Release Notes for the Catalyst 4900 Series Switch, Cisco IOS Release 12.2(54)SGx and 12.2(53)SGx

Current Release
12.2(53)SG10—December 18, 2013

Previous Releases
12.2(54)SG1,12.2(54)SG, 12.2(53)SG9, 12.2(53)SG8, 12.2(53)SG7, 12.2(53)SG6, 12.2(53)SG5, 12.2(54)SG4, 12.2(53)SG3, 12.2(53)SG2, 12.2(53)SG1, 12.2(53)SG, 12.2(52)SG, 12.2(50)SG8, 12.2(50)SG7, 12.2(50)SG6, 12.2(50)SG4, 12.2(50)SG2, 12.1(50)SG1, 12.2(50)SG, 12.2(46)SG, 12.2(44)SG1, 12.2(44)SG, 12.2(37)SG1, 12..2(37)SG, 12.2(31)SGA11, 12.2(31)SGA10, 12.2(31)SGA9, 12.2(31)SGA8, 12.2(31)SGA7, 12.2(31)SGA6, 12.2(31)SGA5, 12.2(31)SGA4, 12.2(31)SGA3, 12.2(31)SGA2, 12.2(31)SGA1, 12.2(31)SGA, 12.2(31)SG3, 12.2(31)SG2, 12.2(31)SG1, 12.2(31)SG, 112.2(25)SG4, 2.2(25)SG3, 12.2(25)SG2, 12.2(25)SG1, 12.2(25)SG, 12.2(25)EWA14, 12.2(25)EWA13, 12.2(25EWA12, 12.2(25)EWA11, 12.2(25)EWA10, 12.2(25)EWA9, 12.2(25)EWA8, 12.2(25)EWA7, 12.2(25)EWA6, 12.2(25)EWA5, 12.2(25)EWA4, 12.2(25)EWA3, 12.2(25)EWA2, 12.2(25)EWA1, 12.2(25)EW, 12.2(20)EWA4, 12.2(20)EWA3, 12.2(20)EWA2, 12.2(20)EWA1, 12.2(20)EWA

These release notes describe the features, modifications, and caveats for the Cisco IOS software on the Catalyst 4900 series switch. The most current software release is Cisco IOS Release 12.2(54)SG.

Support for Cisco IOS Software Release 12.2(54)SG, the default image, follows the standard Cisco Systems® support policy, available at
http://www.cisco.com/en/US/products/products_end-of-life_policy.html

Note Although their *Release Notes* are unique, the 4 platforms (Catalyst 4500, Catalyst 4900, Catalyst ME 4900, and Catalyst 4900M/4948E) use the same *Software Configuration Guide*, *Command Reference Guide*, and *System Message Guide*.

For more information on the Catalyst 4500 series switches, visit the following URL:

http://www.cisco.com/go/cat4500/docs

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Contents

This publication consists of these sections:

Cisco IOS Software Packaging for the Cisco Catalyst 4900 Series Switch

A new Cisco IOS Software package for Cisco Catalyst 4900 Series switches was introduced in Cisco IOS Software Release 12.2(25)SG. It is a new foundation for features and functionality and provides consistency across all Cisco Catalyst switches. The new Cisco IOS Software release train is designated as 12.2SG.

Prior Cisco Catalyst 4900 Series Cisco IOS Software images for the Cisco Catalyst 4900 Series Switches, formerly known as Basic Layer 3 and Enhanced Layer 3, now map to IP Base and Enterprise Services, respectively. All currently shipping Cisco Catalyst 4900 software features based on Cisco IOS Software are supported in the IP Base image of Release 12.2(54)SG with a few exceptions.

The IP Base image does not support enhanced routing features such as Nonstop Forwarding/Stateful Switchover (NSF/SSO), BGP, Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Intermediate System-to-Intermediate System (IS-IS), Internetwork Packet Exchange (IPX), AppleTalk, Virtual Routing Forwarding (VRF-lite), GLBP, and policy-based routing (PBR). The IP Base image supports EIGRP-Stub for limited routing on Cisco Catalyst 4900 Series Switches.

The Enterprise Services image supports all Cisco Catalyst 4900 Series software features based on Cisco IOS Software, including enhanced routing. BGP capability is included in the Enterprises Services package.

Cisco IOS Release 12.2(46)SG1 introduced a LAN Base software image and an IP upgrade image for the fixed configuration switches, WS-X4948 and WS-X4948-10GE. These will complement the existing IP Base and Enterprise Services images. The LAN Base image is primarily focused on customer access and Layer 2 requirements and therefore many of the IP Base features are not required. An IP Upgrade image is available if later you require some of those features.

