CSCsj21718**

  When system jumbo MTU size is configured on a switch and the egress ports can support jumbo frames, the egress SPAN jumbo frames are not forwarded to the SPAN destination ports.

  Workaround: There is no workaround.

Trunking

- **CSCdz42909**

  IP traffic with IP options set is sometimes leaked on a trunk port. For example, a trunk port is a member of an IP multicast group in VLAN *X* but is not a member in VLAN *Y*. When VLAN *Y* is the output interface for the multicast route entry assigned to the multicast group, and an interface in VLAN *Y* belongs to the same multicast group, the IP-option traffic received on an input VLAN interface other than one in VLAN *Y* is sent on the trunk port in VLAN *Y* because the trunk port is forwarding in VLAN *Y*, even though the port has no group membership in VLAN *Y*.

  Workaround: There is no workaround.

- **CSCec35100**

  For trunk ports or access ports configured with IEEE 802.1Q tagging, inconsistent statistics might appear in the **show interfaces counters** privileged EXEC command output. Valid IEEE 802.1Q frames of 64 to 66 bytes are correctly forwarded even though the port LED blinks amber, and the frames are not counted on the interface statistics.

  Workaround: There is no workaround.

VLAN

- **CSCtl60247**

  Summary: When a switch running Multiple Spanning Tree (MST) is connected to a switch running Rapid Spanning Tree Protocol (RSTP), the MST switch acts as the root bridge and runs per-VLAN spanning tree (PVST) simulation mode on boundary ports connected to the RST switch.

  This problem occurs when the allowed VLAN on all trunk ports connecting these switches is changed to a VLAN other than VLAN 1 and the root port of the RSTP switch is shut down and then enabled, the boundary ports connected to the root port move immediately to the forward state without going through the PVST+ slow transition.

  Workaround: There is no workaround.

- **CSCeb31087**

  When the number of VLANs times the number of trunk ports exceeds 13,000 the switch can stop.

  Workaround: Do not configure more than the recommended number of VLANs and trunks.

- **CSCed71422**

  A CPUHOG message sometimes appears when you configure a private VLAN, and port security is enabled on one or more of the ports affected by the private VLAN configuration.

  Workaround: There is no workaround.

- **CSCef47377**

  When you apply a per-VLAN Quality of Service (QoS), per-port policer policy-map to a VLAN Switched Virtual Interface (SVI), the second-level (child) policy-map in use cannot be re-used by another policy-map.

  Workaround: Define another policy-map name for the second-level policy-map with the same configuration to be used for another policy-map.

- **CSCse06827**

  When dynamic ARP inspection is configured on a VLAN, and the ARP traffic on a port in the VLAN is within the configured rate limit, the port might go into an error-disabled state.

  Workaround: Configure the burst interval to more than 1 second.

- **CSCtl04815**

  When many VLANs are configured on the switch, high CPU utilization occurs when many links are flapping at the same time.

  Workaround: Remove unnecessary VLANs to reduce CPU utilization when many links are flapping.

Open Caveats

Note In this section, except where noted, the term switch refers both to the Cisco CGS 2520 Switch and CGR 2010 ESM.

- CSCuh62441

  Tracebacks are seen on the Cisco CGS 2520 Switch when Precision Time Protocol (PTP) is configured.

  Workaround: There is no workaround.

Resolved Caveats

Note In this section, except where noted, the term switch refers both to the Cisco CGS 2520 Switch and CGR 2010 ESM.

Caveats Resolved in Release 15.0(2)SE6

- CSCuh29260

  Ethernet Switching Module (ESM) drops frames from Cisco 2010 Connected Grid Router (CGR) through port 48. The devices are connected to the ESM switch on CGR 2010 and they use Layer 3 sub-interfaces as their default gateway. When these devices send traffic outside of their subnet through CGR 2010, they lose connectivity. The **show interface** command in CGR 2010 and ESM shows that the end device receives packets from CGR 2010 as expected, but the traffic drops when the end device sends the packet to CGR 2010.

Caveats Resolved in Release 15.0(2)SE4

- CSCug62154

  When the switch is started using TACACS+ configurations, the CPU utilization increases to 100% and the VTY device does not work.

  Workaround: Remove the TACACS+ configurations and restart the switch.

- CSCuh41077

  The ipAddrEntry value in the IP Address Table shows an interface index that is not exposed by the ifEntry Object ID.

  Workaround: There is no workaround.

- CSCuf77683

  Internal VLANs are displayed when the **show snmp mib ifmib ifindex** command is entered or the SNMP is queried for the ipMIB object.

  Workaround: Check if the displayed VLANs are internal and then hide them.

Caveats Resolved in Release 15.0(2)SE3

- CSCta43825

  CPU usage is high when an SNMP Walk of the Address Resolution Protocol (ARP) table is performed.

