Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem

Release Notes, Cisco IOS Release 12.2(25)SE2

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These release notes include important information about this Cisco IOS release for the Cisco Gigabit Ethernet Switch Module (CGESM) for the HP p-Class BladeSystem. This document includes any limitations, restrictions, and caveats that apply to this release.

NOTE: The documentation for the CGESM switch refers to IOS Release 12.2(25)SE. The correct IOS release is IOS Release 12.2(25)SE1 and later. For a complete list of these documents, see the "Documentation notes" section.

To verify that these release notes are correct for your switch, use the `show version` user EXEC command (see the "Finding the software version and feature set" section).

You can download the switch software at http://www.hp.com/support.

Contents

This document contains the following information:

System requirements

The system requirements are described in these sections:

- "Device manager system requirements"
- "Cluster compatibility"

Device manager system requirements

These sections describes the hardware and software requirements for using the device manager:

- "Hardware requirements"
- "Software requirements"

Hardware requirements

The following table lists the minimum hardware requirements for running the device manager.

Table 1 Minimum hardware requirements

Processor speed	DRAM	Number of colors	Resolution	Font size
Intel Pentium II[1]	64 MB[2]	256	1024 x 768	Small

[1] We recommend Intel Pentium 4.

[2] We recommend 256 MB DRAM.

Software requirements

The following table lists the supported operating systems and browsers for using the device manager. The device manager verifies the browser version when starting a session to ensure that the browser is supported.

NOTE: The device manager does not require a plug-in.

Table 2 Supported operating systems and browsers

Operating system	Minimum service pack or patch	Microsoft Internet Explorer[1]	Netscape Navigator
Windows 98	None	5.5 or 6.0	7.1
Windows NT	Service Pack 6 or later	5.5 or 6.0	7.1
Windows 2000	None	5.5 or 6.0	7.1
Windows XP	None	5.5 or 6.0	7.1

1. Service Pack 1 or higher is required for Internet Explorer 5.5.

Cluster compatibility

You cannot create and manage switch clusters through the device manager. To create and manage switch clusters, use the command line interface (CLI).

When creating a switch cluster or adding a switch to a cluster, follow these guidelines:

- When you create a switch cluster, we recommend configuring the highest-end switch in your cluster as the command switch.
- The standby command switch must be the same type as the command switch. For example, if the command switch is a CGESM switch, all standby command switches must be CGESM switches.

Upgrading the switch software

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

- "Finding the software version and feature set"
- "Deciding which files to use"
- "Upgrading a switch by using the device manager"
- "Upgrading a switch by using the CLI"
- "Recovering from a software failure"

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 system board flash device (flash:).

You can use the `show version` user EXEC command to display the software version that is running on your switch.

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

Deciding which files to use

The upgrade procedures in these release notes describe how to perform the upgrade by using a tar file. This file contains the Cisco IOS image file and the files needed for the embedded device manager. You must use the 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.

Here are the filenames for this software release:

- cgesm-i6k9112-tar.122-25.SE2.tar (This includes the cryptographic Cisco IOS image and the device manager files.)
- cgesm-i612-tar.122-25.SE2.tar (This includes the Cisco IOS image and the device manager files.)

Upgrading a switch by using the device manager

You can upgrade switch software by using the device manager. From the feature bar, choose Administration > Software Upgrade. For detailed instructions, click Help.

NOTE: When using the device manager to upgrade your switch, do not use or close your browser session after the upgrade process begins. Wait until after the upgrade process completes.

Upgrading a switch by using the CLI

This procedure is for copying the 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. The `archive download-sw` privileged EXEC command both downloads and extracts the files.

To download software, follow these steps:

1. To download the software image file, go to http://www.hp.com/support.

   To download the latest software tar file for a CGESM switch, go to http://www.hp.com/support. To obtain authorization and to download the cryptographic software tar file go to http://www.hp.com/go/softwaredepot.

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, refer to Appendix B in the software configuration guide for this release.

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

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

   ```
   ping tftp-server-address
   ```

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

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:

   ```
   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/cgesm-i6l2-
   tar.122-25.SE2.tar
   ```

   You also can 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 recovery procedures, refer to the “Troubleshooting” chapter in the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Software Configuration Guide* for this release.

Installation notes

You can assign IP information to your switch by using these methods:

- The Express Setup program, as described in the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Hardware Installation Guide*
- The CLI-based setup program, as described in the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Hardware Installation Guide*

- The DHCP-based autoconfiguration, as described in the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Software Configuration Guide*
- Manually assigning an IP address, as described in the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Software Configuration Guide*

Major features

This release contains the following features for 12.2(25)SE1 and later:

- The device manager is included in the switch image and provides simplified management for a single switch. Its features, such as Smartports and color-coded graphs, make it easier to configure and monitor the switch. No special installation is required. After the switch is configured through the Express Setup program or through the CLI-based setup program, the device manager is accessible through a Microsoft Internet Explorer or Netscape Navigator browser session. For more information, refer to the device manager online help. For information on how to display the device manager, refer to the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Hardware Installation Guide*.
- Secure Socket Layer (SSL) version 3.0 support for the HTTP1.1 server authentication, encryption, and message integrity, and HTTP client authentication to allow secure HTTP communications (only available in the cryptographic software image)
- Storm-control enhancements:
  - Specify the traffic rate in packets per second or in bits per second at which broadcast, multicast, or unicast packets are received.
  - Specify an action to take when a storm control occurs on a port.
- Support for DSCP transparency. If DSCP transparency is enabled, the switch does not modify the DSCP field in the incoming packet, and the DSCP field in the outgoing packet is the same as that in the incoming packet.
- Support for VLAN-based QoS and hierarchical policy maps on switch virtual interfaces (SVIs).
- Layer 2 trunk failover, for minimum release of 12.2(25)SE2.