For more information about the Cisco Catalyst 4900 series switch, visit http://www.cisco.com/en/US/products/ps6021/index.html

Table 1 contrasts feature support on the LAN Base vs IP Base images.

For information on MiBs support, pls refer to this URL:
http://ftp.cisco.com/pub/mibs/supportlists/cat4000/cat4000-supportlist.html

Table 1 LAN Base/IP Base Image Support

Feature	LAN Base	IP Base	Enterprise Services
10G Uplink Use	12.2(46)SG1	Yes	Yes
802.1p prioritization	12.2(46)SG1	Yes	Yes
802.1p/802.1q	12.2(46)SG1	Yes	Yes
802.1w/802.1s	12.2(46)SG1	Yes	Yes
802.1X (w/ Guest VLAN and VLAN Assignment)	12.2(50)SG	Yes	Yes
802.1X and MAB with ACL assignment	12.2(50)SG	Yes	Yes
802.1X (Auth-Fail VLAN, Critical Auth, Accounting)	12.2(50)SG	Yes	Yes
802.1X Wake on LAN	12.2(50)SG	Yes	Yes
802.1X Web-Auth	12.2(50)SG	Yes	Yes
802.1X with Multiple authenticated, multi-host	12.2(50)SG	Yes	Yes
802.1X w/ MDA	12.2(50)SG	Yes	Yes
802.1X w/ Open Access	12.2(50)SG	Yes	Yes
802.3ad LACP	12.2(46)SG1	Yes	Yes
802.3x – Flow Control	12.2(46)SG1	Yes	Yes
ACL Logging	12.2(46)SG1	Yes	Yes
All Mibs	12.2(52)SG	Yes	Yes
Auto QoS	12.2(53)SG	Yes	Yes
Auto SmartPort	12.2(54)SG	Yes	Yes
Auto-MDIX	12.2(46)SG1	Yes	Yes
Auto-Voice VLAN (part of Auto QoS)	No support	Yes	Yes
BOOTP	12.2(46)SG1	Yes	Yes
Bootup GOLD	No support	Yes	Yes
Broadcast Suppression	12.2(46)SG1	Yes	Yes
CDP/CDPv2	12.2(46)SG1	Yes	Yes

Table 1 LAN Base/IP Base Image Support

Feature	LAN Base	IP Base	Enterprise Services
Community PVLAN support	No support	Yes	Yes
Config File	12.2(46)SG1	Yes	Yes
Console Access	12.2(46)SG1	Yes	Yes
Control Plane Policing	12.2(46)SG1	Yes	Yes
Copy Command	12.2(46)SG1	Yes	Yes
CoS to DSCP Map	Yes	Yes	Yes
Debug Commands	12.2(46)SG1	Yes	Yes
Device Management	12.2(46)SG1	Yes	Yes
DHCP Server	12.2(46)SG1	Yes	Yes
DHCP Snooping	12.2(46)SG1	Yes	Yes
Diagnostics Tools	12.2(46)SG1	Yes	Yes
Downloading Software	12.2(46)SG1	Yes	Yes
DSCP to CoS Map	12.2(46)SG1	Yes	Yes
DSCP to egress queue mapping	12.2(46)SG1	Yes	Yes
Dynamic ARP inspection	12.2(46)SG1	Yes	Yes
EEM and EOT integration	No support	Yes	Yes
EIGRP Stub	No support	Yes	Yes
EnergyWise 1.0	12.2(53)SG	Yes	Yes
EPoE	12.2(53)SG	Yes	Yes
Event Log	12.2(46)SG1	Yes	Yes
Factory Default Settings	12.2(46)SG1	Yes	Yes
File Management	12.2(46)SG1	Yes	Yes
Flex Link	12.2(53)SG	Yes	Yes
GLBP	No support	Yes	Yes
HSRP/VRRP	No support	Yes	Yes
HSRP v2 IPV4[1]	No support	Yes	Yes

