Release Notes for the Catalyst 3750, 3560, 2970, and 2960 Switches, Cisco IOS Release 12.2(25)SEE1 and Later

Revised September 24, 2008

Cisco IOS Release 12.2(25)SEE1, SEE2, SEE3, and SEE4 run on all Catalyst 3750, 3560, 2970, and 2960 switches and on Cisco EtherSwitch service modules.

The Catalyst 3750 switches and the Cisco EtherSwitch service modules support stacking through Cisco StackWise technology. The Catalyst 3560, 2970, and 2960 switches do not support switch stacking. Unless otherwise noted, the term *switch* refers to a standalone switch and to a switch stack.

These release notes include important information about Cisco IOS Release 12.2(25)SEE1, 12.2(25)SEE2, 12.2(25)SEE3, and 12.2(SEE4) and any limitations, restrictions, and caveats that apply to them. Verify that these release notes are correct for your switch:

- If you are installing a new switch, see the Cisco IOS release label on the rear panel of your switch.
- If your switch is on, use the **show version** privileged EXEC command. See the "Finding the Software Version and Feature Set" section on page 7.
- If you are upgrading to a new release, see the software upgrade filename for the software version. See the "Deciding Which Files to Use" section on page 7.

For the complete list of Catalyst 3750, 3560, 2970, and 2960 switch documentation and of Cisco EtherSwitch service module documentation, see the "Related Documentation" section on page 58.

You can download the switch software from this site (registered Cisco.com users with a login password):

http://www.cisco.com/kobayashi/sw-center/sw-lan.shtml

This software release is part of a special release of Cisco IOS software that is not released on the same 8-week maintenance cycle that is used for other platforms. As maintenance releases and future software releases become available, they will be posted to Cisco.com in the Cisco IOS software area.

Corporate Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Cisco IOS Release 12.2(25)SEE1 is based on Cisco IOS Release 12.2(25)S. Open caveats in Cisco IOS Release 12.2(25)S also affect Cisco IOS Release 12.2(25)SEE1, unless they are listed in the Cisco IOS Release 12.2(25)SEE resolved caveats list. The list of open caveats in Cisco IOS Release 12.2(25)S is available at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122relnt/122srn.htm#wp2367913

Contents

This information is in the release notes:

System Requirements

The system requirements are described in these sections:

Hardware Supported

Table 1 lists the hardware supported on this release.

Table 1 Catalyst 3750, 3560, 2970, and 2960 Switches and Cisco EtherSwitch Service Modules Supported Hardware

Switch	Description	Supported by Minimum Cisco IOS Release
Catalyst 3750-24FS	24 100BASE-FX ports and 2 SFP[1] module slots	Cisco IOS Release 12.2(25)SEB
Catalyst 3750-24PS	24 10/100 PoE[2] ports and 2 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3750-24TS	24 10/100 Ethernet ports and 2 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3750-48PS	48 10/100 PoE ports and 4 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3750-48TS	48 10/100 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3750G-12S	12 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3750G-16TD	16 10/100/1000 Ethernet ports and 1 XENPAK 10-Gigabit Ethernet module slot	Cisco IOS Release 12.2(18)SE
Catalyst 3750G-24PS	24 10/100/1000 PoE ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3750G-24T	24 10/100/1000 Ethernet ports	Cisco IOS Release 12.2(18)SE
Catalyst 3750G-24TS	24 10/100/1000 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3750G-24TS-1U	24 10/100/1000 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3750G-48PS	48 10/100/1000 PoE ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3750G-48TS	48 10/100/1000 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3560-24PS	24 10/100 PoE ports and 2 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3560-24TS	24 10/100 ports and 2 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3560-48PS	48 10/100 PoE ports and 4 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 3560-48TS	48 10/100 ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3560G-24PS	24 10/100 PoE ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3560G-24TS	24 10/100/1000 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3

Table 1 Catalyst 3750, 3560, 2970, and 2960 Switches and Cisco EtherSwitch Service Modules Supported Hardware (continued)

Switch	Description	Supported by Minimum Cisco IOS Release
Catalyst 3560G-48PS	48 10/100/1000 PoE ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 3560G-48TS	48 10/100/1000 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(20)SE3
Catalyst 2970G-24T	24 10/100/1000 Ethernet ports	Cisco IOS Release 12.2(18)SE
Catalyst 2970G-24TS	24 10/100/1000 Ethernet ports and 4 SFP module slots	Cisco IOS Release 12.2(18)SE
Catalyst 2960-24TC	24 10/100BASE-T Ethernet ports and 2 dual-purpose uplinks[1] (two 10/100/1000BASE-T copper ports and two SFP module slots)	Cisco IOS Release 12.2(25)FX
Catalyst 2960-48TC	48 10/100BASE-T Ethernet ports and 2 dual-purpose uplinks[3] (two 10/100/1000BASE-T copper ports and two SFP[4] module slots)	Cisco IOS Release 12.2(25)FX
Catalyst 2960-24TT	24 10/100BASE-T Ethernet ports and 2 10/100/1000BASE-T Ethernet ports	Cisco IOS Release 12.2(25)FX
Catalyst 2960-48TT	48 10/100BASE-T Ethernet ports 2 10/100/1000BASE-T Ethernet ports	Cisco IOS Release 12.2(25)FX
Catalyst 2960G-24TC	24 10/100/1000BASE-T Ethernet ports and 4 of these are dual-purpose uplinks[1] (four 10/100/1000BASE-T copper ports and four SFP module slots)	Cisco IOS Release 12.2(25)FX
NME-16ES-1G[5]	16 10/100 ports, 1 10/100/1000 Ethernet port, no StackWise connector ports, single-wide	Cisco IOS Release 12.2(25)SEC
NME-16ES-1G-P[5]	16 10/100 PoE ports, 1 10/100/1000 Ethernet port, no StackWise connector ports, single-wide	Cisco IOS Release 12.2(25)EZ
NME-X-23ES-1G[5]	23 10/100 ports, 1 10/100/1000 PoE port, no StackWise connector ports, extended single-wide	Cisco IOS Release 12.2(25)SEC
NME-X-23ES-1G-P[5]	23 10/100 PoE ports, 1 10/100/1000 PoE port, no StackWise connector ports, extended single-wide	Cisco IOS Release 12.2(25)EZ
NME-XD-24ES-1S-P[5]	24 10/100 PoE ports, 1 SFP module port, 2 StackWise connector ports, extended double-wide	Cisco IOS Release 12.2(25)EZ
NME-XD-48ES-2S-P[5]	48 10/100 PoE ports, 2 SFP module ports, no StackWise connector ports, extended double-wide	Cisco IOS Release 12.2(25)EZ

Table 1 Catalyst 3750, 3560, 2970, and 2960 Switches and Cisco EtherSwitch Service Modules Supported Hardware (continued)

Switch	Description	Supported by Minimum Cisco IOS Release
SFP modules (Catalyst 3750, 3560, and 2970)	1000BASE-CWDM[6], -LX, SX, -T, -ZX	Cisco IOS Release 12.2(18)SE
	100BASE-FX MMF[7]	Cisco IOS Release 12.2(20)SE
SFP modules (Catalyst 2960)	1000BASE-BX, -CWDM, -LX/LH, -SX, -ZX	Cisco IOS Release 12.2(25)FX
	100BASE-BX, FX, -LX	
XENPAK modules[8]	XENPAK-10-GB-ER, XENPAK-10-GB-LR, XENPAK-10-GB-LX4, XENPAK-10-GB-SR, and XENPAK-10-GB-CX4	Cisco IOS Release 12.2(18)SE
Redundant power systems	Cisco RPS 675 Redundant Power SystemCisco RPS 300 Redundant Power System (supported only on the Catalyst 2960 switch)	Supported on all software releases

1. SFP = small form-factor pluggable
2. PoE = Power over Ethernet
3. Each uplink port is considered a single interface with dual front ends (RJ-45 connector and SFP module slot). The dual front ends are not redundant interfaces, and only one port of the pair is active.
4. SFP = small form-factor pluggable
5. Cisco EtherSwitch service module
6. CWDM = coarse wavelength-division multiplexer
7. MMF = multimode fiber
8. XENPAK modules are only supported on the Catalyst 3750G-16TD switches.

Device Manager System Requirements

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

- "Hardware Requirements" section on page 5
- "Software Requirements" section on page 6

Hardware Requirements

Table 2 lists the minimum hardware requirements for running the device manager.

Table 2 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

Table 3 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 3 Supported Operating Systems and Browsers

Operating System	Minimum Service Pack or Patch	Microsoft Internet Explorer[1]	Netscape Navigator
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) or the Network Assistant application.

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.
- If you are managing the cluster through Network Assistant, the switch with the latest software should be the command switch, unless your command switch is running Cisco IOS Release 12.1(19)EA1 or later.
- The standby command switch must be the same type as the command switch. For example, if the command switch is a Catalyst 3750 switch, all standby command switches must be Catalyst 3750 switches.

For additional information about clustering, see *Getting Started with Cisco Network Assistant* and *Release Notes for Cisco Network Assistant* (not orderable but available on Cisco.com), the software configuration guide, the command reference, and the Cisco EtherSwitch service module feature guide.

CNA Compatibility

Cisco IOS 12.2(25)SEE and later are only compatible with Cisco Network Assistant (CNA) 3.1 and later. You can download CNA 3.1 from this URL:

http://www.cisco.com/pcgi-bin/tablebuild.pl/NetworkAssistant

For more information about Cisco Network Assistant, see the *Release Notes for Cisco Network Assistant* on Cisco.com.

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

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

Note For Catalyst 3750 and 3560 switches and the Cisco EtherSwitch service modules, although the **show version** output always shows the software image running on the switch, the model name shown at the end of this display is the factory configuration (IP base image [formerly known as the SMI] or IP services image [formerly known as the EMI]) and does not change if you upgrade the software image.

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.

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.

For the Catalyst 3750 and 3560 switches, Cisco IOS Release 12.2(25)SEA and earlier referred to the image that provides Layer 2+ features and basic Layer 3 routing as the standard multilayer image (SMI). The image that provides full Layer 3 routing and advanced services was referred to as the enhanced multilayer image (EMI).

Cisco IOS Release 12.2(25)SEB and later refers to the SMI as the *IP base* image and the EMI as the *IP services* image.

Cisco IOS Release 12.2(25)SEB and later refers to the Catalyst 2970 image as the *LAN base* image.

Table 4 lists the different file-naming conventions before and after Cisco IOS Release 12.2(25)SEB.

Table 4 Cisco IOS Image File Naming Convention

Cisco IOS 12.2(25)SEA and earlier	Cisco IOS 12.2(25)SEB and later
c3750-i9-mz (SMI[1])	c3750-ipbase-mz
c3750-i9k91-mz (SMI)	c3750-ipbasek9-mz
c3750-i5-mz (EMI[2])	c3750-ipservices-mz
c3750-i5k91-mz (EMI)	c3750-ipservicesk9-mz
c3560-i9-mz (SMI)	c3560-ipbase-mz
c3560-i9k91-mz (SMI)	c3560-ipbasek9-mz
c3560-i5-mz (EMI)	c3560-ipservices-mz
c3560-i5k91-mz (EMI)	c3560-ipservicesk9-mz
c2970-i6l2-mz	c2970-lanbase-mz
c2970-i6k91l2-mz	c2970-lanbasek9-mz

1. SMI = standard multilayer image
2. EMI = enhanced multilayer image

Table 5 lists the filenames for this software release.

Note For IPv6 capability on the Catalyst 3750 or 3560 switch or on the Cisco EtherSwitch service modules, you must order the advanced IP services image upgrade from Cisco.

Table 5 Cisco IOS Software Image Files

Filename	Description
c3750-ipbase-tar.122-25.SEE4.tar	Catalyst 3750 IP base image and device manager files. This image has Layer 2+ and basic Layer 3 routing features. This image also runs on the Cisco EtherSwitch service modules.
c3750-ipservices-tar.122-25.SEE4.tar	Catalyst 3750 IP services image and device manager files. This image has both Layer 2+ and full Layer 3 routing features. This image also runs on the Cisco EtherSwitch service modules.
c3750-ipbasek9-tar.122-25.SEE4.tar	Catalyst 3750 IP base cryptographic image and device manager files. This image has the Kerberos, SSH[1], Layer 2+, and basic Layer 3 routing features. This image also runs on the Cisco EtherSwitch service modules.
c3750-ipservicesk9-tar.122-25.SEE4.tar	Catalyst 3750 IP services cryptographic image and device manager files. This image has the Kerberos, SSH, Layer 2+, and full Layer 3 features. This image also runs on the Cisco EtherSwitch service modules.
c3750-advipservicesk9-tar.122-25.SEE4.tar	Catalyst 3750 advanced IP services image, cryptographic file, and device manager files. This image has all the IP services image (formerly known as the EMI) features and the capability for unicast routing of IPv6 packets. This image also runs on the Cisco EtherSwitch service modules.

Table 5 Cisco IOS Software Image Files (continued)

Filename	Description
c3560-ipbase-tar.122-25.SEE4.tar	Catalyst 3560 IP base image file and device manager files. This image has Layer 2+ and basic Layer 3 routing features.
c3560-ipservices-tar.122-25.SEE4.tar	Catalyst 3560 IP services image and device manager files. This image has both Layer 2+ and full Layer 3 routing features.
c3560-ipbasek9-tar.122-25.SEE4.tar	Catalyst 3560 IP base cryptographic image and device manager files. This image has the Kerberos, SSH, and Layer 2+, and basic Layer 3 routing features.
c3560-ipservicesk9-tar.122-25.SEE4.tar	Catalyst 3560 IP services cryptographic image and device manager files. This image has the Kerberos, SSH, Layer 2+, and full Layer 3 features.
c3560-advipservicesk9-tar.122-25.SEE4.tar	Catalyst 3560 advanced IP services image, cryptographic file, and device manager files. This image has all the IP services image (formerly known as the EMI) features and the capability for unicast routing of IPv6 packets.
c2970-lanbase-tar.122-25.SEE4.tar	Catalyst 2970 image file and device manager files. This image has Layer 2+ features.
c2970-lanbasek9-tar.122-25.SEE4.tar	Catalyst 2970 cryptographic image file and device manager files. This image has the Kerberos and SSH features.
c2960-lanbase-tar.122-25.SEE4.tar	Catalyst 2960 image file and device manager files. This image has Layer 2+ features.
c2960-lanbasek9-tar.122-25.SEE4.tar	Catalyst 2960 cryptographic image file and device manager files. This image has the Kerberos and SSH features.