Minimum Cisco IOS release for major features

The following table lists the minimum software release required to support the major features on this switch.

Table 3 CGESM switch features and the minimum Cisco IOS release required

Feature	Minimum Cisco IOS release required
Support for DSCP transparency	12.2(25)SE1
Support for VLAN-based QoS and hierarchical policy maps on SVIs	12.2(25)SE1
Device manager	12.2(25)SE1
Support for SSL version 3.0 for secure HTTP communication (cryptographic images only)	12.2(25)SE1
802.1x accounting and MIBs (IEEE8021-PAE-MIB and CISCO-PAE-MIB)	12.2(25)SE1
Flex Links	12.2(25)SE1
HTTP software upgrade (device manager only)	12.2(25)SE1
SFP module diagnostic-management interface	12.2(25)SE1
Smartports macros	12.2(25)SE1
Layer 2 trunk failover/Link State Tracking	12.2(25)SE2

Limitations and restrictions

You should review this section before you begin working with the 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 hardware or software.

This section contains information about these limitations:

- "Cisco IOS limitations"
- "Device manager limitations and restrictions"

Cisco IOS limitations

These limitations apply to the CGESM switch and are in the following sections:

- "Configuration"
- "Ethernet"
- "HSRP"
- "IP"
- "IP telephony"
- "Multicasting"
- "QoS"
- "SPAN and RSPAN"
- "Trunking"
- "VLAN"

Configuration

These are the configuration limitations:

- If you run the CLI-based setup program, the IP address that the Dynamic Host Configuration Protocol (DCHP) provides is reflected as a static IP address in the config.text file. The workaround is to not run setup if DHCP is required for your configuration.
- If you start and then end the autoinstall program before the DHCP server replies, DHCP requests are ignored. The workaround is to wait until you see the IP address appear when it is provided by the DCHP server.
- 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.

    The workaround is to reconfigure the static IP address. Follow the steps below. (CSCea71176 and CSCdz11708)

    1. Disable auto-QoS on the interface.
    2. Change the routed port to a nonrouted port or the reverse.
    3. Re-enable auto-QoS on the interface. (CSCec44169)
- The DHCP snooping binding database is not written to flash or a remote file in either of these situations:
  - The DHCP snooping database file is manually removed from the file system. After you enable the DHCP snooping database by configuring a database URL, a database file is created. If you manually remove the file from the 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 is not accessible. The new URL might not take effect after the timeout of the old URL.

  No workaround is necessary; these are the designed behaviors. (CSCed50819)
- When connected to some third-party devices that send early preambles, a switch port operating at 100 Mbps full duplex or 100 Mbps half duplex might bounce the line protocol up and down. The problem is observed only when the switch is receiving frames.

  The workaround is to configure the port for 10 Mbps and half duplex or to connect a hub or a nonaffected device to the switch. (CSCed39091)

- A traceback error occurs if a crypto key is generated after an SSL client session.

  There is no workaround. This is a cosmetic error and does not affect the functionality of the switch. (CSCef59331)

Ethernet

Subnetwork Access Protocol (SNAP) encapsulated IP packets are dropped without an error message being reported at the interface. The switch does not support SNAP-encapsulated IP packets. There is no workaround. (CSCdz89142)

HSRP

When the active switch fails in a switch cluster that uses HSRP redundancy, the new active switch might not contain a full cluster member list. The workaround is to ensure that the ports on the standby cluster members are not in the spanning-tree blocking state. To verify that these ports are not in the blocking state, see the "Configuring STP" chapter in the software configuration guide. (CSCec76893)

IP

When the rate of received DHCP requests exceeds 2,000 packets per minute for a long time, the response time might be slow when you are using the console. The workaround is to use rate limiting on DHCP traffic to prevent a denial of service attack from occurring. (CSCeb59166)

IP telephony

These are the IP telephony limitations:

- When a Cisco IP Phone is connected to the switch, the port VLAN ID (PVID) and the voice VLAN ID (VVID) both learn its MAC address. However, after dynamic MAC addresses are deleted, only the VVID relearns the phone MAC address. MAC addresses are manually or automatically deleted when a topology change occurs or when port security or an 802.1x feature is enabled or disabled.