Table 1 LAN Base/IP Base Image Support

Feature	LAN Base	IP Base	Enterprise Services
HSRP v2 IPV6[2]	No support	No	Yes
ID 4.0 Voice Vlan assignment	12.2(46)SG1	Yes	Yes
ID4.1 Filter ID and per use ACL	12.2(46)SG1	Yes	Yes
IGMP	12.2(46)SG1	Yes	Yes
IGMP Snooping	12.2(46)SG1	Yes	Yes
Ingress Policing	12.2(46)SG1	Yes	Yes
Interface Access (Telnet, Console/Serial, Web)	12.2(46)SG1	Yes	Yes
IP Source Guard	12.2(46)SG1	Yes	Yes
IP Multicast	No support	Yes	Yes
IPv6 HSRP	No support	No	Yes
IPV6 MLD snooping V1 and V2	Future	Yes	Yes
IPV6 Reformation	NA	Yes	Yes
IPV6 Router Advertisement (RA) Guard	12.2(54)SG	Yes	Yes
ISL Trunk	12.2(46)SG1	Yes	Yes
Jumbo Frames	12.2(46)SG1	Yes	Yes
Layer 2 Debug	12.2(46)SG1	Yes	Yes
Layer 2 PT and QinQ	No support	Yes	Yes
Layer 2 Traceroute	12.2(46)SG1	Yes	Yes
Link State Tracking	12.2(54)SG	Yes	Yes
LLDP/LLDP-MED	12.2(52)SG	Yes	Yes
LLDP enhancements (PoE+Layer 2 COS)	12.2(54)SG	No	Yes
Local Web Auth	12.2(52)SG	Yes	Yes
MAB (MAC Authentication Bypass)	12.2(50)SG	Yes	Yes
MAC Address Filtering	12.2(50)SG	Yes	Yes
MAC Based Access List	12.2(50)SG	Yes	Yes
Management IPV6 port	12.2(52)SG	Yes	Yes

Table 1 LAN Base/IP Base Image Support

Feature	LAN Base	IP Base	Enterprise Services
MLD Snooping	12.2(53)SG	Yes	Yes
Multicast Filtering	12.2(46)SG1	Yes	Yes
Multihop SXP (CTS)	No support	12.2(52SG	Yes
Network Edge Access Topology (NEAT)	No support	Yes	Yes
No. of QoS Filters No. of Security ACE	Yes (4K entries)	Yes	Yes
No. of VLAN Support	2048	4096	Yes
PAgP	12.2(46)SG1	Yes	Yes
Passwords Password clear protection	12.2(46)SG1	Yes	Yes
PIM SM/DM	No support	Yes	Yes
PoE (up to 15.4W only)	12.2(46)SG1	Yes	Yes
PoE+ Ready	Yes	Yes	Yes
Port Monitoring (interface Stats)	12.2(46)SG1	Yes	Yes
Port Security	12.2(46)SG1	Yes; only 1024 MACs	Yes
Post Status	12.2(46)SG1	Yes	Yes
PVST+	12.2(53)SG	Yes	Yes
Q-in-Q	No support	Yes	Yes
RACL (DSCP based)	12.2(46)SG1	Yes	Yes
RADIUS/TACACS+ (AAA)	12.2(46)SG1	Yes	Yes
RMON	12.2(46)SG1	Yes	Yes
Routing – RIP, Static	12.2(46)SG1	Yes	Yes
RPR	12.2(46)SG1	Yes	Yes
RPVST+	12.2(53)SG	Yes	Yes
RSPAN	12.2(46)SG1	Yes	Yes
Service Advertisement Framework (SAF)	12.2(54)SG	Yes	Yes

Table 1 LAN Base/IP Base Image Support

Feature	LAN Base	IP Base	Enterprise Services
Smart Call Home	No support	Yes	Yes
Smartports (Role based MACRO)	12/2(53)SG	Yes	Yes
SNMP (including SNMv3)	12.2(46)SG1	Yes	Yes
Source port Filtering (Private VLAN)	12.2(46)SG1	Yes	Yes
SPAN (# of sessions) – Port Mirroring	12.2(46)SG1 (2 sessions)	Yes (8 bidirectional sessions)	Yes
SSHv2/Secure Copy, FTP, SSL, Syslog, Sys Information	12.2(46)SG1	Yes	Yes
Storm Control	12.2(46)SG1	Yes	Yes
TDR	No support	Yes	Yes
Time Protocols (SNTP, TimeP)	12.2(46)SG1	Yes	Yes
Time-based ACL	12.2(46)SG1	Yes	Yes
Traffic Mirroring (SPAN)	12.2(46)SG1	Yes	Yes
Trusted Boundary (LLDP & CDP Based)	12.2(46)SG1	Yes	Yes
UDLD	12.2(46)SG1	Yes	Yes
VACL and PACL	12.2(46)SG1	Yes	Yes
Voice VLAN	12.2(46)SG1	Yes	Yes
VRRP	No support	Yes	Yes
VTP	12.2(46)SG1	Yes	Yes
WCCP	No support	Yes	Yes
XML-PI	12.2(54)SG	Yes	Yes

1. Supported on all supervisor engines.
2. Supported only for Catalyst 4900M and Supervisor Engines 6-E/6L-E.

Note With the LAN Base image, 10GbE uplinks are supported on the Catalyst 4948-10GE switch but not the Catalyst 4948 switch.