1. SSH = Secure Shell

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 more information:

http://www.cisco.com/en/US/products/sw/iosswrel/ps5187/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. We recommend 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, Release 12.2* at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/ffun_r/ffrprt2/frf011.htm#wp1018426

Upgrading a Switch by Using the Device Manager or Network Assistant

You can upgrade switch software by using the device manager or Network Assistant. 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 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.

To download software, follow these steps:

Step 1 Use Table 5 on page 8 to identify the file that you want to download.

Step 2 Download the software image file. If you have a SmartNet support contract, go to this URL, and log in to download the appropriate files:

http://www.cisco.com/kobayashi/sw-center/sw-lan.shtml

To download the image for a Catalyst 2960 switch, click **Catalyst 2960 software**. To obtain authorization and to download the cryptographic software files, click **Catalyst 2960 3DES Cryptographic Software**.

To download the image for a Catalyst 2970 switch, click **Catalyst 2970 software**. To obtain authorization and to download the cryptographic software files, click **Catalyst 2970 3DES Cryptographic Software**.

To download the IP services image (formerly known as the EMI) or IP base image (formerly known as the SMI) files for a Catalyst 3560 switch, click **Catalyst 3560 software**. To obtain authorization and to download the cryptographic software files, click **Catalyst 3560 3DES Cryptographic Software**.

To download the IP services image (formerly known as the EMI) or IP base image (formerly known as the SMI) files for a Catalyst 3750 switch, click **Catalyst 3750 software**. To obtain authorization and to download the cryptographic software files, click **Catalyst 3750 3DES Cryptographic Software**.

Caution If you are upgrading a Catalyst 3750 or a Catalyst 2970 switch that is running a release earlier than Cisco IOS Release 12.1(19)EA1c, this release includes a bootloader upgrade. The bootloader can take up to 1 minute to upgrade the first time that the new software is loaded. Do not power cycle the switch during the bootloader upgrade.

Step 3 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 Appendix B in the software configuration guide for this release.

Step 4 Log into the switch through the console port or a Telnet session.

Step 5 (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 6 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/c3750-ipservices-tar.122-25.SEE2.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

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

- The Express Setup program, as described in the switch getting started guide.
- The CLI-based setup program, as described in the switch hardware installation guide.
- The DHCP-based autoconfiguration, as described in the switch software configuration guide.
- Manually assigning an IP address, as described in the switch software configuration guide.

Note If you are upgrading a Catalyst 3750 or a 2950 switch running Cisco IOS Release 12.1(11)AX, which uses the IEEE 802.1x feature, you must re-enable IEEE 802.1x after upgrading the software. For more information, see the "Cisco IOS Notes" section on page 29.

Note When upgrading or downgrading from Cisco IOS Release 12.2(18)SE, you might need to reconfigure the switch with the same password that you were using when running Cisco IOS Release 12.2(18)SE. This problem only occurs when changing from Cisco IOS Release 12.2(18)SE to any other release. (CSCed88768)

New Features

These sections describe the new supported hardware and the new and updated software features provided in this release:

New Hardware Features

There are no new hardware features for this release. For a list of all supported hardware, see the "Hardware Supported" section on page 3.

New Software Feature

Starting with Cisco IOS Release 12.2(25)SEE1, the device manager GUI, online help, and the *Catalyst 2960 Switch Getting Started Guide* are now available in Chinese (simplified), English, French, German, Italian, Japanese, and Spanish.

To display a translated version of the GUI and online help, select your language from the Language field located at the top of the device manager window.

The translated getting started guides are available at this URL:

http://www.cisco.com/en/US/products/ps6406/tsd_products_support_series_home.html

Modifed Software Feature

The Catalyst 2960 device manager Dashboard window now displayed the Product ID and Version ID of the switch. The Product ID field replaced the Type field.

Minimum Cisco IOS Release for Major Features

Table 6 lists the minimum software release required to support the major features of the Catalyst 3750, 3560, 2970, and 2960 switches and the Cisco EtherSwitch service modules.

Table 6 Catalyst 3750, 3560, 2970, and 2960 Switches and Cisco EtherSwitch Service Module Features and the Minimum Cisco IOS Release Required

Feature	Minimum Cisco IOS Release Required	Catalyst Switch Support
DHCP Option 82 configurable remote ID and circuit ID	12.2(25)SEE	3750, 3560, 2970
EIGRP stub routing in the IP base image	12.2(25)SEE	3750, 3560
/31 bit mask support for unicast traffic	12.2(25)SEE	3750, 3560
Access SDM templates.	12.2(25)SED	3750, 3560 Cisco EtherSwitch service modules
IPv6 ACLs	12.2(25)SED	3750, 3560 Cisco EtherSwitch service modules
IPv6 Multicast Listener Discovery (MLD) snooping	12.2(25)SED	3750, 3560 Cisco EtherSwitch service modules
QoS hierarchical policy maps on a port	12.2(25)SED	3750, 3560, and 2970 Cisco EtherSwitch service modules
NAC Layer 2 IEEE 802.1x validation	12.2(25)SED	3750, 3560, 2970, and 2960 Cisco EtherSwitch service modules
NAC Layer 2 IP validation	12.2(25)SED	3750, 3560 Cisco EtherSwitch service modules
IEEE 802.1x inaccessible authentication bypass.	12.2(25)SED	3750, 3560 Cisco EtherSwitch service modules
IEEE 802.1x with restricted VLAN	12.2(25)SED	3750, 3560, and 2970 Cisco EtherSwitch service modules
Budgeting power for devices connected to PoE ports	12.2(25)SEC	3750 and 3560 Cisco EtherSwitch service modules
Multiple spanning-tree (MST) based on the IEEE 802.1s standard	12.2(25)SEC 12.2(25)SED	3750, 3560, and 2970 Cisco EtherSwitch service modules 2960
Unique device identifier (UDI)	12.2(25)SEC	3750, 3560, 2970 Cisco EtherSwitch service modules

Table 6 Catalyst 3750, 3560, 2970, and 2960 Switches and Cisco EtherSwitch Service Module Features and the Minimum Cisco IOS Release Required (continued)

Feature	Minimum Cisco IOS Release Required	Catalyst Switch Support
VRF Lite (multi-VRF-CE). **Note** This feature is not supported in the IP base image. Although configuration is allowed in this release, we strongly recommend that you do not configure it. Beginning with Cisco IOS Release 12.2(35)SE, you will receive an error message if you configure the feature on the IP base image.	12.2(25)SEC	3750, 3560 Cisco EtherSwitch service modules
IEEE 802.1x with wake-on-LAN	12.2(25)SEC 12.2(25)SED	3750, 3560, 2970 Cisco EtherSwitch service modules
Nonstop forwarding (NSF) awareness	12.2(25)SEC	3750 and 3560 Cisco EtherSwitch service modules
Configuration logging	12.2(25)SEC 12.2(25)SED	3750, 3560, 2970 Cisco EtherSwitch service modules
Secure Copy Protocol	12.2(25)SEC 12.2(25)SED	3750, 3560, 2970 Cisco EtherSwitch service modules
Cross-stack EtherChannel	12.2(25)SEC	3750 Cisco EtherSwitch service modules
Support for configuring private-VLAN ports on interfaces that are configured for dynamic ARP inspection (IP base image [formerly known as the SMI] only)	12.2(25)SEB	3750 and 3560
Support for IP source guard on private VLANs (IP base image [formerly known as the SMI] only)	12.2(25)SEB	3750 and 3560
Support for configuring an IEEE 802.1x restricted VLAN	12.2(25)SED	3750, 3560, 2970, and 2960
IGMP leave timer	12.2(25)SEB	3750, 3560, and 2970
IGMP snooping querier	12.2(25)SEA 12.2(25)FX	3750, 3560, 2970, and 2960
Advanced IP services	12.2(25)SEA	3750, 3560
Support for DSCP transparency	12.2(25)SE 12.2(25)FX	3750, 3560, 2970, and 2960
Support for VLAN-based QoS[1] and hierarchical policy maps on SVIs[2]	12.2(25)SE	3750, 3560, 2970
Device manager	12.2(25)SE 12.2(25)FX	3750, 3560, 2970, and 2960
IEEE 802.1Q tunneling and Layer 2 protocol tunneling	12.2(25)SE	3750, 3560

Table 6 Catalyst 3750, 3560, 2970, and 2960 Switches and Cisco EtherSwitch Service Module Features and the Minimum Cisco IOS Release Required (continued)

Feature	Minimum Cisco IOS Release Required	Catalyst Switch Support
Layer 2 point-to-point tunneling and Layer 2 point-to-point tunneling bypass	12.2(25)SE	3750, 3560
Support for SSL version 3.0 for secure HTTP communication (cryptographic images only)	12.2(25)SE 12.2(25)FX	3750, 3560, 2970, and 2960
Support for configuring private-VLAN ports on interfaces that are configured for dynamic ARP inspection (IP services image [formerly known as the EMI] only)	12.2(25)SE	3750 and 3560
Support for IP source guard on private VLANs (IP services image [formerly known as the EMI] only)	12.2(25)SE	3750 and 3560
Cisco intelligent power management to limit the power allowed on a port, or pre-allocate (reserve) power for a port.	12.2(25)SE	3750 and 3560
IEEE 802.1x accounting and MIBs (IEEE 8021-PAE-MIB and CISCO-PAE-MIB)	12.2(20)SE 12.2(25)FX	3750, 3560, 2970, and 2960
Dynamic ARP inspection (IP services image [formerly known as the EMI] only)	12.2(20)SE	3750 and 3560
Flex Links	12.2(20)SE 12.2(25)FX	3750, 3560, 2970, and 2960
Software upgrade (device manager or Network Assistant only)	12.2(20)SE 12.2(25)FX	3750, 3560, 2970, and 2960
IP source guard (IP services image [formerly known as the EMI] only)	12.2(20)SE	3750, 3560
Private VLAN (IP services image [formerly known as the EMI] only)	12.2(20)SE	3750, 3560
SFP module diagnostic management interface	12.2(20)SE 12.2(25)FX	3750, 3560, 2970, and 2960
Switch stack offline configuration	12.2(20)SE	3750
Stack-ring activity statistics	12.2(20)SE	3750
Smartports macros	12.2(18)SE 12.2(25)FX	3750, 3560, 2970, and 2960
Generic online diagnostics (GOLD)	12.2(25)SEE	3750
Flex Links Preemptive Switchover	12.2(25)SEE	3750, 3560, 2970, and 2960

1. QoS = quality of service
2. SVIs = switched virtual interfaces

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 these limitations:

Cisco IOS Limitations

Unless otherwise noted, these limitations apply to the Catalyst 3750, 3560, 2970, and 2960 switches and the Cisco EtherSwitch service modules:

Configuration

These are the configuration limitations:

- 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. (CSCea71176 and CSCdz11708)

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) When the **show interface** privileged EXEC is entered on a port that is running IEEE 802.1Q, inconsistent statistics from ports running IEEE 802.1Q might be reported. The workaround is to upgrade to Cisco IOS Release 12.1(20)EA1. (CSCec35100)
- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) When you change a port from a nonrouted port to a routed port or the reverse, the applied auto-QoS setting is not changed or updated when you verify it by using the **show running interface** or **show mls qos interface** user EXEC commands. These are the workarounds:
  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 memory or a remote file in any of these situations:
  - (Catalyst 3750 switch and Cisco EtherSwitch service modules) 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.
  - (Catalyst 3750, 3560, or 2970 switches and Cisco EtherSwitch service modules) 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. If 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.
  - (Catalyst 3750, 3560, or 2970 switches and Cisco EtherSwitch service modules) 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.

  No workaround is necessary; these are the designed behaviors. (CSCed50819)
- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) When dynamic ARP inspection is enabled on a switch or switch stack, ARP and RARP packets greater than 2016 bytes are dropped by the switch or switch stack. This is a hardware limitation.

  However, when dynamic ARP inspection is not enabled and a jumbo MTU is configured, ARP and RARP packets are correctly bridged in hardware. (CSCed79734)
- 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)
- (Catalyst 3750 switches and Cisco EtherSwitch service modules) 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.

  There is no workaround. (CSCed95822)

- 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. (CSCee93822)

- 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)

- (Cisco EtherSwitch service modules) You cannot change the console baud rate by using the switch CLI. The console on the Cisco EtherSwitch service modules only supports three baud rates (9600 bps, 19200 bps, and 38400 bps) and must be set at the bootloader prompt. The switch rejects a CLI command to change the baud rate.

  To change the baud rate, reload the Cisco EtherSwitch service module with the bootloader prompt. You can then change the baud rate and change the speed on the TTY line of the router connected to the Cisco EtherSwitch Service module console.

  There is no workaround. (CSCeh50152)

- When a Catalyst 3750-12S switch boots up, ports 1, 2, 5, 6, 9, and 10 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.

  The workaround is to use switch ports other than those specified for redundancy and for applications that immediately detect active links. (CSCeh70503)

Ethernet

These are the Ethernet limitations:

- Link connectivity might be lost between some older models of the Intel Pro1000 NIC and the 10/100/1000 switch port interfaces. The loss of connectivity occurs between the NIC and these switch ports:
  - Ports 3, 4, 7, 8, 11, 12, 15, 16, 19, 20, 23, and 24 of the Catalyst 3750G-24T and 3750G-24TS switches
  - Ports 3, 4, 7, 8, 11, 12, 15, 16, 19, and 20 of the Catalyst 2970G-24T and 2970G-24TS switches
  - Gigabit Ethernet ports on the Cisco EtherSwitch service modules

  These are the workarounds:

  - Contact the NIC vendor, and get the latest driver for the card.
  - Configure the interface for 1000 Mbps instead of for 10/100 Mbps.
  - Connect the NIC to an interface that is not listed here. (CSCea77032)

  For more information, enter *CSCea77032* in the Bug Toolkit at this URL:

  http://www.cisco.com/cgi-bin/Support/Bugtool/home.pl

- (Cisco EtherSwitch service modules) When a Cisco EtherSwitch service module reloads or the internal link resets, there can be up to a 45-second delay in providing power to PoE devices, depending on the configuration. If the internal Gigabit Ethernet interface on a Cisco EtherSwitch service module connected to the router is configured as a switch port in access mode or in trunk mode, the internal link is not operational until it reaches the STP forwarding state. Therefore, the

PoE that comes from the host router is also not available until the internal Gigabit Ethernet link reaches the STP forwarding state. This is due to STP convergence time. This problem does not occur on routed ports.

If the Cisco EtherSwitch service module is in access mode, the workaround is to enter the **spanning-tree portfast** interface configuration command on the internal Gigabit Ethernet interface. If the service module is in trunk mode, there is no workaround.