  There is no workaround. (CSCea80105)
- After you change the access VLAN on a port that has 802.1x enabled, the IP Phone address is removed. Because learning is restricted on 802.1x capable ports, it takes approximately 30 seconds before the address is relearned. No workaround is necessary. (CSCea85312)

Multicasting

These are the multicasting limitations:

- If 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. The workaround is to reduce the number of multicast routes and IGMP snooping groups to less than the maximum supported value. (CSCdy09008)
- 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. There is no workaround. (CSCdy82818)
- If an IG MP report packet has two multicast group records, the switch removes or adds interfaces depending on the order of the records in the packet:
  - If the ALLOW_NEW_SOURCE record is before the BLOCK_OLD_SOURCE record, the switch removes the port from the group.
  - If the BLOCK_OLD_SOURCE record is before the ALLOW_NEW_SOURCE record, the switch adds the port to the group.

  There is no workaround. (CSCec20128)
- 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.

  There is no workaround. (CSCee16865)

QoS

These are the quality of service (QoS) limitations:

- Some switch queues are disabled if the buffer size or threshold level is set too low with the `mls qos queue-set output` global configuration command. The ratio of buffer size to threshold level should be greater than 10 to avoid disabling the queue. The workaround is to choose compatible buffer sizes and threshold levels. (CSCea76893)
- When auto-QoS is enabled on the switch, priority queuing is not enabled. Instead, the switch uses shaped round robin (SRR) as the queuing mechanism. The auto-QoS feature is designed on each platform based on the feature set and hardware limitations, and the queuing mechanism supported on each platform might be different. There is no workaround. (CSCee22591)

SPAN and RSPAN

These are the SPAN and Remote SPAN (RSPAN) limitations.

- 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. The workaround for local SPAN is to use the replicate option. For a remote SPAN session, there is no workaround.

  This is a hardware limitation: (CSCdy72835)
- 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. The workaround is to use the `encapsulate replicate` keywords in the `monitor session` global configuration command. Otherwise, there is no workaround.

  This is a hardware limitation: (CSCdy81521)
- During periods of very high traffic, when two RSPAN source sessions are configured, the VLAN ID of packets in one RSPAN session might overwrite the VLAN ID of the other RSPAN session. If this occurs, packets intended for one RSPAN VLAN are incorrectly sent to the other RSPAN VLAN. This problem does not affect RSPAN destination sessions. The workaround is to configure only one RSPAN source session.

  This is a hardware limitation: (CSCed24036)
- Cisco Discovery Protocol (CDP), VLAN Trunking Protocol (VTP), and Port Aggregation Protocol (PAgP) packets received from a SPAN source are not sent to the destination interfaces of a local SPAN session. The workaround is to use the `monitor session` *session_number* `destination {interface` *interface-id* `encapsulation replicate}` global configuration command for local SPAN.

Trunking

These are the trunking limitations:

- The switch treats frames received with mixed encapsulation (802.1Q and Inter-Switch Link [ISL]) as frames with FCS errors, increments the error counters, and causes the LED to blink amber. This happens when an ISL-unaware device receives an ISL-encapsulated packet and forwards the frame to an 802.1Q trunk interface. There is no workaround. (CSCdz33708)
- 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. If 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. There is no workaround. (CSCdz42909)
- For trunk ports or access ports configured with 802.1Q tagging, inconsistent statistics might appear in the `show interfaces counters` privileged EXEC command output. Valid 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. There is no workaround. (CSCec35100)

VLAN

If the number of VLANs times the number of trunk ports exceeds the recommended limit of 13,000, the switch can fail. The workaround is to reduce the number of VLANs or trunks. (CSCeb31087)

Device manager limitations and restrictions

You cannot create and manage switch clusters through the device manager. To create and manage switch clusters, use the CLI.

Device manager notes

These notes apply to the device manager:

- We recommend that you use this browser setting to display the device manager from Microsoft Internet Explorer in the least amount of time.

  From Microsoft Internet Explorer:

  1. Choose Tools > Internet Options.
  2. Click Settings in the "Temporary Internet files" area.
  3. From the Settings window, choose Automatically.
  4. Click OK.
  5. Click OK to exit the Internet Options window.

- The HTTP server interface must be enabled to display the device manager. By default, the HTTP server is enabled on the switch. Use the `show running-config` privileged EXEC command to see if the HTTP server is enabled or disabled.

  Beginning in privileged EXEC mode, follow these steps to configure the HTTP server interface:

	Command	Purpose
Step 1	`configure terminal`	Enter global configuration mode.
Step 2	`ip http authentication {enable | local | tacacs}`	Configure the HTTP server interface for the type of authentication that you want to use. enable—Enable password, which is the default method of HTTP server user authentication, is used. local—Local user database, as defined on the Cisco router or access server, is used. tacacs—TACACS server is used.
Step 3	`end`	Return to privileged EXEC mode.
Step 4	`show running-config`	Verify your entries.

- The device manager uses the HTTP protocol (the default is port 80) and the default method of authentication (the enable password) to communicate with the switch through any of its Ethernet ports and to allow switch management from a standard web browser.

  If you change the HTTP port, you must include the new port number when you enter the IP address in the browser Location or Address field (for example, http://10.1.126.45:184 where 184 is the new HTTP port number). You should write down the port number through which you are connected. Use care when changing the switch IP information.