Orderable Product Numbers:

- S49LB-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900 Series Switch (LAN Base image)

- S49LBK9-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900 Series Switch (LAN Base image with Triple Data Encryption)
- S49IPB-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900 Series Switch (IP Base image)
- S49IPBK9-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900 Series Switch (IP Base image with Triple Data Encryption)
- S49ES-12254SG(=)— Cisco IOS Software for Cisco Catalyst 4900 Series Switch (Enterprise Services image with BGP support)
- S49ESK9-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900 Series Switch (Enterprise Services image with 3DES and BGP support)
- S49ES-12253SG - Cisco IOS Software for Cisco Catalyst 4900 Series Switches (Enterprise Services image with BGP support)
- S49ESK9-12253SG - Cisco IOS Software for Cisco Catalyst 4900 Series Switches (Enterprise Services image with 3DES and BGP support)
- S49IPB-12253SG - Cisco IOS Software for Cisco Catalyst 4900 Series Switches (IP Base image)
- S49IPBK9-12253SG - Cisco IOS Software for Cisco Catalyst 4900 Series Switches (IP Base image with 3DES)
- S49LB-12253SG - Cisco IOS Software for Cisco Catalyst 4900 Series Switches (LAN Base image)
- S49LBK9-12253SG - Cisco IOS Software for Cisco Catalyst 4900 Series Switches (LAN Base image with 3DES)
- WS-C4900-SW-LIC - Catalyst 4948 IP Base Upgrade License for LAN Base IOS
- S49ES-12252SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with BGP support) (cat4500-entservices-mz)
- S49ESK9-12252SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES and BGP) (cat4500-entservicesk9-mz)
- S49IPB-12252SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12252SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49IPB-12250SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12250SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12250SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with BGP support) (cat4500-entservices-mz)
- S49ESK9-12250SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES and BGP) (cat4500-entservicesk9-mz)
- S49IPB-12246SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12246SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12246SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with BGP support) (cat4500-entservices-mz)

- S49ESK9-12246SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES and BGP) (cat4500-entservicesk9-mz)
- S49IPB-12244SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12244SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12244SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with BGP support) (cat4500-entservices-mz)
- S49ESK9-12244SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES and BGP) (cat4500-entservicesk9-mz)
- S49IPB-12240SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12240SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12240SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with BGP support) (cat4500-entservices-mz)
- S49ESK9-12240SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES and BGP) (cat4500-entservicesk9-mz)
- S49IPB-12237SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12237SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12237SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image) (cat4500-entservices-mz)
- S49ESK9-12237SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES) (cat4500-entservicesk9-mz)
- S49IPB-12231SGA—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12231SGA—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12231SGA—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image) (cat4500-entservices-mz)
- S49ESK9-12231SGA—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES) (cat4500-entservicesk9-mz)

Note We recommend that you load 12.2(31)SGA8.

- S49IPB-12231SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12231SG—Cisco IOS software for the Catalyst 4900 Series (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12231SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image) (cat4500-entservices-mz)