- Traffic on EtherChannel ports is not perfectly load-balanced. Egress traffic on EtherChannel ports are distributed to member ports on load balance configuration and traffic characteristics like MAC or IP address. More than one traffic stream may map to same member ports based on hashing results calculated by the ASIC.

  If this happens, uneven traffic distribution will happen on EtherChannel ports.

  Changing the load balance distribution method or changing the number of ports in the EtherChannel can resolve this problem. Use any of these workarounds to improve EtherChannel load balancing:

  – for random source-ip and dest-ip traffic, configure load balance method as **src-dst-ip**

  – for incrementing source-ip traffic, configure load balance method as **src-ip**

  – for incrementing dest-ip traffic, configure load balance method as **dst-ip**

  – Configure the number of ports in the EtherChannel so that the number is equal to a power of 2 (i.e. 2, 4, or 8)

  For example, with load balance configured as **dst-ip** with 150 distinct incrementing destination IP addresses, and the number of ports in the EtherChannel set to either 2, 4, or 8, load distribution is optimal.(CSCeh81991)

Fallback Bridging

These are the fallback bridging limitations:

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) If 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. The workaround is to remove the VLAN from the bridge group or to remove the static MAC address from the VLAN. (CSCdw81955)
- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) Known unicast (secured) addresses are flooded within a bridge group if 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. The workaround is to 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. (CSCdz80499)

HSRP

This is the Hot Standby Routing Protocol (HSRP) limitation:

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

These are the IP limitations:

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) The switch does not create an adjacent table entry when the ARP timeout value is 15 seconds and the ARP request times out. The workaround is to not set an ARP timeout value lower than 120 seconds. (CSCea21674)
- 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:

- Some access point devices are incorrectly discovered as IEEE 802.3af Class 1 devices. These access points should be discovered as Cisco pre-standard devices. The **show power inline** user EXEC command shows the access point as an IEEE Class 1 device. The workaround is to power the access point by using an AC wall adaptor. (CSCin69533)
- 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. No workaround is necessary. (CSCea85312)
- (Catalyst 3750 or 3560 PoE-capable switches and Cisco EtherSwitch service modules) The switch uses the IEEE classification to learn the maximum power consumption of a powered device before powering it. The switch grants power only when the maximum wattage configured on the port is less than or equal to the IEEE class maximum. This ensures that the switch power budget is not oversubscribed. There is no such mechanism in Cisco prestandard powered devices.

  The workaround for networks with pre-standard powered devices is to leave the maximum wattage set at the default value (15.4 W). You can also configure the maximum wattage for the port for no less than the value the powered device reports as the power consumption through CDP messages. For networks with IEEE Class 0, 3, or 4 devices, do not configure the maximum wattage for the port at less than the default 15.4 W (15,400 milliwatts). (CSCee80668)

Management

CiscoWorks is not supported on the Catalyst 3750-24FS switch.

MAC Addressing

This is the MAC addressing limitation:

(Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) 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. (CSCeb67937)

Multicasting

These are the multicasting limitations:

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) The switch does not support tunnel interfaces for unicast routed traffic. Only Distance Vector Multicast Routing Protocol (DVMRP) tunnel interfaces are supported for multicast routing.
- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) Nonreverse-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 if 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. 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. (CSCdu25219)
- 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)
- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) 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. The workaround is to 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. (CSCdz86110)
- (Catalyst 3750 switch stack) If the stack master is power cycled immediately after you enter the **ip mroute** global configuration command, there is a slight chance that this configuration change might be lost after the stack master changes. This occurs because the stack master did not have time to propagate the running configuration to all the stack members before it was powered down. This problem might also affect other configuration commands. There is no workaround. (CSCea71255)
- (Catalyst 3750 switches and Cisco EtherSwitch service modules) When you enable IP Protocol-Independent Multicast (PIM) on a tunnel interface, the switch incorrectly displays the `Multicast is not supported on tunnel interfaces` error message. IP PIM is not supported on tunnel interfaces. There is no workaround. (CSCeb75366)
- 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)

- 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.

  The workaround is to enter the **clear ip mroute** privileged EXEC command on the interface. (CSCef42436)

  After you configure a switch to join a multicast group by entering the **ip igmp join-group** *group-address* interface configuration command, the switch does not receive join packets from the client, and the switch port connected to the client is removed from the IGMP snooping forwarding table.

  Use one of these workarounds:
  - Cancel membership in the multicast group by using the **no ip igmp join-group** *group-address* interface configuration command on an SVI.
  - Disable IGMP snooping on the VLAN interface by using the **no ip igmp snooping vlan** *vlan-id* global configuration command. (CSCeh90425)

- If IP routing is disabled and IP multicast routing is enabled on a switch running Cisco IOS Release 12.2(25)SED, IGMP snooping floods multicast packets to all ports in a VLAN.

  The workaround is to enable IP routing or to disable multicast routing on the switch. You can also use the **ip igmp snooping querier** global configuration command if IP multicast routing is enabled for queries on a multicast router port. (CSCsc02995)

Power

These are the powers limitation for the Cisco EtherSwitch service modules:

- Non-PoE devices attached to a network might be erroneously detected as an IEEE 802.3af-compliant powered device and powered by the Cisco EtherSwitch service module.

  There is no workaround. You should use the **power inline never** interface configuration command on Cisco EtherSwitch service module ports that are not connected to PoE devices. (CSCee71979)

- When you enter the **show power inline** privileged EXEC command, the out put shows the total power used by all Cisco EtherSwitch service modules in the router. The remaining power shown is available for allocation to switching ports on all Cisco EtherSwitch service modules in the router. To display the total power used by a specific EtherSwitch service module, enter the **show power inline** command on the router. This output appears:

```
Router# show power inline
PowerSupply   SlotNum.   Maximum   Allocated       Status
-----------   --------   -------   ---------       ------
INT-PS           0       360.000   121.000         PS1 GOOD   PS2 ABSENT
Interface   Config   Device    Powered    PowerAllocated
---------   ------   ------    -------    --------------
Gi4/0       auto     Unknown   On         121.000 Watts
```

  This is not a problem because the display correctly shows the total used power and the remaining power available on the system. (CSCeg74337)

- Entering the **shutdown** and the **no shutdown** interface configuration commands on the internal link can disrupt the PoE operation. If a new IP phone is added while the internal link is in shutdown state, the IP phone does not get inline power if the internal link is brought up within 5 minutes.

  The workaround is to enter the **shutdown** and the **no shutdown** interface configuration commands on the Fast Ethernet interface of a new IP phone that is attached to the service module port after the internal link is brought up. (CSCeh45465)

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)

Routing

These are the routing limitations:

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) The switch does not support tunnel interfaces for unicast routed traffic. Only Distance Vector Multicast Routing Protocol (DVMRP) tunnel interfaces are supported for multicast routing.
- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) 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. There is no workaround. (CSCea52915)
- On a Catalyst 3750 or a Cisco EtherSwitch service module switch stack with a large number of switched virtual interfaces (SVIs), routes, or both on a fully populated nine-member switch stack, this message might appear when you reload the switch stack or add a switch to the stack:

  ```
  %SYS-2-MALLOCFAIL: Memory allocation of 4252 bytes failed from 0x179C80, alignment 0
  Pool: I/O Free: 77124  Cause: Memory fragmentation
  Alternate Pool: None Free: 0  Cause: No Alternate pool
  ```

  This error message means there is a temporary memory shortage that normally recovers by itself. You can verify that the switch stack has recovered by entering the **show cef line** user EXEC command and verifying that the line card states are `up` and `sync`. No workaround is required because the problem is self-correcting. (CSCea71611)
- (Catalyst 3750 switches and Cisco EtherSwitch service modules) A spanning-tree loop might occur if 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.

  The workaround is to change any one of the listed conditions. (CSCed53633)

SPAN and RSPAN

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

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) 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 and only applies to these switches (CSCdy72835):

  - 3560-24PS
  - 3560-48PS
  - 3750-24PS
  - 3750-48PS
  - 3750-24TS
  - 3750-48TS
  - 3750G-12S
  - 3750G-24T
  - 3750G-24TS
  - 3750G-16TD
  - Cisco EtherSwitch service modules

- 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 and only applies to these switches (CSCdy81521):

  - 2970G-24T
  - 2970G-24TS
  - 3560-24PS
  - 3560-48PS
  - 3750-24PS
  - 3750-48PS
  - 3750-24TS
  - 3750-48TS
  - 3750G-12S
  - 3750G-24T
  - 3750G-24TS
  - 3750G-16TD
  - Cisco EtherSwitch service modules

- 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 and only applies to these switches (CSCea72326):

  - 2970G-24T
  - 2970G-24TS
  - 3560-24PS
  - 3560-48PS
  - 3750-24PS
  - 3750-48PS
  - 3750-24TS
  - 3750-48TS
  - 3750G-12S
  - 3750G-24T
  - 3750G-24TS
  - 3750G-16TD
  - Cisco EtherSwitch service modules

- (Catalyst 3750 or 3560 switches and Cisco EtherSwitch service modules) 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, if 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. If fallback bridging and multicast routing are disabled, egress SPAN is not degraded. There is no workaround. If possible, disable fallback bridging and multicast routing. If possible, use ingress SPAN to observe the same traffic. (CSCeb01216)

- On Catalyst 3750 switches running Cisco IOS Release 12.1(14)EA1 and later, on Catalyst 3560 switches running Cisco IOS release 12.1(19)EA1 or later, or on Cisco EtherSwitch service modules, 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. There is no workaround. (CSCeb23352)

- 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. (CSCed24036)

Stacking (Catalyst 3750 or Cisco EtherSwitch service module switch stack only)

These are the Catalyst 3750 and Cisco EtherSwitch service module switch stack limitations:

- If the stack master is immediately reloaded after adding multiple VLANs, the new stack master might fail. The workaround is to wait a few minutes after adding VLANs before reloading the stack master. (CSCea26207)
- If the console speed is changed on a stack, the configuration file is updated, but the baud rate is not. When the switch is reloaded, meaningless characters might appear on the console during bootup before the configuration file is parsed and the console speed is set to the correct value. If manual boot is enabled or the startup configuration is deleted after you change the console speed, you cannot access the console after the switch reboots. There is no workaround. (CSCec36644)
- If a switch is forwarding traffic from a Gigabit ingress interface to a 100 Mbps egress interface, the ingress interface might drop more packets due to oversubscription if the egress interface is on a Fast Ethernet switch (such as a Catalyst 3750-24TS or 3750-48TS switch) than if it is on a Gigabit Ethernet switch (such as a Catalyst 3750G-24T or 3750G-24TS switch). There is no workaround. (CSCed00328)
- If a stack member is removed from a stack and either the configuration is not saved or another switch is added to the stack at the same time, the configuration of the first member switch might be lost. The workaround is to save the stack configuration before removing or replacing any switch in the stack. (CSCed15939)
- When the **switchport** and **no switchport** interface configuration commands are entered more than 20,000 times on a port of a Catalyst 3750 switch or on a Cisco EtherSwitch service module, all available memory is used, and the switch halts.

  There is no workaround. (CSCed54150)
- In a private-VLAN domain, only the default private-VLAN IP gateways have sticky ARP enabled. The intermediate Layer 2 switches that have private VLAN enabled disable sticky ARP. When a stack master re-election occurs on one of the Catalyst 3750 or Cisco EtherSwitch service module default IP gateways, the message `IP-3-STCKYARPOVR` appears on the consoles of other default IP gateways. Because sticky ARP is not disabled, the MAC address update caused by the stack master re-election cannot complete.

  The workaround is to complete the MAC address update by entering the **clear arp** privileged EXEC command. (CSCed62409)
- When a Catalyst 3750 switch or Cisco EtherSwitch service module is being reloaded in a switch stack, packet loss might occur for up to 1 minute while the Cisco Express Forwarding (CEF) table is downloaded to the switch. This only impacts traffic that will be routed through the switch that is being reloaded. There is no workaround. (CSCed70894)
- Inconsistent private-VLAN configuration can occur on a switch stack if a new stack master is running the IP base image (formerly known as the SMI) and the old stack master was running the IP services image (formerly known as the EMI).

  Private VLAN is enabled or disabled on a switch stack, depending on whether or not the stack master is running the IP services image (formerly known as the EMI) or the IP base image (formerly known as the SMI):

  – If the stack master is running the IP services image (formerly known as the EMI), all stack members have private VLAN enabled.

  – If the stack master is running the IP base image (formerly known as the SMI), all stack members have private VLAN disabled.

This occurs after a stack master re-election when the previous stack master was running the IP services image (formerly known as the EMI) and the new stack master is running the IP base image (formerly known as the SMI). The stack members are configured with private VLAN, but any new switch that joins the stack will have private VLAN disabled.

These are the workarounds. Only one of these is necessary:

- Reload the stack after an IP services image (formerly known as the EMI) to IP base image (formerly known as the SMI) master switch change (or the reverse).
- Before an IP services image (formerly known as the EMI)-to-IP base image (formerly known as the SMI) master switch change, delete the private-VLAN configuration from the existing stack master. (CSCee06802)

- Port configuration information is lost when changing from **switchport** to **no switchport** modes on Catalyst 3750 switches.

  This is the expected behavior of the offline configuration (provisioning) feature. There is no workaround. (CSCee12431)

- If one switch in a stack of Catalyst 3750 switches requires more time than the other switches to find a bootable image, it might miss the stack master election window. However, even if the switch does not participate in the stack master election, it will join the stack as a member.

  The workaround is to copy the bootable image to the parent directory or first directory. (CSCei69329)

- When the path cost to the root bridge is equal from a port on a stacked root and a port on a non stack root, the BLK port is not chosen correctly in the stack when the designated bridge priority changes. This problem appears on switches running in PVST, Rapid-PVST, and MST modes.

  The workaround is to assign a lower path cost to the forwarding port. (CSCsd95246)

Trunking

These are the trunking limitations:

- The switch treats frames received with mixed encapsulation (IEEE 802.1Q and Inter-Switch Link [ISL]) as frames with FCS errors, increments the error counters, and the port LED blinks amber. This happens when an ISL-unaware device receives an ISL-encapsulated packet and forwards the frame to an IEEE 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).
- If a Catalyst 3750 switch stack is connected to a designated bridge and the root port of the switch stack is on a different switch than the alternate root port, changing the port priority of the designated ports on the designated bridge has no effect on the root port selection for the Catalyst 3750 switch stack. There is no workaround. (CSCea40988)
- 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. There is no workaround. (CSCec35100).

VLAN

These are the VLAN limitations:

- 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)

- (Catalyst 3750 or 3560 switches) A CPUHOG message sometimes appears when you configure a private VLAN. Enable port security on one or more of the ports affected by the private VLAN configuration.