  If you are *not* using the default method of authentication (the enable password), you need to configure the HTTP server interface with the method of authentication used on the switch.

  Beginning in privileged EXEC mode, follow these steps to configure the HTTP server interface:

	Command	Purpose
Step 1	`configure terminal`	Enter global configuration mode.
Step 2	`ip http authentication {enable | local | tacacs}`	Configure the HTTP server interface for the type of authentication that you want to use. enable—Enable password, which is the default method of HTTP server user authentication, is used. local—Local user database, as defined on the Cisco router or access server, is used. tacacs—TACACS server is used.
Step 3	`end`	Return to privileged EXEC mode.
Step 4	`show running-config`	Verify your entries.

- If you use Internet Explorer Version 5.5 and select a URL with a nonstandard port at the end of the address (for example, `www.cisco.com:84`), you must enter `http://` as the URL prefix. Otherwise, you cannot launch the device manager.

VLAN interfaces and MAC addresses

All VLAN interfaces have assigned MAC addresses that are derived from the base MAC address. The base MAC address is the hardware address that is on the switch label. It also appears when you enter the `show version` privileged EXEC command.

On the first VLAN interface (VLAN 1), the MAC address is the base MAC address + 0 x 40. On the next VLAN interface that you configure, the MAC address is the base MAC address + 0 x 40 +1, and so on for other VLAN interfaces.

You can enter the `show interfaces vlan vlan-id` privileged EXEC command to show the MAC and IP addresses. The MAC addresses that appear in the `show interfaces vlan vlan-id` command output are not the same as the MAC address that is printed on the switch label (the base MAC address).

By default, VLAN 1 is the interface that connects to the management network. When the switch boots up, the DHCP client (switch) requests an IP address from a DHCP server by using the MAC address of VLAN 1.

Documentation notes

This section describes documentation notes related to this IOS release.

References to IOS release number

These documents refer to Release 12.2(25)SE. The correct release is Release 12.2(25)SE1 and later.

- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Software Configuration Guide, Cisco IOS Release 12.2(25)SE*
- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Command Reference Guide, Cisco IOS Release 12.2(25)SE*
- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem System Message Guide, Cisco IOS Release 12.2(25)SE*

Open caveats

These sections describe the open caveats with possible unexpected activity in this software release:

- "Open IOS caveats"
- "Open HP caveats"
- "Open device manager caveats"

Open IOS caveats

These severity 3 Cisco IOS configuration caveats apply to the CGESM switch:

- CSCee08109

  If a port-based ACL (PACL) is applied to an 802.1x-enabled port and the client is then disconnected from that port, the PACL is not removed from the port.

  There is no workaround.

- CSCee12496

  When the `interface range` interface configuration command is used to set a range of ports to trusted mode by using the `ip arp inspection trust` command and some of those ports are members of a channel-group, this error message might appear:

  ```
  %PM-3-INTERNALERROR: Port Manager Internal Software Error (pd->physicalPort
  && pd->agPort == NULL: ../switch/pm/pm_port.c: 3865: pm_port_want_to_bundle)
  ```

  There is no workaround.

- CSCee22376

  When an SNMP version 3 user is configured with the encrypted option and password, the switch reloads when the MIB object `usmUserAuthKeyChange` is set.

  The workaround is to configure a user without the encrypted option. (For example, `snmp-server user username groupname v3 auth md5 password`.)

- CSCee37070

  An 802.1x port in single-host mode with port security enabled goes into the errdisable state and displays the `%DOT1X-5-SECURITY_VIOLATION` message if another MAC is seen.

  The workaround is to have only one device connected at a time when the port is in single-host mode.

- 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

  The workaround is to enter the `no switchport block unicast` interface configuration command on that specific interface.

- CSCef65587

  These error messages appear randomly:

  ```
  %SYS-2-NOBLOCK: idle with blocking disabled. -Process= “hpm main process”,
  ipl= 0, pid= 62

  -Traceback= 259CC0 251438 750244 661220 665774 6603CC 653750 6575B0 64FC44
  651260 65DF58 4EC268 544300 4F5F64 4B433C 522508

  *Sep 2 15:42:22: %SYS-2-BLOCKHUNG: Task hung with blocking disabled, value =
  0x1. -Process= "hpm main process", ipl= 0, pid= 62

  -Traceback= 259CFC 251438 750244 661220 665774 6603CC 653750 6575B0 64FC44
  651260 65DF58 4EC268 544300 4F5F64 4B433C 522508
  ```

  This does not affect switch functionality. There is no workaround.

- CSCef68181

  The show mac-address-table count displays space for 8200 MAC addresses, and it should show 8192. It can only support 8192.

  There is no workaround.

- CSCef81034

  The show version shows a partial image.

  There is no workaround.

- CSCef92631

  If you reload the switch through the device manager, the syslog message says that the reload request was through the console rather than through the device manager.

  There is no workaround.

- CSCef98072

  An unconfigured switch will initially prompt with `Would you like to terminate autoinstall? [yes].` If the switch has already been assigned its IP address by autoinstall (logged as 00:02:13: AUTOINSTALL: Vlan1 is assigned 192.168.2.34), autoinstall terminates regardless of how you answer the prompt.