- S49ESK9-12231SG—Cisco IOS software for the Catalyst 4900 Series (Enterprise Services image with 3DES) (cat4500-entservicesk9-mz)
- S49IPB-12225SG—Cisco IOS software for the Catalyst 4900 Series Switch (IP Base image) (cat4500-ipbase-mz)
- S49IPBK9-12225SG—Cisco IOS software for the Catalyst 4900 Series Switch (IP Base image with Triple Data Encryption Standard (3DES)) (cat4500-ipbasek9-mz)
- S49ES-12225SG—Cisco IOS software for the Catalyst 4900 Series Switch (Enterprise Services image with BGP support) (cat4500-entservices-mz)
- S49ESK9-12225SG—Cisco IOS software for the Catalyst 4900 Series Switch (Enterprise Services image with 3DES and BGP support) (cat4500-entservicesk9-mz)
- S4KL3-12225EWA—Cisco IOS software for the Catalyst 4900 series switch, basic Layer 3 and voice software image (RIPv1, RIPv2, Static Routes, AppleTalk, and IPX Software Routing, Release 12.2(25)EWA (cat4000-i9s-mz.122-25.EWA)
- S4KL3E-12225EWA—Cisco IOS software for the Catalyst 4900 series switch, enhanced Layer 3 and voice software image including OSPF, IS-IS, and EIGRP, Release 12.2(25)EWA (cat4000-i5s-mz.122-25.EWA)
- S4KL3K9-12225EWA—Cisco IOS software for the Catalyst 4900 series switch, with 3DES strong encryption, basic Layer 3 and voice software image (SSHv1, SSHv2, RIPv1, RIPv2, static routes, AppleTalk, and IPX), Release 12.2(25)EWA (cat4000-i9k9s-mz.122-25.EWA)
- S4KL3EK9-12225EWA—Cisco IOS software for the Catalyst 4900 series switch, with 3DES strong encryption, enhanced Layer 3 and voice software image including (OSPF, IS-IS, IGRP, and EIGRP), Release 12.2(25)EWA (cat4000-i5k9s-mz.122-25.EWA)
- S4KL3-12220EWA—Cisco IOS software for the Catalyst 4900 series switch, basic Layer 3 and voice software image (RIPv1, RIPv2, Static Routes, AppleTalk, and IPX Software Routing, Release 12.2(20)EWA (cat4000-i9s-mz.122-20.EWA)
- S4KL3E-12220EWA—Cisco IOS software for the Catalyst 4900 series switch, enhanced Layer 3 and voice software image including OSPF, IS-IS, and EIGRP, Release 12.2(20)EWA (cat4000-i5s-mz.122-20.EWA)
- S4KL3K9-12220EWA—Cisco IOS software for the Catalyst 4900 series switch, with 3DES strong encryption, basic Layer 3 and voice software image (SSHv1, SSHv2, RIPv1, RIPv2, static routes, AppleTalk, and IPX), Release 12.2(20)EWA (cat4000-i9k9s-mz.122-20.EWA)
- S4KL3EK9-12220EWA—Cisco IOS software for the Catalyst 4900 series switch, with 3DES strong encryption, enhanced Layer 3 and voice software image including (OSPF, IS-IS, IGRP, and EIGRP), Release 12.2(20)EWA (cat4000-i5k9s-mz.122-20.EWA)
- S4KL3-12220EW—Cisco IOS software for the Catalyst 4900 series switch, basic Layer 3 and voice software image (RIPv1, RIPv2, Static Routes, AppleTalk, and IPX), Release Software Routing, Release 12.2(20)EW (cat4000-i9s-mz.122-20.EW)
- S4KL3E-12220EW—Cisco IOS software for the Catalyst 4900 series switch, enhanced Layer 3 and voice software image including OSPF, IS-IS, and EIGRP, Release 12.2(20)EW (cat4000-i5s-mz.122-20.EW)
- S4KL3K91-12220EW—Cisco IOS software for the Catalyst 4900 series switch, with 3DES strong encryption, basic Layer 3 and voice software image (SSHv1, SSHv2, RIPv1, RIPv2, static routes, AppleTalk, and IPX), Release 12.2(20)EW (cat4000-i9k91s-mz.122-20.EW)
- S4KL3EK91-12220EW—Cisco IOS software for the Catalyst 4900 series switch, with 3DES strong encryption, enhanced Layer 3 and voice software image including (OSPF, IS-IS, and EIGRP), Release 12.2(20)EW (cat4000-i5k91s-mz.122-20.EW)

Catalyst 4900 Series Switch Cisco IOS Release Strategy

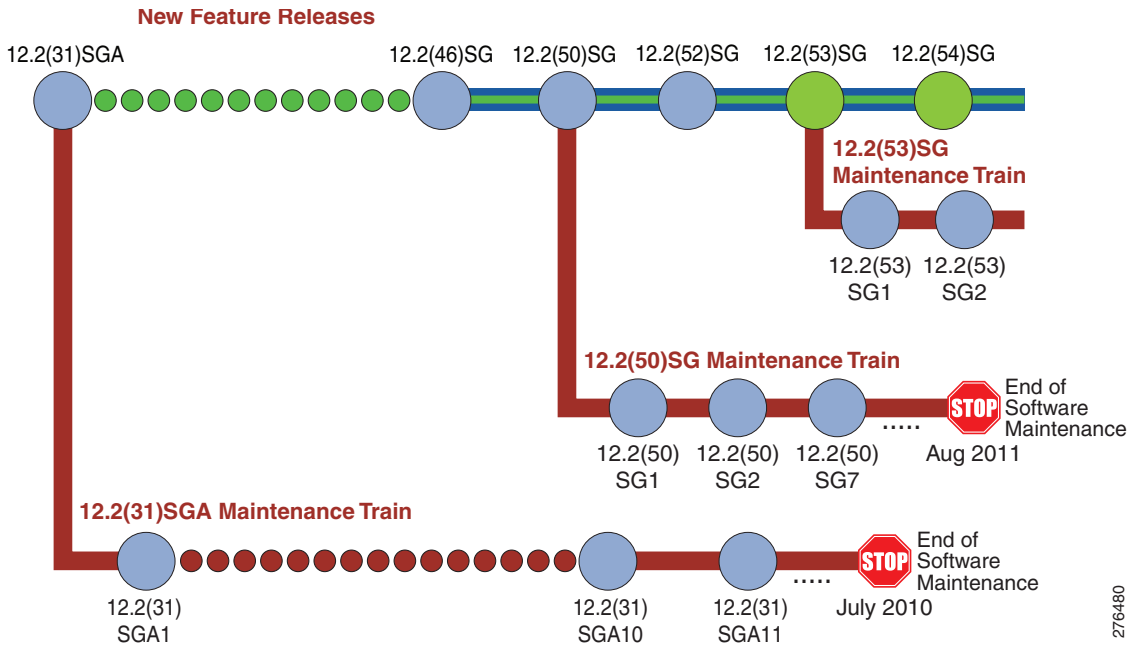
Customers with Catalyst 4900 series switches who need the latest hardware support and software features should migrate to Cisco IOS Release 12.2(54)SG.