  There is no workaround. (CSCed71422)

- (Catalyst 3750) 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.

  The workaround is to define another policy-map name for the second-level policy-map with the same configuration to be used for another policy-map. (CSCef47377)

Device Manager Limitations

These are the device manager limitations:

- 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. (CSCef45718)

Important Notes

These sections describe the important notes related to this software release for the Catalyst 3750, 3560, 2970, and 2960 switches and for the Cisco EtherSwitch service modules:

- "Switch Stack Notes" section on page 28
- "Cisco IOS Notes" section on page 29
- "Device Manager Notes" section on page 29

Switch Stack Notes

These notes apply to switch stacks:

- Always power off a switch before adding or removing it from a switch stack.
- The Catalyst 3560 and 2970 switches do not support switch stacking. However, the **show processes** privileged EXEC command still lists stack-related processes. This occurs because these switches share common code with other switches that do support stacking.
- Catalyst 3750 switches running Cisco IOS Release 12.2(25)SEB are compatible with Cisco EtherSwitch service modules running Cisco IOS Release 12.2(25)EZ. Catalyst 3750 switches and Cisco EtherSwitch service modules can be in the same switch stack. In this switch stack, the Catalyst 3750 switch or the Cisco EtherSwitch service module can be the stack's active switch.

Cisco IOS Notes

These notes apply to Cisco IOS software:

- The IEEE 802.1x feature in Cisco IOS Release 12.1(14)EA1 and later is not fully backward-compatible with the same feature in Cisco IOS Release 12.1(11)AX. If you are upgrading a Catalyst 3750 or a 2970 switch running Cisco IOS Release 12.1(11)AX that has IEEE 802.1x configured, you must re-enable IEEE 802.1x after the upgrade by using the **dot1x system-auth-control** global configuration command. This global command does not exist in Cisco IOS Release 12.1(11)AX. Failure to re-enable IEEE 802.1x weakens security because some hosts can then access the network without authentication.
- The behavior of the **no logging on** global configuration command changed in Cisco IOS Release 12.2(18)SE and later. In Cisco IOS Release 12.1(19)EA and earlier, both of these command pairs disabled logging to the console:
  - the **no logging on** and then the **no logging console** global configuration commands
  - the **logging on** and then the **no logging console** global configuration commands

  In Cisco IOS Release 12.2(18)SE and later, you can only use the **logging on** and then the **no logging console** global configuration commands to disable logging to the console. (CSCec71490)
- In Cisco IOS Release 12.2(25)SEC for the Catalyst 3750, 3560, and 2970 switches and in Cisco IOS Release 12.2(25)SED for the Catalyst 2960 switch, the implementation for multiple spanning tree (MST) changed from the previous release. Multiple STP (MSTP) complies with the IEEE 802.1s standard. Previous MSTP implementations were based on a draft of the IEEE 802.1s standard.
- If the switch requests information from the Cisco Secure Access Control Server (ACS) and the message exchange times out because the server does not respond, a message similar to this appears:

  ```
  00:02:57: %RADIUS-4-RADIUS_DEAD: RADIUS server 172.20.246.206:1645,1646 is not
  responding.
  ```

  If this message appears, check that there is network connectivity between the switch and the ACS. You should also check that the switch has been properly configured as an AAA client on the ACS.

Device Manager Notes

These notes apply to the device manager:

- You cannot create and manage switch clusters through the device manager. To create and manage switch clusters, use the CLI or Cisco Network Assistant.
- When the switch is running a localized version of the device manager, the switch displays settings and status only in English letters. Input entries on the switch can only be in English letters.
- For device manager session on Internet Explorer, popup messages in Japanese or in simplified Chinese can appear as garbled text. These messages appear properly if your operating system is in Japanese or Chinese
- The Legend on the device manager incorrectly includes the 1000BASE-BX SFP module.
- We recommend this browser setting to speed up the time needed to display the device manager from Microsoft Internet Explorer.

  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** {**aaa** | **enable** | **local**}	Configure the HTTP server interface for the type of authentication that you want to use. • **aaa**—Enable the authentication, authorization, and accounting feature. You must enter the **aaa new-model** interface configuration command for the **aaa** keyword to appear. • **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.
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.

	Command	Purpose
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.

Open Caveats

This section describes the open caveats with possible unexpected activity in this software release. Unless otherwise noted, these severity 3 Cisco IOS configuration caveats apply to the Catalyst 3750, 3560, 2970, and 2960 switches and to Cisco EtherSwitch service modules:

- CSCef84975 (Cisco EtherSwitch service modules)

  Phone detection events that are generated by many IEEE phones connected to the switch ports can consume a significant amount of CPU time if the switch ports cannot power the phones because the internal link is down.

  The workaround is to enter the **power inline never** interface configuration command on all the Fast Ethernet ports that are not powered by but are connected to IP phones if the problem persists.

- CSCeh01250 (Cisco EtherSwitch service modules)

  When connected to the router through an auxiliary port in a session to a Cisco EtherSwitch service module, the service module session fails when you enter the **shutdown** and the **no shutdown** interface configuration commands on the service module router interface.

  These are the workarounds:

  - Reload the router.
  - Connect to the router through the console port, and open a session to the service module.

- CSCeh35595 (Cisco EtherSwitch service modules)

  A duplex mismatch occurs when two Fast Ethernet interfaces that are directly connected on two EtherSwitch service modules are configured as both 100 Mbps and full duplex *and* as automatic speed and duplex settings. This is expected behavior for the PHY on the Cisco EtherSwitch service modules.

  There is no workaround.

- CSCeh35693 (Cisco EtherSwitch service modules)

  If two Cisco EtherSwitch service modules are directly connected through Fast Ethernet interfaces configured as both 100 Mbps and full duplex *and* as automatic speed and duplex settings, one interface might detect the other as a Cisco-powered device.

  There is no workaround.

- CSCeh52964 (Cisco EtherSwitch service modules)

  When the router is rebooted after it is powered on (approximately once in 10 to 15 reboots), the Router Blade Communication Protocol (RBCP) between the router and the EtherSwitch service module might not be reestablished, and this message appears:

  ```
  [date]: %Y88E8K-3-ILP_MSG_TIMEOUT_ERROR: GigabitEthernet1/0: EtherSwitch Service
  Module RBCP ILP messages timeout
  ```

The workaround is to reload the EtherSwitch service module software without rebooting the router. You can reload the switching software by using the **reload** user EXEC command at the EtherSwitch service module prompt or by using the **service-module g** *slot_numer /0* **reset** privileged EXEC command at the router prompt.

- CSCeh95744

  If two or more switches in a stack of PoE switches restart at the same time and you enter the **no switch** *stack-member-number* **provision** global configuration command, this message appears on the console:

  ```
  %Command not applied to switch x, remote error
  ```

  where *x* is the stack member number.

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

- CSCei63394

  When an IEEE 802.1x restricted VLAN is configured on a port and a hub with multiple devices is connected to that port, no syslog messages are generated.

  This is not a supported configuration. Only one host should be connected to an IEEE 802.1x restricted VLAN port.

- CSCei79428 (Catalyst 3750 switches)

  When a switch running Cisco IOS image 12.2(25)SEA or later joins a stack running Cisco IOS 12.2(20)SE1 or earlier, the **boot auto-copy-sw** global configuration command might not work as expected. The new member switch might not be automatically upgraded or downgraded to the Cisco IOS image version that is running on the stack. If that happens, the new member switch is detected in a version mismatch state and is not operational.

  The workaround is to follow the procedures displayed when the **boot auto-copy-sw** global configuration command fails. If another failure occurs, enter the **archive download-sw** privileged EXEC command on all switches in the stack.

- CSCsb56438

  There is an extra index in the port table of the ciscoStpExtensions MIB that does not exist in the portCrossIndex MIB. For example, extra indexes like `1000-16/40` are seen in stpxRootGuardConfigEnabled displays that do not exist in portCrossIndex, and they appear during an SNMP walk operation.

  There is no workaround.

- CSCsb58462

  When a stack of Catalyst 3750 switches running Release 12.2(25)SED are configured with a Layer 3 LACP EtherChannel, tracebacks are generated when a master switchover occurs.

  The workaround is to enable the persistent stack-mac feature on the switch by entering the **stack-mac persistent timer** switch configuration command.

- CSCsb60164

  When a Catalyst 3750 stack master fails or leaves the stack, a cross-stack EtherChannel in trunk mode running Link Aggregation Control Protocol (LACP) protocol might stop forwarding traffic on some VLANs.

  The workaround is to enable the stack-mac persistent feature by using the **stack-mac persistent timer** global configuration command. You can also use the **shutdown** interface configuration command and then the **no shutdown** command on the EtherChannel interface.

- CSCsb74648

  When a Cisco device configured for Network Admission Control and the EAP over UDP port number is changed from its default value and then changed back with the **eou default** switch configuration command, the port change does not take effect, and EAP over UDP sessions can remain in a hold state.

  The workaround is to reset the EAP over UDP port number to its default value (0x5566) by using the **eou port 21862** switch configuration command.

- CSCsb75245

  When you configure a Cisco IP Phone to use Network Admission Control, the CDP packet is delayed, and the phone is identified as an agentless host without an identity profile.

  The workaround is to enter the **eou initialize ip** *address* switch configuration command to revalidate the host that CDP has learned.

- CSCsb81023 (Catalyst 3750 switches)

  A nonstackable EtherSwitch Service Module boots with this provisioned switch error message:

```
switch 1 provision NME-X-23ES-1G-P
                   ^
% Invalid input detected at '^' marker.
Failed to generate persistent self-signed certificate.
Secure server will use temporary self-signed certificate.
```

  This message is only informational.

- CSCsc05371

  When you filter a MAC address by entering **mac-address-table static** *vlan* **drop** global configuration command, IEEE 802.1X still authenticates that address

  There is no workaround.

- CSCsc29225

  Removing the bridge topology change trap with the **no snmp-server enable traps bridge topologychange** configuration command also disables the stpx root-inconsistency trap.

  The workaround is to re-enable the stpx root-inconsistency trap by using the snmp-server enable traps stpx configuration command.

- CSCsc30733

  This error message appears during authentication when a method list is used and one of the methods in the method list is removed:

```
AAA-3-BADMETHODERROR:Cannot process authentication method 218959117
```

  There is no workaround. However, this is only an informational message and does not affect switch functionality.

- CSCsc55332 (Cisco EtherSwitch service modules)

  When reloading a Cisco EtherSwitch service module that is a member of a switch stack with port security enabled, the following traceback might appear:

```
PSECURE: Assert failure: 0: ../switch/psecure/psecure_events.c: 2034:
psecure_vp_list_fwdchange
```

  There is no workaround. This message can be ignored.

- CSCsc88760 (Catalyst 3750 switches only)

  The entPhysicalIndex in the entPhysicalTable (ENTITY-MIB) for SFPs becomes incorrect when master and slaves are reloaded at the same time, and the invalid SFP entry in the entPhysicalTable might overwrite the chassis entry.

  The workaround is to first boot the master and then the slaves.

- CSCsc96474

  The switch might display tracebacks similar to these examples when a large number of IEEE 802.1x supplicants try to repeatedly log in and log out.

  Examples:

  ```
  Jan 3 17:54:32 L3A3 307: Jan 3 18:04:13.459: %SM-4-BADEVENT: Event 'eapReq' is invalid
  for the current state 'auth_bend_idle': dot1x_auth_bend Fa9
  ```

  ```
  Jan 3 17:54:32 L3A3 308: -Traceback= B37A84 18DAB0 2FF6C0 2FF260 8F2B64 8E912C Jan 3
  19:06:13 L3A3 309: Jan 3 19:15:54.720: %SM-4-BADEVENT: Event 'eapReq_no_reAuthMax' is
  invalid for the current ate 'auth_restart': dot1x_auth Fa4
  ```

  ```
  Jan 3 19:06:13 L3A3 310: -Traceback= B37A84 18DAB0 3046F4 302C80 303228 8F2B64 8E912C
  Jan 3 20:41:44 L3A3 315: .Jan 3 20:51:26.249: %SM-4-BADEVENT: Event 'eapSuccess' is
  invalid for the current state 'auth_restart': dot1x_auth Fa9
  ```

  ```
  Jan 3 20:41:44 L3A3 316: -Traceback= B37A84 18DAB0 304648 302C80 303228 8F2B64 8E912C
  ```

  There is no workaround.

- CSCsd03580

  When IEEE 802.1x is globally disabled on the switch by using the **no dot1x system-auth-control** global configuration command, some interface level configuration commands, including the **dot1x timeout** and **dot1x mac-auth-bypass commands,** become unavailable.

  The workaround is to enable the **dot1x system-auth-control** global configuration command before attempting to configure interface level IEEE 802.1x parameters.

  on command to the configuration and re-establishes communication with the RADIUS server.

- CSCsd08314

  When you remove a voice VLAN from a secure port, this message appears:

  ```
  PORT_SECURITY-6-VLAN_REMOVED: VLAN xxx is no longer allowed on port ppp. Its port
  security configuration has been removed.
  ```

  There is no workaround.This is only a notification; no action is required.

- CSCsd12172 (Catalyst 3750, 3560, and 2970 switches only)

  If your switch is running Ethernet over multiprotocol label switching (EoMPLS) in Cisco IOS Release 12.2(25)SED, the service policy that is applied to the SVI might mark the traffic correctly but might police the traffic to a different value than the one defined in the service policy.

  There is no workaround.

- CSCsd17229 (Catalyst 3750 switches only)

  After a switch stack is reloaded, SFP-module info such as the serial number or type might not appear in the entPhysicalTable (ENTITY-MIB).

  These are the workarounds (you must do one of these):

  - Reboot the master switch and then reboot the slave switches.
  - Remove and then reinsert the SFP module.

- CSCsd46042

  If a failed SFP module is inserted into an SFP module slot, HSRP links flap and CPUHOG error messages are sent.

  There is no workaround.

- CSCsd62507 (Catalyst 3750 and 3560 switches)

  When you clear the ARP by entering the **clear arp** user EXEC command or when the ARP entry times out, the switch sends few packets that have the incorrect destination MAC address.

  There is no workaround.

- CSCsd78044 (Catalyst 3750 and 3560 switches)

  When IGMP snooping is enabled and an EtherChannel member interface goes down, the switch might stop forwarding multicast traffic on the EtherChannel. This problem occurs when the EtherChannel interface is a member of a multicast group that is not directly connected (that is, the multicast group that does not have the *C* flag set in the **show ip mroute** privileged EXEC command output).

  The workaround is to either disable IGMP snooping, or to use the **clear ip mroute** user EXEC command to refresh all the routes.