  Workaround: Implement SNMP view using the following commands:

  ```
  snmp-server view cutdown iso included
  snmp-server view cutdown at excluded
  snmp-server view cutdown ip.22 excluded
  snmp-server community public view cutdown ro
  snmp-server community private view cutdown rw
  ```

- CSCts95370

  If an ACL is configured on a router VTY line for ingress traffic, the ACL is applied for egress traffic also. As a result, egress traffic to another router on an SSH connection is blocked.

  Workaround: Permit egress traffic to the specific destination router using the **permit tcp host** <*destination router IP address*> **eq 0 any** interface configuration command.

- CSCub85948

  Memory leak is seen in the switch when it sends CDP, LLDP or DHCP traffic and when the link flaps.

  Workaround: Apply protocol filters to the device sensor output by entering the following global configuration commands:

  ```
  no macro auto monitor
  device-sensor filter-spec dhcp exclude all
  device-sensor filter-spec lldp exclude all
  device-sensor filter-spec cdp exclude all
  ```

  If the memory leak continues in the "DHCPD Receive" process, disable the built-in DHCP server by entering the no service dhcp global configuration command.

- CSCuc40634

  STP loop occurs on Flexstack connected by parallel links when a link state is changed on Flexlink port.

  Workaround: Change the switch to root bridge.

- CSCud83248

  When native VLAN is configured on the trunk or when switchport trunk native vlan 99 is configured on the interface, spanning-tree instance is not created for native VLAN.

  Workaround: Keep VLAN1 as a native on the trunk. In Cisco IOS Release15.0(2) SE, dot1.x is enabled by default and causes authentication to fail in the native VLAN. This results in pm_vp_statemachine not triggering any event to spanning tree. To disable dot1x internally, run the no macro auto monitor command. The stp instance is created for native vlan 99 after running the **show** and **no show** command on the interface.

- CSCue49665

  Even when the power input voltage is stable, the following voltage below min threshold errors are displayed:

  ```
  %ENVIRONMENT-2-PS_B_LOWVOLTAGE: CLEAR MAJOR D003SWD02 PS 1B voltage below min
  threshold
  %ENVIRONMENT-2-PS_B_LOWVOLTAGE: ASSERT MAJOR D003SWD02 PS 1B voltage below min
  threshold
  ```

```
%ENVIRONMENT-2-PS_B_LOWVOLTAGE: CLEAR MAJOR D003SWD02 PS 1B voltage below min
threshold
%ENVIRONMENT-2-PS_B_LOWVOLTAGE: ASSERT MAJOR D003SWD02 PS 1B voltage below min
threshold
```

Workaround: There is no workaround. The power input voltage is stable and there is no functional impact.

- CSCue86180

  On the Catalyst 2960S switch stack, when the **login block** command is configured and the running config is saved using the **wr** command on the master, it causes the master to go down. When the running config is saved on the new master, the following lines are displayed on entering the **show running-config** command.

```
ip access-list extended sl_def_acl
deny   tcp any any eq telnet
deny   tcp any any eq www
deny   tcp any any eq 22
permit ip any any
```

  Workaround: There is no workaround.

- CSCue87815

  When the secret password is configured, the password is not saved. The default password is used as the secret password.

  Workaround: Use the default password to login and then change the password.

Related Documentation

Cisco CGS 2520 Switch

- Cisco CGS 2520 Software Configuration Guides
- Cisco CGS 2520 Command Reference
- Cisco CGS 2520 System Message Guide
- Cisco CGS 2520 Hardware Installation Guide
- Cisco CGS 2520 Getting Started Guide—available in English, simplified Chinese, French, German, Italian, Japanese, Brazilian Portuguese, and Spanish
- Installation Notes for the Power Supply Modules for the Cisco CGS 2520
- Regulatory Compliance and Safety Information for the Cisco CGS 2520

These documents are available on the product support home page for the switch:

http://www.cisco.com/en/US/products/ps10978/tsd_products_support_series_home.html

CGR 2010 ESM

- Cisco 2010 Connected Grid Router Ethernet Switch Module Getting Started Guide
- Cisco 2010 Connected Grid Router Ethernet Switch Module Software Configuration Guide
- Connected Grid Router 2000 Series Regulatory Compliance and Safety Information

These documents are available on from the product support home page for the switch module:

http://www.cisco.com/en/US/products/ps10984/tsd_products_support_series_home.html

SFP Modules

- Cisco Small Form-Factor Pluggable Modules Installation Notes
- Cisco CWDM GBIC and CWDM SFP Installation Note

These documents are available on the product support page for Cisco transceiver modules:

http://www.cisco.com/en/US/products/hw/modules/ps5455/prod_installation_guides_list.html

Compatibility Matrices

- Cisco Small Form-Factor Pluggable Modules Compatibility Matrix
- Compatibility Matrix for 1000BASE-T Small Form-Factor Pluggable Modules

http://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html

Obtaining Documentation and Submitting a Service Request

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http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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