Catalyst 4900 Series has three maintenance trains. The Cisco IOS Release 12.2(31)SGA train is the longest living train. Currently, the Cisco IOS Release 12.2(31)SGA10 is the recommended release for customers who require a release with a maintenance train. The Cisco IOS Release 12.2(53)SG is the latest maintenance train.

Cisco IOS Software Migration

Figure 1 displays the two active, 12.2(31)SGA and 12.2(50)SG, and newly introduced 12.2(53)SG extended maintenance trains.

Figure 1 Software Release Strategy for the Catalyst 4900 Series Switch



Summary of Migration Plan

- Customers requiring the latest Cisco Catalyst 4900 Series hardware and software features should migrate to Cisco IOS Software Release 12.2(54)SG.
- Cisco IOS Software Release 12.2(31)SGA and 12.2(50)SG will continue offering maintenance releases. The latest release from the 12.2(31)SGA maintenance train is 12.2(31)SGA10. The latest release from the 12.2(50)SG maintenance train is 12.2(50)SG3.

Support

Support for Cisco IOS Software Release 12.2(54)SG follows the standard Cisco Systems® support policy, available at
http://www.cisco.com/en/US/products/products_end-of-life_policy.html

System Requirements

This section describes the system requirements:

- Supported Hardware, page 12
- Supported Features, page 13
- Unsupported Features, page 20

Supported Hardware

This section describes the hardware supported on the Catalyst 4900 series switch.

For Catalyst 4900 series switch transciever module compatibility information, see the url:

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

Table 2 briefly describes the Catalyst 4900 series switch product set.

Table 2 WS-4948 and WS-4948-10GE

Product Number (append with "=" for spares)	**Product Description**	**Software Release**
		Minimum
WS-X4948	48-port 10/100/1000 Catalyst 4948 switch, optional software image, optional power supplies, fan tray	12.2(20)EWA
WS-X4948-S	48-port 10/100/1000 Catalyst 4948 switch, SMI, one AC power supply, fan tray	12.2(20)EWA
WS-X4948-E	48-port 10/100/1000 Catalyst 4948 switch, EMI, one AC power supply, fan tray	12.2(20)EWA
WS-X4948-10GE	48-port 10/100/1000 2-10GE Catalyst 4948 switch, optional software image, optional power supplies, fan tray	12.2(25)EWA
WS-X4948-10GE-S	48-port 10/100/1000 2-10GE Catalyst 4948 switch, SMI, one AC power supply, fan tray	12.2(25)EWA
WS-X4948-10GE-E	48-port 10/100/1000 2-10GE Catalyst 4948 switch, EMI, one AC power supply, fan tray	12.2(25)EWA
WS-C4928-10GE	24 Gigabit Ethernet Small Form-Factor Pluggable (SFP) downlinks, 4 Gigabit Ethernet SFP uplinks, two 10 Gigabit Ethernet X2 uplinks, redundant field-replaceable AC and DC power supplies, fan tray with redundant fans, 1 rack unit (RU) form factor	12.2(46)SG

Supported Features

Table 3 lists the Cisco IOS software features for the Catalyst 4900 series switch.

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch

Layer 2 Switching Features
Storm control
Multicast storm control
IP Source Guard
IP Source Guard for Static Hosts
PVRST+
Layer 2 protocol tunneling
Layer 2 transparent bridging[1]
Layer 2 MAC[2] learning, aging, and switching by software
Unicast MAC address filtering
VMPS[3] Client
Layer 2 hardware forwarding up to 102 Mpps
Layer 2 switch ports and VLAN trunks
Spanning-Tree Protocol (IEEE 802.1D) per VLAN
802.1s and 802.1w
Layer 2 traceroute
Unidirectional Ethernet port
Per-VLAN spanning tree (PVST) and PVST+
Spanning-tree root guard
Spanning-tree Loop guard and PortFast BPDU Filtering
Support for 9216 byte frames
Port security on PVLANs
Private VLANs
Private VLAN DHCP snooping
Community PVLANs
Private VLAN Promiscuous Trunk
ISL
IEEE 802.1Q-based VLAN encapsulation
Multiple VLAN access port
VLAN Trunking Protocol (VTP) and VTP domains
VTP v3
No. of VLAN support per switch: 2048 (for LAN Base), 4096 (for IP Base)
Unidirectional link detection (UDLD) and aggressive UDLD
Sub-second UDLD (Fast UDLD)