- CSCsd79916

  When IEEE 802.1x authentication is configured on a voice VLAN port, the switch does not forward traffic if the attached PC is configured for both machine authentication and user authentication.

  An authenticated 802.1X port might not forward traffic in these conditions:

  - The port is assigned to a voice VLAN.
  - The PC is configured for both machine authentication and user authentication.
  - The machine-initiated and user-initiated authentications result in different VLANs being assigned to the port.

  The workaround is to remove the voice VLAN configuration from the port or to configure the machine-authentication and user-authentication profiles to assign the same VLAN to the port.

- CSCsd84624 (Catalyst 3750 and 3560 switches)

  Sometimes the switch drops a fragmented multicast packet when it does not have the (S,G) entry, and more than 600 packets per second (pps) of other multicast traffic are sent to the switch CPU.

  Use one of these workarounds:

  - Do not allow the (S,G) entry to expire.
  - Do not send more than 500 pps multicast traffic to the switch CPU.

- CSCsd85770 (Catalyst 2960G switches)

  When you apply the **mls qos trust dscp** global configuration command to a port, this error message might appear.

  ```
  Master sets trust failed, sets to untrust modetrust type update
  failed on ifc GigabitEthernetx/x
  Switch(config-if)#Tcam write failed trust dscp
  %QOSMGR-4-COMMAND_FAILURE: Execution of slave:HQM_IDBTRUST_CMD
  command failed on GigabitEthernetx/x
  ```

  The workaround is to apply the **sdm prefer qos** global configuration command before you enter the **mls qos trust dscp** global configuration command.

- CSCsd87313 (Catalyst 3750 switches)

  In a Catalyst 3750 stack configuration, the **ip cef load-sharing algorithm universal** <*id*> command randomly appears in the member configuration. If the member becomes the master because of a switchover, the command also appears in the new master running configuration.

  There is no workaround

- CSCsd86177

  When you remove and reconfigure a loopback interface, it does not appear in the ifTable.

  The workaround is to reload the switch.

- CSCsd88924

  The output from the **show interface** global configuration command does not show private VLANs for notconnect ports.

  There is no workaround.

- CSCsd93596 (Catalyst 3750 switches)

  If a master failover occurs on a switch stack that is configured with an EtherChannel, a link flap might occur. This causes STP to reconverge on the link. Traffic can be lost during the 30-second PVST convergence time. This only occurs on EtherChannel ports that have an allowed VLAN list long enough (80 or more characters) so that the switch adds a line to the running configuration. For example: `switchport trunk allowed vlan add 37,39,41,43,45,47,49.`

  The workaround is to do only one of these:

  - Shorten the length of the allowed VLAN list by using the **switchport trunk allowed vlan** mode commands.
  - Use the rapid-pvst or mst spanning tree modes to decrease the STP convergence times.

- CSCse03859 (Catalyst 2960 switches)

  If the switch is in VTP server mode and VLANs with IDs greater than 255 (256 and above) are created, DHCP snooping does not work properly on these VLANs.

  The workaround is to put the switch in VTP transparent mode before creating the VLANs.

  There is no workaround.

- CSCse14774

  If a switch is connected to a third-party router through an EtherChannel and the EtherChannel is running in Link Aggregation Control Protocol (LACP) mode, the interfaces in the EtherChannel might go down after you enter the **switchport trunk native vlan** *vlan-id* interface configuration command to change the native VLAN from VLAN 1 (the default) to a different VLAN ID.

  These are the workarounds. You only need to do one of these:

  - Do not change the native VLAN ID from the default setting of VLAN 1.
  - If you need to change the native VLAN ID to a VLAN other than VLAN 1, do not run the EtherChannel in LACP mode, and change the mode to *On* by using the **channel-group** *channel-group-number* **mode on** interface configuration command.

- CSCse21219

  If a Putty client is used to change the configuration to a device with SSH, the switch might stop responding to incoming traffic, such as SSH, Telnet, or ping packets. The switch responds to traffic after the TCP session is reset, which can take 7 minutes.

  Use one of these workarounds:

  - Use Putty Version 0.58.
  - Enter a SSH, telnet, or ping command on the console.
- CSCse22188(Catalyst 3750 and 3560 switches)

  If fallback bridging is enabled on a IEEE 802.1Q trunk port that is an EtherChannel member, the EtherChannel is disabled after the trunk port receives an DTP frame.

  The workaround is to disable DTP by using these interface configuration commands:
  - **switchport trunk encapsulation dot1q**
  - **switchport mode trunk**
  - **switchport nonegotiate**

Resolved Caveats

These sections describe the caveats have been resolved in this release. Unless otherwise noted, these resolved caveats apply to the Catalyst 3750, 3560, 2970, and 2960 switches and the Cisco EtherSwitch service modules.

These are the caveats that have been resolved in these releases:

- Caveats Resolved in Cisco IOS Release 12.2(25)SEE4, page 37
- Caveats Resolved in Cisco IOS Release 12.2(25)SEE3, page 41
- Caveats Resolved in Cisco IOS Release 12.2(25)SEE2, page 45
- Caveats Resolved in Cisco IOS Release 12.2(25)SEE1, page 46

Caveats Resolved in Cisco IOS Release 12.2(25)SEE4

These are the Cisco IOS caveats resolved in Cisco IOS Release 12.2.(25)SEE4:

- CSCef77013 (Catalyst 3750 and 3560 switches)

  Cisco IOS and Cisco IOS XR contain a vulnerability when processing specially crafted IPv6 packets with a Type 0 Routing Header present. Exploitation of this vulnerability can lead to information leakage on affected Cisco IOS and Cisco IOS XR devices, and may also result in a crash of the affected Cisco IOS device. Successful exploitation on an affected device running Cisco IOS XR will not result in a crash of the device itself, but may result in a crash of the IPv6 subsystem.

  Cisco has made free software available to address this vulnerability for affected customers. 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-20070808-IOS-IPv6-leak.shtml.
- CSCsd00028 (Catalyst 3750 and 3560 switches)

  When OSPF SNMP is enabled on the switch, this message no longer appears on the console:

  ```
  %ALIGN-3-SPURIOUS: Spurious memory access made at xxx reading yyy
  ```

- CSCsd95616

  Two crafted Protocol Independent Multicast (PIM) packet vulnerabilities exist in Cisco IOS software that may lead to a denial of service (DoS) condition. Cisco has released free software updates that address these vulnerabilities. Workarounds that mitigate these vulnerabilities are available.

  This advisory is posted at

  http://www.cisco.com/warp/public/707/cisco-sa-20080924-multicast.shtml.

- CSCek57932

  Cisco uBR10012 series devices automatically enable Simple Network Management Protocol (SNMP) read/write access to the device if configured for linecard redundancy. This can be exploited by an attacker to gain complete control of the device. Only Cisco uBR10012 series devices that are configured for linecard redundancy are affected.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available.

  This advisory is posted at

  http://www.cisco.com/warp/public/707/cisco-sa-20080924-ubr.shtml.

- CSCse56501

  A device running Cisco IOS software that has Internet Protocol version 6 (IPv6) enabled may be subject to a denial of service (DoS) attack. For the device to be affected by this vulnerability the device also has to have certain Internet Protocol version 4 (IPv4) User Datagram Protocol (UDP) services enabled. To exploit this vulnerability an offending IPv6 packet must be targeted to the device. Packets that are routed throughout the router can not trigger this vulnerability. Successful exploitation will prevent the interface from receiving any additional traffic. The only exception is Resource Reservation Protocol (RSVP) service, which if exploited, will cause the device to crash. Only the interface on which the vulnerability was exploited will be affected.

  Cisco is providing fixed software to address this issue. 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-20080326-IPv4IPv6.shtml.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-iosips.shtml.

- CSCse56800

  Multiple vulnerabilities exist in the Session Initiation Protocol (SIP) implementation in Cisco IOS that can be exploited remotely to trigger a memory leak or to cause a reload of the Cisco IOS device.

  Cisco has released free software updates that address these vulnerabilities. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities addressed in this advisory.

  There are no workarounds available to mitigate the effects of any of the vulnerabilities apart from disabling the protocol or feature itself, if administrators do not require the Cisco IOS device to provide voice over IP services.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-sip.shtml.

- CSCsg22426

  A series of segmented Skinny Call Control Protocol (SCCP) messages may cause a Cisco IOS device that is configured with the Network Address Translation (NAT) SCCP Fragmentation Support feature to reload.

Cisco has released free software updates that address this vulnerability. A workaround that mitigates this vulnerability is available.

This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-sccp.shtml.

- CSCsg91306

  Multiple vulnerabilities exist in the Session Initiation Protocol (SIP) implementation in Cisco IOS that can be exploited remotely to trigger a memory leak or to cause a reload of the Cisco IOS device.

  Cisco has released free software updates that address these vulnerabilities. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities addressed in this advisory.

  There are no workarounds available to mitigate the effects of any of the vulnerabilities apart from disabling the protocol or feature itself, if administrators do not require the Cisco IOS device to provide voice over IP services.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-sip.shtml.

- CSCsh12480

  Cisco IOS software configured for Cisco IOS firewall Application Inspection Control (AIC) with a HTTP configured application-specific policy are vulnerable to a Denial of Service when processing a specific malformed HTTP transit packet. Successful exploitation of the vulnerability may result in a reload of the affected device.

  Cisco has released free software updates that address this vulnerability.

  A mitigation for this vulnerability is available. See the "Workarounds" section of the advisory for details.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-iosfw.shtml.

- CSCsh89429

  The switch no longer reloads when the **write core** privileged EXEC command is entered when testing a core dump configuration and FTP is selected as the file transfer protocol.

- CSCsh90678 (Catalyst 3750 switches)

  The stack master switch no longer resets with an error message when you enter the **show storm-control** user EXEC command and specify a stack member interface that is not configured for storm control.

- CSCsj08561 (Catalyst 3750 and 3560 switches)

  The switch port output no longer shows `not connected` when the **show power inline** user EXEC command is entered.

- CSCsj39211

  The switch no longer incorrectly overwrites the class of service (CoS) packets of internally generated Multicast Listener Discovery (MLD) queries and other control packets.

- CSCsl34355

  Two crafted Protocol Independent Multicast (PIM) packet vulnerabilities exist in Cisco IOS software that may lead to a denial of service (DoS) condition. Cisco has released free software updates that address these vulnerabilities. Workarounds that mitigate these vulnerabilities are available.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-multicast.shtml.

- CSCsh48879

  A vulnerability exists in the Cisco IOS software implementation of Layer 2 Tunneling Protocol (L2TP), which affects limited Cisco IOS software releases.

  Several features enable the L2TP mgmt daemon process within Cisco IOS software, including but not limited to Layer 2 virtual private networks (L2VPN), Layer 2 Tunnel Protocol Version 3 (L2TPv3), Stack Group Bidding Protocol (SGBP) and Cisco Virtual Private Dial-Up Networks (VPDN). Once this process is enabled the device is vulnerable.

  This vulnerability will result in a reload of the device when processing a specially crafted L2TP packet.

  Cisco has released free software updates that address this vulnerability.

  Workarounds that mitigate this vulnerability are available in the "workarounds" section of the advisory.

- CSCsi17020

  A series of segmented Skinny Call Control Protocol (SCCP) messages may cause a Cisco IOS device that is configured with the Network Address Translation (NAT) SCCP Fragmentation Support feature to reload.

  Cisco has released free software updates that address this vulnerability. A workaround that mitigates this vulnerability is available.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-sccp.shtml.

- CSCsj85065

  A Cisco IOS device may crash while processing an SSL packet. This can happen during the termination of an SSL-based session. The offending packet is not malformed and is normally received as part of the packet exchange.

  Cisco has released free software updates that address this vulnerability.

  Aside from disabling affected services, there are no available workarounds to mitigate an exploit of this vulnerability.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-ssl.shtml.

- CSCsk42759

  Multiple vulnerabilities exist in the Session Initiation Protocol (SIP) implementation in Cisco IOS that can be exploited remotely to trigger a memory leak or to cause a reload of the Cisco IOS device.

  Cisco has released free software updates that address these vulnerabilities. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities addressed in this advisory.

  There are no workarounds available to mitigate the effects of any of the vulnerabilities apart from disabling the protocol or feature itself, if administrators do not require the Cisco IOS device to provide voice over IP services.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-sip.shtml.

- CSCsl62609

  Multiple vulnerabilities exist in the Session Initiation Protocol (SIP) implementation in Cisco IOS that can be exploited remotely to trigger a memory leak or to cause a reload of the Cisco IOS device.

  Cisco has released free software updates that address these vulnerabilities. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities addressed in this advisory.

There are no workarounds available to mitigate the effects of any of the vulnerabilities apart from disabling the protocol or feature itself, if administrators do not require the Cisco IOS device to provide voice over IP services.

This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-sip.shtml.

- CSCsq13348

  The Cisco IOS Intrusion Prevention System (IPS) feature contains a vulnerability in the processing of certain IPS signatures that use the SERVICE.DNS engine. This vulnerability may cause a router to crash or hang, resulting in a denial of service condition.

  Cisco has released free software updates that address this vulnerability. There is a workaround for this vulnerability.

  NOTE: This vulnerability is not related in any way to CVE-2008-1447 - Cache poisoning attacks. Cisco Systems has published a Cisco Security Advisory for that vulnerability, which can be found at http://www.cisco.com/en/US/products/products_security_advisory09186a00809c2168.shtml.

  The advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20080924-l2tp.shtml.

Caveats Resolved in Cisco IOS Release 12.2(25)SEE3

These are the Cisco IOS caveats resolved in Cisco IOS Release 12.2.(25)SEE3:

- CSCsb12598

  Cisco IOS device may crash while processing malformed Secure Sockets Layer (SSL) packets. In order to trigger these vulnerabilities, a malicious client must send malformed packets during the SSL protocol exchange with the vulnerable device.

  Successful repeated exploitation of any of these vulnerabilities may lead to a sustained Denial-of-Service (DoS); however, vulnerabilities are not known to compromise either the confidentiality or integrity of the data or the device. These vulnerabilities are not believed to allow an attacker will not be able to decrypt any previously encrypted information.

  Cisco IOS is affected by the following vulnerabilities:

  - Processing ClientHello messages, documented as Cisco bug ID CSCsb12598
  - Processing ChangeCipherSpec messages, documented as Cisco bug ID CSCsb40304
  - Processing Finished messages, documented as Cisco bug ID CSCsd92405

  Cisco has made free software available to address these vulnerabilities for affected customers. There are workarounds available to mitigate the effects of these vulnerabilities.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20070522-SSL.shtml.