  See the hardware installation guide for installing and configuring the switch.

- CSCeg04311

  When you power on or restart a switch that does not have a config.text file in flash memory, the switch tries to get configuration files from a TFTP server. If the configuration files are not found, the switch automatically configures the `service config` global configuration command, which causes the switch to continue searching (in the background) for the expected configuration files.

  If the `service config` command does not find the configuration files, these error messages appear:

  ```
  %Error opening tftp://255.255.255.255/network-confg (Timed out)
  %Error opening tftp://255.255.255.255/cisconet.cfg (Timed out)
  %Error opening tftp://255.255.255.255/switch-confg (Timed out)
  %Error opening tftp://255.255.255.255/ciscortr.cfg (Timed out)
  ```

  These system messages also appear:

  ```
  00:01:40: %SYS-4-CONFIG_RESOLVE_FAILURE: System config parse from
  (tftp://255.255.255.255/network-confg) failed
  00:01:40: %SYS-4-CONFIG_RESOLVE_FAILURE: System config parse from
  (tftp://255.255.255.255/cisconet.cfg) failed
  00:01:40: %SYS-4-CONFIG_RESOLVE_FAILURE: System config parse from
  (tftp://255.255.255.255/switch-confg) failed
  00:01:40: %SYS-4-CONFIG_RESOLVE_FAILURE: System config parse from
  (tftp://255.255.255.255/ciscortr.cfg) failed
  ```

  These messages are for information only. There is no problem with the switch operation.

Because the switch automatically configures the `service config` global configuration command, it is in the switch startup-config file when you save the running-config file. This command runs every time the switch is restarted, even if a config.text configuration file is in the switch flash memory.

The workaround is to prevent these messages from being generated. To do this, enter the switch configuration mode, and issue the `no service config` command. Save the configuration to flash by using the `copy running-config to startup-config` command. The preceding error and system messages no longer appear and do not appear when the switch is restarted.

- CSCeg18016

  A few commands are not supported on CGESM. Some of these commands show in the status window but have no status.

  There is no workaround.

- CSCeg45884

  When configuring the switch to use DHCP to assign an IP address for the management VLAN interface, you need to use the CLI interface. The option is not configurable through the device manager.

  There is no workaround.

- CSCeg67844

  When using SNMP, the CGESM switch returns an incorrect value of 65534 for the ciscoFlashPartitionFileCount MIB; the switch actually contains 1367 files.

  There is no workaround.

Open HP caveats

These are the HP severity 2 open caveats for this release:

- rQm 263546

  Disconnecting the cable from the console port does not end a Telnet session. If you are in privileged EXEC mode when you remove the cable, the next session that is started on the console port will also be in privileged EXEC mode.

  The workaround is to end the session before you remove the cable.

- rQm 266129

  If you power on a switch that does not have a config.txt file (the factory default file) and leave the switch on for few hours, the switch console appears to be stalled during setup.

  The workaround is to reload the switch before you continue to configure it.

- rQm 267071

  When the switch is configured to obtain an IP address through DHCP (or has no IP address) and SNMP is enabled, these advisory messages might appear during switch initialization. The messages can be ignored because SNMP will be successfully initialized when the switch obtains an IP address through DHCP.

  ```
  "%IP_SNMP-3-SOCKET: can't open UDP socket
  Unable to open socket on port 161"
  ```

  There is no workaround.

- rQm 267393

  The device manager Configuration->SmartPorts web page displays the uplink ports in an incorrect order, 19, 21, 20, 22.

  See the “Cabling the Switch” section in the quick setup instructions for the correct layout of the uplink ports.

- rQm 267844

  When a trap is sent for a fan status change for one fan, a second trap is always sent for the other fan in the switch. This means that you get two traps instead of only one. If a fan trap is encountered, note carefully which fan it is. Because the second trap will report that the other fan is normal, you could confuse this with a report that the faulty fan has returned to normal.

  The workaround is to note which fan is actually reporting a change in status and take the appropriate action.

Open device manager caveats

These are the severity 3 device manager caveats for this release:

- CSCef45718

  When you are prompted to accept the security certificate and you click No, you only see a blank screen, and the device manager does not launch.

  The workaround is to click Yes when you are prompted to accept the certificate.

- CSCef78853

  Entering certain characters in some menu items in the device manager window can cause the front panel of a switch to not appear or error dialogs to appear. This can occur when a semicolon (;), single quotation mark (‘), or double quotation mark (“) is used as part of the hostname, port description, SNMP system location, SNMP system contact, SNMP community strings, Telnet password, or switch password.

  The workaround is to remove the character from names of these menu items.

- CSCef94061

  If you enter the letter `i` by itself in the port description, the VLAN status column displays `i` ; this only occurs when you are using Device Manager through Netscape 7.1.

  The workaround is to run Device Manager through Internet Explorer if you must enter a port description with only the value "i”.