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch (continued)

Resilient Ethernet Protocol
Ethernet CFM
Ethernet OAM Protocol
Layer 3 Routing, Switching, and Forwarding
802.1Q Tunneling (Q in Q)
QinQ and Protocol Tunneling
Pragmatic General Multicast
ANCP Client
Auto RP Listener
IP and IP multicast routing and switching between Ethernet ports
IP Multicast Load Splitting (Equal Cost Multipath (ECMP) using S, G and Next-hop)
Static IP routing
Classless routing[4]
PBR[5]
Dynamic Buffer Limiting
Selective Dynamic Buffer Limiting
QoS-based forwarding based on IP precedence
Trusted boundary
Auto QoS
Match CoS for non-IPV4 traffic
CoS Mutation
CEF[6] load balancing
Hardware-based IP CEF routing at 102 Mpps
Up to 32,000 IP routes
Up to 32,000 IP host entries (Layer 3 adjacencies)
Up to 16,000 IP multicast route entries
Up to 55,000 unicast entries
Multicast flooding suppression for STP changes
Software routing of IPX, AppleTalk, and IPv6
IGMPv1, IGMPv2, and IGMPv3 (Full Support)
IGMP Querier
VRF-lite
VRF-aware IP services
VRF-aware TACACS+
Route Leaking[7]
IP Unnumbered
SVI Autostate Exclude

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch (continued)

Supported Protocols
IS-IS[8]
DTP[9]
RIP[10] and RIP II
EIGRP[11]
EIGRP stub
OSPF[12]
BGP4[13]
BGP route-map Continue
BGP Neighbor Policy
MBGP[14]
MSDP[15]
ICMP[16] Router Discovery Protocol
PIM[17]—sparse and dense mode
Static routes
Classless interdomain routing (CIDR)
DVMRP[18]
SSM
NTP[19]
NTP master
WCCPv2 Layer 2 Redirection
VRRP[20]
SCP[21]
GLBP[22]
EtherChannel Features
Cisco EtherChannel technology - 10/100/1000 Mbps, 10 Gbps
Load balancing for routed traffic, based on source and destination IP addresses
Load sharing for bridged traffic based on MAC addresses
ISL on all EtherChannels
IEEE 802.1Q on all EtherChannels
Bundling of up to eight Ethernet ports
Up to 50 active Ethernet port channels
Trunk Port Security over EtherChannel
Link State Tracking
Additional Protocols and Features
SPAN CPU port mirroring
SPAN packet-type filtering
SPAN destination in-packets option

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch (continued)

SPAN ACL filtering
RSPAN[23]
Enhanced VLAN statistics
Secondary addressing
Bootstrap protocol (BOOTP)
Authentication, authorization, and accounting using TACACS+ and RADIUS protocol
Cisco Discovery Protocol (CDP)
CDP 2nd Port Status TLV
MAC Address-Table Move Update
Flex Link Bi-directional Fast Convergence
Flex Link VLAN Load-Balancing
Flex Links
Flex Links Interface Preemption
Network Mobility Services Protocol
Link Layer Discovery Protocol (LLDP)
LLDP Media Discovery (LLDP-MED)
PoEP via LLDP
DSCP/CoS via LLDP
Sticky port security
Trunk port security
Voice VLAN Sticky Port Security
Cisco Group Management Protocol (CGMP) server support
HSRP[24] over Ethernet, EtherChannels - 10/100/1000Mbps, 10 Gbps
IGMP[25] snooping version1, version 2, and version 3 (Full Support)
IGMP filtering
Port Aggregation Protocol (PagP)
802.3ad LACP
SSH version 1 and version 2[26]
show interface capabilities command
IfIndex persistence
UDLR[27]
Enhanced SNMP MIB support
SNMP[28] version 1, version 2, and version 3
SNMP version 3 (with encryption)
DHCP server and relay-agent
DHCP snooping
DHCP client autoconfiguration

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch (continued)