Note Another related advisory has been posted with this advisory. This additional advisory also describes a vulnerability related to cryptography that affects Cisco IOS. This related advisory is available at the following link: http://www.cisco.com/warp/public/707/cisco-sa-20070522-crypto.shtml.

A combined software table for Cisco IOS is available to aid customers in choosing a software releases that fixes all security vulnerabilities published as of May 22, 2007. This software table is available at the following link: http://www.cisco.com/warp/public/707/cisco-sa-20070522-cry-bundle.shtml.

- CSCsb40304

  Cisco IOS device may crash while processing malformed Secure Sockets Layer (SSL) packets. In order to trigger these vulnerabilities, a malicious client must send malformed packets during the SSL protocol exchange with the vulnerable device.

  Successful repeated exploitation of any of these vulnerabilities may lead to a sustained Denial-of-Service (DoS); however, vulnerabilities are not known to compromise either the confidentiality or integrity of the data or the device. These vulnerabilities are not believed to allow an attacker will not be able to decrypt any previously encrypted information.

  Cisco IOS is affected by the following vulnerabilities:

  - Processing ClientHello messages, documented as Cisco bug ID CSCsb12598
  - Processing ChangeCipherSpec messages, documented as Cisco bug ID CSCsb40304
  - Processing Finished messages, documented as Cisco bug ID CSCsd92405

  Cisco has made free software available to address these vulnerabilities for affected customers. There are workarounds available to mitigate the effects of these vulnerabilities.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20070522-SSL.shtml.

Note Another related advisory has been posted with this advisory. This additional advisory also describes a vulnerability related to cryptography that affects Cisco IOS. This related advisory is available at the following link: http://www.cisco.com/warp/public/707/cisco-sa-20070522-crypto.shtml.

  A combined software table for Cisco IOS is available to aid customers in choosing a software releases that fixes all security vulnerabilities published as of May 22, 2007. This software table is available at the following link: http://www.cisco.com/warp/public/707/cisco-sa-20070522-cry-bundle.shtml.

- CSCsd72983

  The switch no longer reloads when the CISCO-SYSLOG-MIB is queried by the Simple Network Management Protocol (SNMP) agent.

- CSCsd85587

  A vulnerability has been discovered in a third party cryptographic library which is used by a number of Cisco products. This vulnerability may be triggered when a malformed Abstract Syntax Notation One (ASN.1) object is parsed. Due to the nature of the vulnerability it may be possible, in some cases, to trigger this vulnerability without a valid certificate or valid application-layer credentials (such as a valid username or password).

  Successful repeated exploitation of any of these vulnerabilities may lead to a sustained Denial-of-Service (DoS); however, vulnerabilities are not known to compromise either the confidentiality or integrity of the data or the device. These vulnerabilities are not believed to allow an attacker will not be able to decrypt any previously encrypted information.

  The vulnerable cryptographic library is used in the following Cisco products:

  - Cisco IOS, documented as Cisco bug ID CSCsd85587
  - Cisco IOS XR, documented as Cisco bug ID CSCsg41084
  - Cisco PIX and ASA Security Appliances, documented as Cisco bug ID CSCse91999
  - Cisco Unified CallManager, documented as Cisco bug ID CSCsg44348
  - Cisco Firewall Service Module (FWSM)

This vulnerability is also being tracked by CERT/CC as VU#754281.

Cisco has made free software available to address this vulnerability for affected customers. There are no workarounds available to mitigate the effects of the vulnerability.

This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20070522-crypto.shtml.

Note Another related advisory is posted together with this Advisory. It also describes vulnerabilities related to cryptography that affect Cisco IOS. A combined software table for Cisco IOS only is available at http://www.cisco.com/warp/public/707/cisco-sa-20070522-cry-bundle.shtml and can be used to choose a software release which fixes all security vulnerabilities published as of May 22, 2007. The related advisory is published at http://www.cisco.com/warp/public/707/cisco-sa-20070522-SSL.shtml.

- CSCsd92405

  Cisco IOS device may crash while processing malformed Secure Sockets Layer (SSL) packets. In order to trigger these vulnerabilities, a malicious client must send malformed packets during the SSL protocol exchange with the vulnerable device.

  Successful repeated exploitation of any of these vulnerabilities may lead to a sustained Denial-of-Service (DoS); however, vulnerabilities are not known to compromise either the confidentiality or integrity of the data or the device. These vulnerabilities are not believed to allow an attacker will not be able to decrypt any previously encrypted information.

  Cisco IOS is affected by the following vulnerabilities:

  - Processing ClientHello messages, documented as Cisco bug ID CSCsb12598
  - Processing ChangeCipherSpec messages, documented as Cisco bug ID CSCsb40304
  - Processing Finished messages, documented as Cisco bug ID CSCsd92405

  Cisco has made free software available to address these vulnerabilities for affected customers. There are workarounds available to mitigate the effects of these vulnerabilities.

  This advisory is posted at http://www.cisco.com/warp/public/707/cisco-sa-20070522-SSL.shtml.

Note Another related advisory has been posted with this advisory. This additional advisory also describes a vulnerability related to cryptography that affects Cisco IOS. This related advisory is available at the following link: http://www.cisco.com/warp/public/707/cisco-sa-20070522-crypto.shtml.

A combined software table for Cisco IOS is available to aid customers in choosing a software releases that fixes all security vulnerabilities published as of May 22, 2007. This software table is available at the following link: http://www.cisco.com/warp/public/707/cisco-sa-20070522-cry-bundle.shtml.

- CSCse03570 (Catalyst 3750 switches)

  A routing protocol flap no longer occurs when a stack member joins the stack.

- CSCse22370 (Catalyst 3750 and 3560 switches)

  The switch no longer generates these error messages in the system message log:

```
[timestamp]: platform assert failure: hms->mem_lock_count:
../src-hulc/src-common/hulc_mad_sd_mgr.c: 531: hmsm_l3_get_locked_mad

[timestamp]: -Traceback= 43AD34 42D7F4 42EEDC 34C09C 34CE58 34E8F4 3506C4 351D00
3529F8 3EA140 3ECE0C 3FC8D0 3EDF20 3EA594 3E1DE8 3E26A8
```

- CSCse80551 (Catalyst 2960 switches)

  When configuring a switch with Multicast VLAN Registration (MVR), the multicast packets are now correctly sent to the host that is requesting the stream.

- CSCse97449 (Catalyst 3750 and 3560 switches)

  A Catalyst 3560G-24PS, 3560G-48PS, 3750G-24PS or 3750G-48PS switch now provides power to a powered device that uses the IEEE classification to determine the power usage of the device. The **show power inline** privileged EXEC command output shows that power is granted, and the interface status field of the **show interface status** privileged EXEC command output now shows that the link is not connected.

- CSCsf04754

  Multiple Cisco products contain either of two authentication vulnerabilities in the Simple Network Management Protocol version 3 (SNMPv3) feature. These vulnerabilities can be exploited when processing a malformed SNMPv3 message. These vulnerabilities could allow the disclosure of network information or may enable an attacker to perform configuration changes to vulnerable devices. The SNMP server is an optional service that is disabled by default. Only SNMPv3 is impacted by these vulnerabilities. Workarounds are available for mitigating the impact of the vulnerabilities described in this document.

  The United States Computer Emergency Response Team (US-CERT) has assigned Vulnerability Note VU#878044 to these vulnerabilities.

  Common Vulnerabilities and Exposures (CVE) identifier CVE-2008-0960 has been assigned to these vulnerabilities.

  This advisory will be posted at
  http://www.cisco.com/warp/public/707/cisco-sa-20080610-snmpv3.shtml

- CSCsf28513 (Catalyst 3750 switches)

  The switch no longer has unexpected memory consumption when quality of service (QoS) is enabled on an interface that flaps.

- CSCsg18188 (Catalyst 3750 switches)

  A memory leak and switch failure no longer occur when you poll the SNMP object cswSwitchInfoTable from the CISCO-STACKWISE-MIB in a switch stack.

- CSCsg31176 (Catalyst 3750 switches)

  When at least two Catayst 3750 switches are in a stack and a port on a stack member is assigned to a VLAN other than VLAN 1, a *get* or *walk* query of the BRIDGE-MIB now returns the correct information.

- CSCsg36094

  In Cisco IOS Release 12.2(25)SEE1, the ENTITY-MIB values changed.

- CSCsg70355

  Entering the **clock summer-time** *zone* global configuration command no longer causes the switch to generate timestamp syslog messages that are incorrect by one hour.

  This occurred in previous releases because the command by default followed the United States standards for daylight savings time. Cisco IOS Release 12.0(5)WC17 and later are now in accordance with The Energy Policy Act of 2005. This moves the beginning of daylight savings time from the first Sunday of April to the second Sunday of March and moves the end date from the last Sunday of October to the first Sunday of November.

Caveats Resolved in Cisco IOS Release 12.2(25)SEE2

These are the Cisco IOS caveats resolved in Cisco IOS Release 12.2.(25)SEE2:

- CSCef73145

  The Mean Opinion Score (MOS) reported by an IP SLA jitter probe is now correct.

- CSCsb81283

  MAC notifications now work properly when port security is configured.

- CSCsc16148 (Catalyst 3750 and 3560 switches)

  Beginning with Cisco IOS Release 12.2(25)SEE2, the S,G timer polling interval can be configured from 181 to 57600 seconds by using this new global configuration command:

  ip pim sparse sg-expiry-timer *value* **sg-list** *access list number*

  The extended access-list matches the traffic to the multicast group. In previous releases, the polling interval was set at 60 seconds.

- CSCsc59027 (Catalyst 3750 switches)

  A memory leak no longer occurs on a switch stack under these conditions:

  - The **ip routing** global configuration command is disabled.
  - The master switch has had a failover, a change in priority, or has been reloaded.

- CSCsd51530

  When you telnet to a switch and enter the **autocommand-options nohangup** interface configuration command on VTY lines 0 through 4, you can now successfully log out and telnet back into the switch.

  In previous releases, when you logged out of the switch and then tried to open a new Telnet session, the switch would automatically log you out.

- CSCse13873/CSCsd26663 (Catalyst 3750 and 3560 switches)

  The switch no longer drops ICMPv6 router advertisements that are encapsulated in Ethernet frames with unicast or unknown destination addresses.

- CSCse17494

  When a switch is running Cisco Network Assistant and using TACACS+ for HTTPS (secure HTTP) authentication, the switch no longer fails if TACACS+ is not reachable.

- CSCse29173

  Layer 2 multicast traffic is now forwarded by a switch after a port-channel link flap.

- CSCse39616

  When port security is enabled, MAC addresses are now correctly relearned if a dynamic instance is present on the remote port.

- CSCse48664 (Catalyst 2960 switches)

  The dot1dBasePort values in the Bridge-MIB now match the front-panel numbering for the switch FastEthernet interfaces.

- CSCse55723 (Catalyst 2960 switches)

  A Telnet session no longer stops if you press the Space or Enter key when the show command output is scrolling.

- CSCse60487

  On switches running Cisco IOS Release 12.2(25)SEE2 and later, the port LEDS are now on during POST. In previous releases, the port LEDS remained off during POST.

Caveats Resolved in Cisco IOS Release 12.2(25)SEE1

These are the Cisco IOS caveats resolved in Cisco IOS Release 12.2.(25)SEE1:

- CSCea80105 (Catalyst 3750, 3560, and 2970 switches)

  When a Cisco IP Phone is connected to a switch, only the Voice VLAN (VVID) of the switch learns the MAC address of phone. This is the correct behavior.

  In previous releases, the MAC address was learned on both the VVID and the Data VLAN (PVID). When the dynamic MAC addresses were removed (manually or automatically) either by a topology change or by enabling or disabling the port security or IEEE 802.1x feature, the MAC address of Cisco IP Phones MAC address was re-learned only on the VVID.

- CSCei80087

  It is no longer necessary to detach and then reapply a hierarchical policy map to force changes to a VLAN level class-map to take effect.

- CSCek26492

  Symptoms: A router may crash if it receives a packet with a specific crafted IP option as detailed in Cisco Security Advisory: Crafted IP Option Vulnerability:

  http://www.cisco.com/warp/public/707/cisco-sa-20070124-crafted-ip-option.shtml

  Conditions: This DDTS resolves a symptom of CSCec71950. Cisco IOS with this specific DDTS are not at risk of crash if CSCec71950 has been resolved in the software.

  Workaround: Cisco IOS versions with the fix for CSCec71950 are not at risk for this issue and no workaround is required. If CSCec71950 is not resolved, see the following Cisco Security Advisory: Crafted IP Option Vulnerability for workaround information:

  http://www.cisco.com/warp/public/707/cisco-sa-20070124-crafted-ip-option.shtml

- CSCek37177

  The Cisco IOS Transmission Control Protocol (TCP) listener in certain versions of Cisco IOS software is vulnerable to a remotely-exploitable memory leak that may lead to a denial of service condition.

  This vulnerability only applies to traffic destined to the Cisco IOS device. Traffic transiting the Cisco IOS device will not trigger this vulnerability.

  Cisco has made free software available to address this vulnerability for affected customers.

  This issue is documented as Cisco bug ID CSCek37177.

  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-20070124-crafted-tcp.shtml

- CSCsb54410 (Catalyst 3750 switches)

  Static IGMP snooping group members are now consistent across different members in a Catalyst 3750 switch stack after a stack reload or an individual member switch reload.

- CSCsb59125 (Catalyst 3750 switches)

  Incoming IPv6 packets that have hop-by-hop options now need their destination MAC addresses to match the ingress Layer 3 interface MAC address to be forwarded. In previous releases, a packet was forwarded if its destination MAC address matched the MAC address of any Layer 3 interface of the switch stack.

- CSCsb79198

  A switch no longer fails IEEE 802.1x authentication if it downloads an access control list (ACL) that has more than 20 ACL access control entries (ACEs) from a RADIUS server.

- CSCsb82422

  The switch now forwards an IEEE802.1x request that has *null* credentials.

- CSCsb82213 (Catalyst 3750 and 3560 switches)

  A switch no longer intermittently fails under these conditions:

  – It has more than 8 ports active in a Layer 3 LACP EtherChannel. (The port channel is a routed port.)

  – Some of ports are in hot standby mode.

  – The LACP port priority is changed while the port channel is active.

  In previous releases, the switch would fail, often preceded by this error message:

  ```
  00:08:27: %SYS-6-STACKLOW: Stack for process LACP Protocol running low, 0/6000
  ```

- CSCsb97854 (Catalyst 3750 switches)

  When a source port for a SPAN session has IEEE 802.1x enabled, Extensible Authentication Protocol over LAN (EAPOL) packets can now be seen by a packet-sniffing tool.