Resolved caveats

Resolved Caveats for Release 12.2(25)SE2

These caveats were resolved in this release for the CGESM switch:

- CSCee45312

  Remote Authentication Dial In User Service (RADIUS) authentication on a device that is running certain versions of Cisco Internetworking Operating System (IOS) and configured with a fallback method to none can be bypassed.

  Systems that are configured for other authentication methods or that are not configured with a fallback method to none are not affected.

  Only the systems that are running certain versions of Cisco IOS are affected.

  Not all configurations using RADIUS and none are vulnerable to this issue. Some configurations using RADIUS, none and an additional method are not affected.

  Cisco has made free software available to address this vulnerability. There are workarounds available to mitigate the effects of the vulnerability.

  Refer to the Security Advisory at the following URL for more details:
  http://www.cisco.com/warp/public/707/cisco-sa-20050629-aaa.shtml

- CSCef60659

  A document that describes how the Internet Control Message Protocol (ICMP) could be used to perform a number of denial-of-service (DoS) attacks against the TCP has been made publicly available. This document has been published through the Internet Engineering Task Force (IETF) Internet Draft process, and is entitled “ICMP Attacks Against TCP” (draft-gont-tcpm-icmp-attacks-03.txt).

  These attacks, which only affect sessions terminating or originating on a device itself, can be of three types:

  - Attacks that use ICMP *hard* error messages
  - Attacks that use ICMP *fragmentation needed and Don't Fragment (DF) bit set* messages, also known as path maximum transmission unit discovery (PMTUD) attacks
  - Attacks that use ICMP *source quench* messages

  Successful attacks might cause connection resets or reduction of throughput in existing connections, depending on the attack type.

  Multiple Cisco products are affected by these attacks.

  Cisco has made free software available to address these vulnerabilities. In some cases there are workarounds available to mitigate the effects of the vulnerability.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20050412-icmp.shtml

  The disclosure of these vulnerabilities is being coordinated by the National Infrastructure Security Coordination Centre (NISCC), based in the United Kingdom. NISCC is working with multiple vendors whose products are potentially affected. Its posting can be found at: http://www.niscc.gov.uk/niscc/docs/re-20050412-00303.pdf?lang=en

- CSCsa67294

  A Cisco Catalyst switch might restart after it has received a malformed VLAN Trunking Protocol (VTP) packet. For this restart to occur, the malformed VTP packet must be received on a port that is configured for InterSwitch Link Protocol (ISL) or IEEE 802.1Q trunking, and its domain name must be the same as the VTP domain name.

  Switch ports that are configured for voice VLAN are not affected.

  The workaround is to connect only those ports that are configured for trunking to known, trusted devices.

- CSCsa74002

  If a network scanner is connected to a switch and the number of authentication, authorization, and accounting (AAA) accounting-request and access-request packets received by the switch port exceeds the ingress buffer size, the ingress interface no longer becomes wedged.

Resolved Caveats for Release 12.2(25)SE1

These caveats were resolved in Cisco IOS Release 12.2(25)SE1:

- CSCed23767

  The `switchport port-security aging time 0` interface configuration command now disables the aging time.

- CSCed37222

  Sticky addresses are no longer lost during a master switchover.

- CSCed46781

  If you configure the `dot1x timeout tx-period` interface configuration command as greater than `dot1x timeout quiet-period` interface configuration command, users are not authenticated into the guest VLAN when 802.1x authentication fails.

- CSCed87243

  If the VTP password is configured but the VTP domain name is not configured, and if the switch reloads twice, the switch now retains the VLAN information.

- CSCee30022

  This message no longer appears when you add an aggregate policer to a policy map:

  ```
  BAD policymap info 9999999
  ```

- CSCee30090

  This message no longer appears when you modify a policer or remove an aggregate policer:

  ```
  Download failed for <class-name>
  Bad policymap info.
  ```

- CSCee30129

  When you add an aggregate policer to a policy-map class, the aggregate policer is no longer also added to another policy class within the same policy.

- CSCee37552

  The switch no longer fails when it executes the `shutdown` interface configuration command on an 802.1x enabled port.

- CSCee84918

  When DHCP snooping is enabled on the switch and clients attached to an interface move from one subnet to another, if a client attached to the switch sends a DHCP request to the previous subnet, the DHCP negative acknowledgement packet is no longer dropped by the switch.

- CSCef04854

  If you use the `no switchport` interface configuration command to configure a port as a routed port and then enable 802.1x on the port by using the `dot1x port-control auto` interface configuration command, 802.1x authentication no longer fails if you disable and then re-enable 802.1x on the port.

- CSCef09489

  The switch now correctly forwards Extensible Authentication Protocol (EAP) messages received from a RADIUS server to a client with no delay to the client.

- CSCef16610

  When IP source guard is configured and unconfigured on an interface several times, a memory leak no longer occurs.

- CSCef42734

  When a new 802.1x session is started, the switch now purges old state information, which prevents the switch from failing to authenticate due to stale State(24) field values.
- CSCef55486

  When the 802.1x accounting feature is configured, the switch no longer loses connectivity to the RADIUS server for an extended period of time, 802.1x transactions no longer time out, and switch reloads no longer occur.

Updates to the software configuration guide

These sections will be added to the “Configuring EtherChannels” chapter of the *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Software Configuration Guide* at the next release of this product:

- “Understanding Layer 2 trunk failover”
- “Configuring Layer 2 trunk failover”
- “Displaying Layer 2 trunk failover status”

Understanding Layer 2 trunk failover

Layer 2 trunk failover, also known as link-state tracking, provides Layer 2 redundancy in the network when used with server NIC adapter teaming. When the server network adapters are configured in a primary or secondary relationship known as teaming, if the link is lost on the primary interface, connectivity is transparently switched to the secondary interface.

When you enable Layer 2 trunk failover on the switch, the link state of the internal downstream ports are bound to the link state of one or more of the external upstream ports. An internal downstream port is an interface that is connected to the server. An external upstream port is an interface that is connected to the external network. When you associate a set of downstream ports to a set of upstream ports, if all of the upstream ports become unavailable, trunk failover automatically puts all of the associated downstream ports in an error-disabled state. This causes the server primary interface to failover to the secondary interface.

When Layer 2 trunk failover is not enabled, if the upstream interfaces lose connectivity, (the external switch or router goes down, the cables are disconnected or link is lost), the link state of the downstream interfaces remain unchanged. The server is not aware that external connectivity has been lost and does not failover to the secondary interface.

An interface can be an aggregation of ports (an EtherChannel) or a single physical port in access or trunk mode. Each downstream interface can be associated with one or more upstream interfaces. Upstream interfaces can be bundled, and each downstream interface can be associated with a single group consisting of multiple upstream interfaces. These groups are referred to as link-state groups.

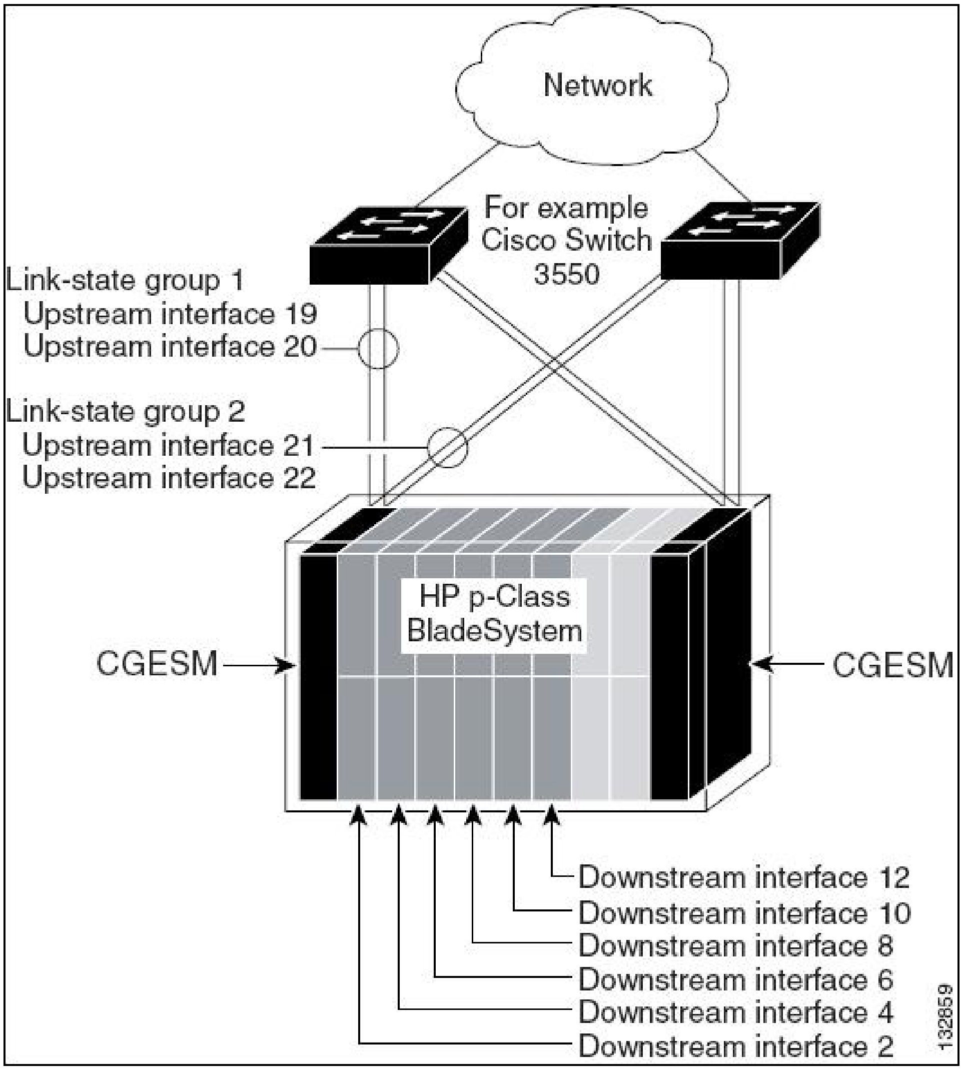
The link state of the downstream interfaces is dependent on the link state of the upstream interfaces in the associated link-state group. If all of the upstream interfaces in a link-state group are in a link-down state, then the associated downstream interfaces are forced into a link-down state. If any one of the upstream interfaces in the link-state group is in a link-up state, the associated downstream interfaces are allowed to transition to, or remain in, a link-up state.