- CSCsc03400 (Catalyst 3750 switches)

  The line protocol for a member switch no longer goes down when the master switch reloads that member switch.

- CSCsc13467

  A switch no longer fails or displays illegal memory access messages during the SNMP Timer process.

- CSCsc57507 (Catalyst 3750, 3560, and 2970 switches)

  Packets are no longer dropped when the **mls qos queue-set output** buffers global configuration command is configured with the values *threshold:300* and *buffer:98* in same queue.

- CSCsc58665

  The ENTITY-MIB: entPhysicalVendorType now returns correct information for SFP ports.

- CSCsc81978

  When the switch displays a `STORM_CONTROL-3-SHUTDOWN` message and a port status changes to disabled, the cpscEvent (cpscStatus) Trap now correctly shows that the CPortStormControlStatusType is *5,* which means *shutdown*.

  In previous releases, the trap showed *2*, which means *forwarding*.

- CSCsc84627

  A MAC entry no longer changes from *static* to *dynamic* on a switch configured with private VLANs.

- CSCsc84880

  When the **radius-server source-ports 1645-1646** global configuration command is removed, the switch no longer sends the RADIUS server requests with incorrect source ports.

- CSCsc86883 (Catalyst 3750 switches)

  A switch no longer displays a traceback error during a stack master change under these conditions:

  - The switch is a member of a stack.
  - The switch stack includes at least six members.
  - The switch stack contains both Catalyst 3750 and Catalyst 3750G switches.
  - IEEE 802.1x is enabled.

- CSCsc93768 (Catalyst 3750 and 3560 switches)

  A switch no longer fails when the VPN Routing and Forwarding (VRF) configuration is removed under these conditions:

  - VRF is removed by using the **no ip vrf** global configuration command.
  - Interfaces are configured in two or more VRFs.
  - One VRF has static address resolution protocols (ARPs) configured.
  - The VRF with static ARPs is removed first.

- CSCsc96037 (Catalyst 3750 and 3560 switches)

  Configuring QoS on a switch no longer causes TCP applications such as NFS to run slower.

- CSCsd19470

  This error log message no longer randomly appears:

  ```
  %TCAMMGR-3-HANDLE_ERROR: cam handle [hex] is invalid
  ```

- CSCsd16059 (Catalyst 3750, 3560, and 2970 switches)

  A switch now correctly forwards nonstandard Virtual Router Redundancy Protocol (VRRP) packets. (In nonstandard VRRP packets, the Layer 3 destination is a multicast address, but the Layer 2 destination address is a unicast address.)

- CSCsd16908

  If the **dot1x port-control auto/force-unauthorized** interface configuration command has been entered while IEEE 802.1x is globally disabled, it is no longer necessary to enter the **no dot1x port-control** interface configuration command to return to the default setting of **force-authorized**.

- CSCsd24183

  A switch no longer fails when a user logs in, the **debug radius** privileged EXEC command is enabled, and the RADIUS server is sending an unsupported attribute value.

- CSCsd30129 (Catalyst 3750 and 3560 switches)

  After you delete a global- or interface-level NAC Layer 2 IP configuration by using the no ip admission name global- or interface-configuration command, the switch no longer fails and displays a message similar to this:

  ```
  Unexpected exception to CPUvector 700, PC = 3CEDAC0
  -Traceback= 3CEDAC0 45106C C82010 C3D4F4 C3D618 C40B94 FE7EA0 2BBA34 2B28B8 AE8BEC
  B035CC 8F3F84 8EA54C
  ```

- CCSCsd34759

  Symptoms: The VTP feature in certain versions of Cisco IOS software may be vulnerable to a crafted packet sent from the local network segment which may lead to denial of service condition.

Conditions: The packets must be received on a trunk enabled port.

Further Information: On the 13th September 2006, Phenoelit Group posted an advisory containing three vulnerabilities:

- VTP Version field DoS
- Integer Wrap in VTP revision
- Buffer Overflow in VTP VLAN name

These vulnerabilities are addressed by Cisco IDs:

- CSCsd52629/CSCsd34759—VTP version field DoS
- CSCse40078/CSCse47765—Integer Wrap in VTP revision
- CSCsd34855/CSCei54611—Buffer Overflow in VTP VLAN name

Cisco's statement and further information are available on the Cisco public website at http://www.cisco.com/warp/public/707/cisco-sr-20060913-vtp.shtml

- CSCsd34855

  Symptoms: The VTP feature in certain versions of Cisco IOS software is vulnerable to a locally-exploitable buffer overflow condition and potential execution of arbitrary code. If a VTP summary advertisement is received with a Type-Length-Value (TLV) containing a VLAN name greater than 100 characters, the receiving switch will reset with an Unassigned Exception error.

  Conditions: The packets must be received on a trunk enabled port, with a matching domain name and a matching VTP domain password (if configured).

  Further Information: On the 13th September 2006, Phenoelit Group posted an advisory containing three vulnerabilities:

  - VTP Version field DoS
  - Integer Wrap in VTP revision
  - Buffer Overflow in VTP VLAN name

  These vulnerabilities are addressed by Cisco IDs:

  - CSCsd52629/CSCsd34759—VTP version field DoS
  - CSCse40078/CSCse47765—Integer Wrap in VTP revision
  - CSCsd34855/CSCei54611—Buffer Overflow in VTP VLAN name

  Cisco's statement and further information are available on the Cisco public website at http://www.cisco.com/warp/public/707/cisco-sr-20060913-vtp.shtml

- CSCsd38857 (Catalyst 3750 switches)

  When the **debug radius** privileged EXEC command is enabled, the NAS-Port-Type correctly appears as NAS-Port-Type (15). In previously releases, it appeared as NAS-Port-Type (5).

- CSCsd40334

  Processing a specially crafted IPv6 Type 0 Routing header can crash a device running Cisco IOS software. This vulnerability does not affect IPv6 Type 2 Routing header which is used in mobile IPv6. IPv6 is not enabled by default in Cisco IOS.

  Cisco has made free software available to address this vulnerability for affected customers.

  There are workarounds available to mitigate the effects of the vulnerability. The workaround depends on if Mobile IPv6 is used and what version on Cisco IOS is being currently used.

This advisory is posted at
http://www.cisco.com/warp/public/707/cisco-sa-20070124-IOS-IPv6.shtml

- CSCsd45112 (Catalyst 3750G-12S switches)

  The router crash recovery mechanism now works correctly. In previous releases, the mechanism failed when the switch was running BOOTLDR version 12.2(25r)SEB with Cisco IOS 12.2.(25)SEC2.

- CSCsd49778 (Catalyst 3750 switches) -

  A switch no longer displays unnecessary output when the **debug ip packet** *access-list* privileged EXEC command is enabled.

- CSCsd52341 (Catalyst 3750G-48PT, 3750G-48TS, 3560G-48PS, and 3560G-48TS switches)

  A switch no longer reloads when a service policy is attached to one of the four SFP ports.

- CSCsd55237 (Catalyst 3750 switches)

  The output of the **show interfaces transceiver detail** privileged EXEC command no longer shows incorrect values for the receive power and thresholds.

- CSCsd58381

  Processing a specially crafted IPv6 Type 0 Routing header can crash a device running Cisco IOS software. This vulnerability does not affect IPv6 Type 2 Routing header which is used in mobile IPv6. IPv6 is not enabled by default in Cisco IOS.

  Cisco has made free software available to address this vulnerability for affected customers.

  There are workarounds available to mitigate the effects of the vulnerability. The workaround depends on if Mobile IPv6 is used and what version on Cisco IOS is being currently used.

  This advisory is posted at
  http://www.cisco.com/warp/public/707/cisco-sa-20070124-IOS-IPv6.shtml

- CSCsd73645

  A routed port no longer fails when STP is configured on an internal VLAN on that port.

- CSCsd77825 (Catalyst 3750 switches)

  A switch now correctly accepts IP unicast indirect routes in the hardware (TCAM) after a route change.

- CSCsd81205

  When a supplicant authenticates, the switch no longer fails if a value for *attribute 11* is configured on the RADIUS server.

- CSCsd83171 (Catalyst 3750 switches)

  BackboneFast now works correctly when it is enabled on a stack of switches.

- CSCsc57507 (Catalyst 2970 switches)

  The switch now forwards packets when the mls qos queue output values are set to buffer = 98 and threshold 1 = 300.

Documentation Updates

This section provides these updates to the product documentation for the Catalyst 3750, 3560, 2970, and 2960 switches:

Updates for Cisco IOS Release 12.2(25)SEE2

In these sections of the Catalyst 3760 and Catalyst 3560 software configuration guide:

- "Configuring SDM Templates" chapter
- "SDM Templates" section in the "Configuring IPv6 Unicast Routing" chapter

This information is incorrect:

- If the switch stack is running the advanced IP services image, you can select SDM templates to support IP Version 6 (IPv6).
- In this note, the option refers to the **dual-ipv4-and-ipv6** option in the **sdm prefer** global configuration and the **show sdm prefer** privileged EXEC commands:

Note Though visible on all switches, this option is supported only when the stack is running the advanced IP services image.

This is the correct information:

- If the switch stack is running the IP base, IP services, or advanced IP services image, you can select SDM templates to support IP Version 6 (IPv6).
- The **dual-ipv4-and-ipv6** option is supported when the switch runs the IP base, IP services, or advanced IP services image.

In the Catalyst 3750 and Catalyst 3560 command reference, this information is incorrect.

In the **sdm prefer** global configuration and the **show sdm prefer** privileged EXEC commands, this information about the **dual-ipv4-and-ipv6** option is incorrect:

Note Though visible on all switches, this option is supported only when the stack is running the advanced IP services image.

This is the correct information:

The **dual-ipv4-and-ipv6** option is supported when the switch runs the IP base, IP services, or advanced IP services image.

Updates for Cisco IOS Release 12.2(25)SEE1

These are the documentation updates for this release:

Updates for the Regulatory Compliance and Safety Information

This information was added to the R*egulatory Compliance and Safety Information* for the Catalyst 3750, 3560, 2970, and 2960 switches:

Statement 361—VoIP and Emergency Calling Services do not Function if Power Fails

Warning **Voice over IP (VoIP) service and the emergency calling service do not function if power fails or is disrupted. After power is restored, you might have to reset or reconfigure equipment to regain access to VoIP and the emergency calling service. In the USA, this emergency number is 911. You need to be aware of the emergency number in your country.** Statement 361

Waarschuwing **Voice over IP (VoIP)-service en de service voor noodoproepen werken niet indien er een stroomstoring is. Nadat de stroomtoevoer is hersteld, dient u wellicht de configuratie van uw apparatuur opnieuw in te stellen om opnieuw toegang te krijgen tot VoIP en de noodoproepen. In de VS is het nummer voor noodoproepen 911. U dient u zelf op de hoogte te stellen van het nummer voor noodoproepen in uw land.**

Varoitus **Voice over IP (VoIP) -palvelu ja hätäpuhelupalvelu eivät toimi, jos virta katkeaa tai sen syötössä esiintyy häiriöitä. Kun virransyöttö on taas normaali, sinun täytyy mahdollisesti asettaa tai määrittää laitteisto uudelleen, jotta voisit jälleen käyttää VoIP-palvelua ja hätäpuhelupalvelua. Yhdysvalloissa hätänumero on 911. Selvitä, mikä on omassa kotimaassasi käytössä oleva hätänumero.**

Attention **Le service Voice over IP (VoIP) et le service d'appels d'urgence ne fonctionnent pas en cas de panne de courant. Une fois que le courant est rétabli, vous devrez peut-être réinitialiser ou reconfigurer le système pour accéder de nouveau au service VoIP et à celui des appels d'urgence. Aux États-Unis, le numéro des services d'urgence est le 911. Vous devez connaître le numéro d'appel d'urgence en vigueur dans votre pays.**

Warnung **Bei einem Stromausfall oder eingeschränkter Stromversorgung funktionieren VoIP-Dienst und Notruf nicht. Sobald die Stromversorgung wieder hergestellt ist, müssen Sie möglicherweise die Geräte zurücksetzen oder neu konfigurieren, um den Zugang zu VoIP und Notruf wieder herzustellen. Die Notrufnummer in den USA lautet 911. Wählen Sie im Notfall die für Ihr Land vorgesehene Notrufnummer.**

Avvertenza **Il servizio Voice over IP (VoIP) e il servizio per le chiamate di emergenza non funzionano in caso di interruzione dell'alimentazione. Ristabilita l'alimentazione, potrebbe essere necessario reimpostare o riconfigurare l'attrezzatura per ottenere nuovamente l'accesso al servizio VoIP e al servizio per le chiamate di emergenza. Negli Stati Uniti, il numero di emergenza è 911. Si consiglia di individuare il numero di emergenza del proprio Paese.**

Advarsel **Tjenesten Voice over IP (VoIP) og nødanropstjenesten fungerer ikke ved strømbrudd. Etter at strømmen har kommet tilbake, må du kanskje nullstille eller konfigurere utstyret på nytt for å få tilgang til VoIP og nødanropstjenesten. I USA er dette nødnummeret 911. Du må vite hva nødnummeret er i ditt land.**

Aviso **O serviço Voice over IP (VoIP) e o serviço de chamadas de emergência não funcionam se houver um corte de energia. Depois do fornecimento de energia ser restabelecido, poderá ser necessário reiniciar ou reconfigurar o equipamento para voltar a utilizar os serviços VoIP ou chamadas de emergência. Nos EUA, o número de emergência é o 911. É importante que saiba qual o número de emergência no seu país.**

¡Advertencia! **El servicio de voz sobre IP (VoIP) y el de llamadas de emergencia no funcionan si se interrumpe el suministro de energía. Tras recuperar el suministro es posible que deba que restablecer o volver a configurar el equipo para tener acceso a los servicios de VoIP y de llamadas de emergencia. En Estados Unidos el número de emergencia es el 911. Asegúrese de obtener el número de emergencia en su país.**

Varning! **Tjänsten Voice over IP (VoIP) och larmnummertjänsten fungerar inte vid strömavbrott. Efter att strömmen kommit tillbaka måste du kanske återställa eller konfigurera om utrustningen för att få tillgång till VoIP och larmnummertjänsten. I USA är det här larmnumret 911. Du bör ta reda på det larmnummer som gäller i ditt land.**

Az IP csatornán történő hangátvitel (VoIP) és a segélyhívó szolgáltatás nem működik, ha az áramellátás megszűnik vagy megszakad. Az áramellátás helyreállítását követően előfordulhat, hogy alaphelyzetbe kell állítani vagy újra kell konfigurálni a berendezést, hogy újra hozzáférhessen a VoIP és a segélyhívó szolgáltatáshoz. Az Egyesült Államokban a segélyhívó szám 911. Tisztában kell lennie a saját országának segélyhívó számával.

Предупреждение **Служба передачи голоса по IP (VoIP) и служба экстренных вызовов не будут работать, если произошел сбой питания. После восстановления питания, возможно, потребуется перенастроить оборудование, чтобы возобновить доступ к службе VoIP и службе экстренных вызовов. В США телефон службы экстренных вызовов 911. Вам необходимо знать телефон этой службы в своей стране.**

警告 如果电源出现故障或中断，您将无法使用 Voice over IP (VoIP) 服务与紧急呼叫服务。电源恢复之后，您可能需要重新设置或重新配置设备，以便重新获得进入 VoIP 与紧急呼叫服务的权限。在美国，此紧急呼叫号码是 911。您必须知道本国的紧急呼叫号码。

警告 電源障害や停電の場合、ボイス オーバー アイピー (VoIP) サービスと緊急呼出しサービスは機能しません。電源の回復後、VoIP と緊急呼出しサービスにアクセスするには機器をリセットまたは再設定する必要があります。米国内の緊急呼出し番号は 911 です。お住まいの地域の緊急呼出し番号をあらかじめ調べておいてください。

Updates for the Software Configuration Guides

This is the documentation update for the software configuration guides for this release:

- In the "Configuring Port-Based Traffic Control" chapter, the description of storm-control support on physical interfaces has been revised. This is the new text:

Note Storm control is supported on physical interfaces. You can also configure storm control on an EtherChannel. When storm control is configured on an EtherChannel, the storm control settings propagate to the EtherChannel physical interfaces.

- In the "Configuring Network Security with ACLs" chapter, the note in Step 3 of the "Configuring VLAN Maps" section is inaccurate. The correct text is:

Note If the VLAN map is configured with a match clause for a type of packet (IP or MAC) and the map action is drop, all packets that match the type are dropped. If the VLAN map has no match clause, and the configured action is drop, then all IP and Layer 2 packets are dropped.

- In the "Unsupported Commands" appendix, the **set ip next-hop verify-availability** route-map configuration command, the **ip accounting precedence** {**input** | **output**} interface configuration command, and the **boot buffersize** global configuration command are not supported.
- Some of the command syntax for the **diagnostic** and **show diagnostic** commands in the "Configuring Online Diagnostics" chapter of the *Catalyst 3750 Switch Software Configuration Guide*, Cisco IOS Release 12.2(25)SEE, is incorrect. These sections have the correct command syntax:
  - "diagnostic monitor Command" section on page 55
  - "diagnostic schedule Command" section on page 56
  - "diagnostic start Command" section on page 56
  - "show diagnostic Command" section on page 57

Updates for the Command Reference

This is the documentation update for the command references for this release:

- The usage guidelines for the **radius-server dead-criteria** global configuration command are incorrect. These are the correct usage guidelines.

  We recommend that you configure the *seconds* and *number* parameters as follows:
  - Use the **radius-server timeout** *seconds* global configuration command to specify the time in seconds during which the switch waits for a RADIUS server to respond before the IEEE 802.1x authentication times out. The switch dynamically determines the default *seconds* value that is from 10 to 60 seconds.
  - Use the **radius-server retransmit** *retries* global configuration command to specify the number of times the switch tries to reach the radius servers before considering the servers to be unavailable. The switch dynamically determines the default *tries* value that is from 10 to 100.
  - The *seconds* parameter is less than or equal to the number of retransmission attempts times the time in seconds before the IEEE 802.1x authentication times out.
  - The *tries* parameter should be the same as the number of retransmission attempts.

- The usage guidelines for the **dot1x pae** interface configuration command are incorrect. These are the correct guidelines:
- When you configure IEEE 802.1x authentication on a port, such as by entering the **dot1x port-control** interface configuration command, the switch automatically configures the port as an EEE 802.1x authenticator. After the **no dot1x pae** interface configuration command is entered, the Authenticator PAE operation is disabled.
- The commands for the online diagnostic feature have incorrect information. This is the correct information:

diagnostic monitor Command

The command syntax for the **diagnostic monitor** global configuration command is incorrect in the *Catalyst 3750 Switch Command Reference*, Cisco IOS Release 12.2(25)SEE. This is the correct command syntax:

diagnostic monitor switch {*num*} **test** {*test-id* | *test-id-range* | **all**}

diagnostic monitor interval switch {*num*} **test** {*test-id* | *test-id-range* | **all**} *hh:mm:ss milliseconds day*

diagnostic monitor syslog

diagnostic monitor threshold switch {*num*} **test** {*test-id* | *test-id-range* | **all**} **count failure** *count*

no diagnostic monitor switch {*num*} **test** {*test-id* | *test-id-range* | **all**}

no diagnostic monitor interval switch {*num*} **test** {*test-id* | *test-id-range* | **all**}

no diagnostic monitor syslog

no diagnostic monitor threshold switch {*num*} **test** {*test-id* | *test-id-range* | **all**} **failure count**

Syntax Description

switch *num*	Specify the switch number. The range is from 1 to 9.
test	Specify a test to run.
test-id	Identification number for the test to be run; see the “Usage Guidelines” section for additional information.
test-id-range	Range of identification numbers for tests to be run; see the “Usage Guidelines” section for additional information.
all	Run all the diagnostic tests.
interval	Specify an interval between tests to be run.
hh:mm:ss	Specify the number of time between tests; see the “Usage Guidelines” section for formatting guidelines.
milliseconds	Specify the time in milliseconds; valid values are 0 to 999.
day	Specify the number of days between tests; see the “Usage Guidelines” section for formatting guidelines. The rangs is from 0 to 20.
syslog	Enable the generation of a syslog message when a health-monitoring test fails.

threshold	Specify the failure threshold.
failure count *count*	Specify the failure threshold count.

diagnostic schedule Command

The command syntax for the **diagnostic schedule** global configuration command is incorrect in the *Catalyst 3750 Switch Command Reference*, Cisco IOS Release 12.2(25)SEE. This is the correct command syntax:

diagnostic schedule switch *num* **test** {*test-id* | *test-id-range* | **all** | **basic** | **non-disruptive**} {**daily** *hh*:*mm* | **on** *mm dd yyyy hh*:*mm* | **weekly** *day-of-week hh*:*mm*}

no diagnostic schedule switch *num* **test** {*test-id* | *test-id-range* | **all** | **basic** | **non-disruptive**} {**daily** *hh*:*mm* | **on** *mm dd yyyy hh*:*mm* | **weekly** *day-of-week hh*:*mm*}

Syntax Description

switch *num*	Specify the switch number. The range is from 1 to 9.
test	Specify the test to be scheduled.
test-id	Identification number for the test to be run; see the "Usage Guidelines" section for additional information.
test-id-range	Range of identification numbers for tests to be run; see the "Usage Guidelines" section for additional information.
all	Run all diagnostic tests.
basic	Run basic on-demand diagnostic tests.
non-disruptive	Run the nondisruptive health-monitoring tests.
daily *hh*:*mm*	Specify the daily scheduling of a test-based diagnostic task; see the "Usage Guidelines" section for formatting guidelines.
on *mm dd yyyy hh*:*mm*	Specify the scheduling of a test-based diagnostic task; see the "Usage Guidelines" section for formatting guidelines.
weekly *day-of-week hh*:*mm*	Specify the weekly scheduling of a test-based diagnostic task; see the "Usage Guidelines" section for formatting guidelines.

diagnostic start Command

The command syntax for the **diagnostic start** user EXEC command is incorrect in the *Catalyst 3750 Switch Command Reference*, Cisco IOS Release 12.2(25)SEE. This is the correct command syntax:

diagnostic start switch *num* **test** {*test-id* | *test-id-range* | **all** | **basic** | **non-disruptive**}

Syntax Description

switch *num*	Specify the switch number. The range is from 1 to 9.
test	Specify a test to run.
test-id	Identification number for the test to be run; see the "Usage Guidelines" section for additional information.
test-id-range	Range of identification numbers for tests to be run; see the "Usage Guidelines" section for additional information.

all	Run all diagnostic tests.
basic	Run basic on-demand diagnostic tests.
non-disruptive	Run the nondisruptive health-monitoring tests.

show diagnostic Command

The command syntax for the **show diagnostic** user EXEC command is incorrect in the *Catalyst 3750 Switch Command Reference*, Cisco IOS Release 12.2(25)SEE. This is the correct command syntax:

show diagnostic content switch [*num* | **all**] [| {**begin** | **exclude** | **include**} *expression*]

show diagnostic post [{**begin** | **exclude** | **include**} *expression*]

show diagnostic result switch [*num* | **all**] [**detail** | **test** {*test-id* | *test-id-range* | **all**} [**detail**]] [| {**begin** | **exclude** | **include**} *expression*]

show diagnostic schedule switch [*num* | **all**] [| {**begin** | **exclude** | **include**} *expression*]

show diagnostic status [| {**begin** | **exclude** | **include**} *expression*]

show diagnostic switch [*num* | **all**] [**detail**] [| {**begin** | **exclude** | **include**} *expression*]

Syntax Description

content	Display test information including test ID, test attributes, and supported coverage test levels for each test and for all modules.
switch *num*	Specify the switch number. The range is from 1 to 9.
switch all	Specify all of the switches in the switch stack.
post	Display the power-on self-test (POST) results; the command output is the same as the **show post** command.
result	Displays the test results.
detail	(Optional) Displays the all test statistics.
test	Specify a test.
test-id	Identification number for the test; see the "Usage Guidelines" section for additional information.
test-id-range	Range of identification numbers for tests; see the "Usage Guidelines" section for additional information.
all	All the tests.
schedule	Displays the current scheduled diagnostic tasks.
status	Displays the test status.
|begin	(Optional) Display begins with the line that matches the expression.
|exclude	(Optional) Display excludes lines that match the expression.
|include	(Optional) Display includes lines that match the specified expression.
expression	Expression in the output to use as a reference point.

Related Documentation

These documents provide complete information about the Catalyst 3750, 3560, 2970, and 2960 switches and the Cisco EtherSwitch service modules and are available at Cisco.com:

- http://www.cisco.com/en/US/products/hw/switches/ps5023/tsd_products_support_series_home.html
- http://www.cisco.com/en/US/products/hw/switches/ps5528/tsd_products_support_series_home.html
- http://www.cisco.com/en/US/products/hw/switches/ps5206/tsd_products_support_series_home.html
- http://www.cisco.com/en/US/products/ps6406/tsd_products_support_series_home.html

You can order printed copies of documents with a DOC-xxxxxx= number from the Cisco.com sites and from the telephone numbers listed in the "Obtaining Documentation, Obtaining Support, and Security Guidelines" section on page 60.

These documents provide complete information about the Catalyst 3750 switches and the Cisco EtherSwitch service modules:

- *Catalyst 3750 Switch Software Configuration Guide* (not orderable but available on Cisco.com)
- *Catalyst 3750 Switch Command Reference* (not orderable but available on Cisco.com)
- *Catalyst 3750, 3560, 3550, 2970, and 2960 Switch System Message Guide* (not orderable but available on Cisco.com)
- Device manager online help (available on the switch)
- *Catalyst 3750 Switch Hardware Installation Guide* (not orderable but available on Cisco.com)
- *Catalyst 3750 Getting Started Guide (*order number DOC-7816663=)
- *Regulatory Compliance and Safety Information for the Catalyst 3750 Switch* (order number DOC-7816664)

These documents provide complete information about the Catalyst 3560 switches:

- *Catalyst 3560 Switch Software Configuration Guide* (not orderable but available on Cisco.com)
- *Catalyst 3560 Switch Command Reference* (not orderable but available on Cisco.com)
- *Catalyst 3750, 3560, 3550, 2970, and 2960 Switch System Message Guide* (not orderable but available on Cisco.com)
- Device manager online help (available on the switch)
- *Catalyst 3560 Switch Hardware Installation Guide* (not orderable but available on Cisco.com)
- *Catalyst 3560 Switch Getting Started Guide (*order number DOC-7816660=)
- *Regulatory Compliance and Safety Information for the Catalyst 3560 Switch* (order number DOC-7816665)

These documents provide complete information about the Catalyst 2970 switches:

- *Catalyst 2970 Switch Software Configuration Guide* (not orderable but available on Cisco.com)
- *Catalyst 2970 Switch Command Reference* (not orderable but available on Cisco.com)
- *Catalyst 3750, 3560, 3550, 2970, and 2960 Switch System Message Guide* (not orderable but available on Cisco.com)
- Device manager online help (available on the switch)
- *Catalyst 2970 Switch Hardware Installation Guide* (not orderable but available on Cisco.com)
- *Catalyst 2970 Switch Getting Started Guide* (order number DOC-7816685=)

- *Regulatory Compliance and Safety Information for the Catalyst 2970 Switch* (order number DOC-7816686=)

These documents provide complete information about the Catalyst 2960 switches:

- *Catalyst 2960 Switch Software Configuration Guide* (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Command Reference* (not orderable but available on Cisco.com)
- *Catalyst 3750, 3560, 3550, 2970, and 2960 Switch System Message Guide* (not orderable but available on Cisco.com)
- Device manager online help (available on the switch)
- *Catalyst 2960 Switch Hardware Installation Guide* (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide* (order number DOC-7816879=)

Note The above getting started guide, orderable in print, provides information in all supported languages. Listed below are online-only getting started guides in the individual languages.

- *Catalyst 2960 Switch Getting Started Guide*—English (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide*—Chinese (Simplified) (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide*—French (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide*—German (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide*—Italian (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide*—Japanese (not orderable but available on Cisco.com)
- *Catalyst 2960 Switch Getting Started Guide*—Spanish (not orderable but available on Cisco.com)
- *Regulatory Compliance and Safety Information for the Catalyst 2960 Switch* (order number DOC-7816880=)

For other information about related products, see these documents:

- *Getting Started with Cisco Network Assistant* (not orderable but available on Cisco.com)
- *Release Notes for Cisco Network Assistant* (not orderable but available on Cisco.com)
- *Cisco Small Form-Factor Pluggable Modules Installation Notes* (order number DOC-7815160=)
- *Cisco CWDM GBIC and CWDM SFP Installation Note* (not orderable but available on Cisco.com)
- *Cisco RPS 300 Redundant Power System Hardware Installation Guide* (order number DOC-7810372=)
- *Cisco RPS 675 Redundant Power System Hardware Installation Guide* (order number DOC-7815201=)
- *Network Admission Control Software Configuration Guide* (not orderable but is available on Cisco.com)

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

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

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This document is to be used in conjunction with the documents listed in the "Related Documentation" section.

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.