In Figure 1, downstream interfaces 2, 4, and 6 are defined in link-state group 1 with upstream interfaces 19 and 20. Similarly, downstream interfaces 8, 10, and 12 are defined in link-state group 2 with upstream interfaces 21 and 22.

If link is lost on upstream interface 19, the link state of downstream interfaces 2 to 6 do not change. If upstream interface 20 also loses link, then downstream interfaces 2 to 6 go into a link-down state. Downstream interfaces 8 to 12 do not change state.

You can recover a downstream interface link-down condition by removing the failed downstream port from the link-state group. You can also enable one of the upstream interfaces in the group to transition to the link-up state. To recover multiple downstream interfaces, disable the link-state group.

Figure 1 Typical Layer 2 trunk failover configuration



Configuring Layer 2 trunk failover

These sections describe how to configure trunk failover ports:

- “Default Layer 2 trunk failover configuration”
- “Layer 2 trunk failover configuration guidelines”
- “Configuring Layer 2 trunk failover”

Default Layer 2 trunk failover configuration

There are no link-state groups defined, and trunk failover is not enabled for any group.

Layer 2 trunk failover configuration guidelines

Follow these guidelines to avoid configuration problems:

- Do not configure a cross-connect interface (gi0/17 or gi0/18) as a member of a link-state group.
- Do not configure an EtherChannel as a downstream interface.
- An interface that is defined as an upstream interface cannot also be defined as a downstream interface in the same or a different link-state group. The reverse is also true.
- An interface cannot be a member of more than one link-state group.
- You can configure only two link-state groups per switch.

Configuring Layer 2 trunk failover

Beginning in privileged EXEC mode, follow these steps to configure a link-state group and to assign an interface to a group:

	Command	Purpose
Step 1	`configure terminal`	Enter global configuration mode.
Step 2	`link state track number`	Create a link-state group, and enable link-state tracking. The group number can be 1 or 2; the default is 1.
Step 3	`interface interface-id`	Specify a physical interface or range of interfaces to configure, and enter interface configuration mode. Valid interfaces include physical ports in access or trunk mode (IEEE 802.1q) or multiple physical ports bundled into an EtherChannel interface (static or LACP), also in trunk mode.
Step 4	`link state group [number] {upstream |downstream}`	Specify a link-state group, and configure the interface as either an upstream or downstream interface in the group.
Step 5	`end`	Return to privileged EXEC mode.
Step 6	`show running-config`	Verify your entries.
Step 7	`copy running-config startup-config`	(Optional) Save your entries in the configuration file.

This example shows how to create a link-state group and configure the interfaces:

```
Switch# configure terminal
Switch(config)# link state track 1
Switch(config)# interface range gigabitethernet0/19 -20
Switch(config-if)# link state group 1 upstream
Switch(config-if)# interface range gigabitethernet0/1 -8
Switch(config-if)# link state group 1 downstream
Switch(config-if)# end
```

To disable a link-state group, use the `no link state track number` global configuration command.

Displaying Layer 2 trunk failover status

Use the `show link state group` command to display the link-state group information. Enter this command without keywords to display information about all link-state groups. Enter the group number to display information specific to the group. Enter the `detail` keyword to display detailed information about the group.

For detailed information about the fields in the display, see the command reference for this release.

Related documentation

These documents provide complete information about the switch and are available from the HP web site. For more information, go to http://www.hp.com/support. Search for Cisco Gigabit Ethernet Switch Module.

- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Release Notes* (part number 383623-001)
- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Software Configuration Guide* (part number 380261-001)
- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem System Message Guide* (part number 380260-001)
- *Cisco Gigabit Ethernet Switch Module for the HP p-Class BladeSystem Hardware Installation Guide* (part number 380264-001)
- *HP p-Class BladeSystem SAN Connectivity Kit Quick Setup Instructions For Installing in Cisco Gigabit Ethernet Switch Module* (part number 380262-001)

Cisco IOS Release 12.2 documentation is available at:
http://www.cisco.com/en/US/products/sw/iosswrel/ps1835/index.html.

CiscoWorks documentation is available at:
http://www.cisco.com/en/US/products/sw/netmgtsw/tsd_products_support_category_home.html. Click CiscoWorks Campus Manager, CiscoWorks CiscoView, or CiscoWorks Resource Manager Essentials to find the most recent documentation for these network management applications that support switch clustering and management.

Obtaining technical support

For the name of the nearest HP authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-80-263-5868.
- In other locations, refer to http://www.hp.com/support.

For HP technical support:

- In North America:
  - Call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.
  - If you have purchased a Care Pack (service upgrade), call 1-800-633-3600. For more information about Care Packs, see http://www.hp.com/support.
- Outside the United States and Canada, call the nearest HP Technical Support Phone Center. For telephone numbers for worldwide Technical Support Centers, see http://www.hp.com/support.