DHCP Option 82 Pass Through
802.1X port-based authentication
802.1X with port security
802.1X accounting
802.1X with voice VLAN ID[29]
802.1X private VLAN assignment
802.1X private guest VLAN
802.1X RADIUS-supplied session timeout
802.1X authentication failure VLAN
802.1X MAC Authentication Bypass
802.1X Inaccessible Authentication Bypass
802.1X Unidirectional Controlled Port
802.1X with User Distribution
Cisco TrustSec SGT Exchange Protocol (SXP) IPv4
RADIUS-Provided Session Timeouts
MAC Move and Replace
Flexible Authentication Sequencing
Multi-Authentication
Open Authentication
Web Authentication
Local Web Authentication (EPM syslog and Common session ID)
PPPoE Intermediate Agent
Control Plane Policing
Port flood blocking
Router standard and extended ACLs [30]on all ports with no performance penalty
Identity ACL Policy Enforcement[31]
Identity 4.1 Network Edge Access Topology
Extended IPX ACL
VLAN ACL
PACL[32]
Downloadable ACLs
Local Proxy ARP
Dynamic ARP Inspection on PVLANs
Dynamic ARP Inspection
Per-port QoS[33] rate-limiting and shaping
Per-port Per-VLAN QoS
Energy Wise

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch (continued)

Power redundancy
Non-stop Forwarding Awareness
Non-stop Forwarding Awareness for EIGRP-stub in IP base for all supervisor engines
WCCP[34]v2 Layer 2 Redirection
MAC Address Notification
SmartPort macros
Auto SmartPort macros
802.1s standards compliance
IS-IS MIB
OSPF and EIGRP Fast Convergence
OSPF Fast Convergence
Time Domain Reflectometry
CNA[35]
EEM[36]
VSS client with PagP+
Ethernet Management Port
IP SLA[37]
X2 Link Debounce Timer
Enhanced Object Tracking subfeatures: • HSRP with EOT • VRRP with EOT • GLBP with EOT • IP SLA with EOT • Reliable Backup Static Routing with EOT
Inactivity Timer
boot config command
Crashdump enhancement
Unicast MAC filtering
Smart Call Home
DHCPv6 Ethernet Remote ID option
DHCPv6 Relay - Persistent Interface ID option DHCPv6 Relay Agent notification for Prefix Delegation
PIM SSM Mapping
VRF lite NSF support with routing protocols OSPF/EIGRP/BG
Online Diagnostics
PIM Accept Register - Rogue Multicast Server Protection[38]
Configuration Rollback

Table 3 Cisco IOS Software Feature Set for the Catalyst 4900 Series Switch (continued)

Archiving crashfile information
Per-VLAN Learning
XML Programmatic Interface
IPSG for Static Hosts
Layer Control Packet

1. Hardware-based transparent bridging within a VLAN
2. MAC = Media Access Control
3. VMPS = VLAN Management Policy Server
4. The **ip classless** command is not supported as classless routing is enabled by default.
5. PBR = policy-based routing
6. CEF = Cisco Express Forwarding
7. Route Leaking from a global routing table into a VRF and Route Leaking from a VRF into a global routing table
8. IS-IS = Intermediate System to Intermediate System
9. DTP = Dynamic Trunking Protocol
10. RIP = Routing Information Protocol
11. EIGRP = Enhanced Interior Gateway Routing Protocol
12. OSPF = Open Shortest Path First
13. BGP4 = Border Gateway Protocol 4
14. MBGP = Multicast Border Gateway Protocol
15. MSDP = Multicast Source Discovery Protocol
16. ICMP = Internet Control Message Protocol
17. PIM = Protocol Independent Multicast
18. DVMRP = Distance Vector Multicast Routing Protocol
19. NTP = Network Time Protocol
20. VRRP = Virtual Router Redundancy Protocol
21. SCP = Secure Copy Protocol
22. GLBP = Gateway Load Balancing Protocol
23. RSPAN = Remote SPAN
24. HSRP = Hot Standby Router Protocol
25. IGMP = Internet Group Management Protocol
26. SSH = Secure Shell Protocol
27. UDLR = Unidirectional Link Routing
28. SNMP = Simple Network Management Protocol
29. PoE is not supported on the Catalyst 4900 series switch.
30. ACLs = Access Control Lists
31. filter-ID and per-user ACL
32. PACL = Port Access Control List
33. QoS = Quality of Service
34. WCCP = Web Content Communication Protocol
35. CNA = Cisco Network Assistant; Minimum CNA release that supports Releases 12.2(25)EW is 1.0(2). Minimum CNA release that supports Release 12.2(20)EWA is 1.0(1).
36. EEM = Embedded Event anager
37. Includes HTTPS-HTTP with SSL 3.0, CEF-MIB, Embedded Syslog Manage, ...
38. The route-map keyword is not supported.

Unsupported Features

These features are not supported in Cisco IOS Release 12.2(54)SG for the 4900 series switches:

- The following ACL types:
  - Standard Xerox Network System (XNS) access list
  - Extended XNS access list
  - DECnet access list
  - Protocol type-code access list
- CEF Accounting
- Cisco IOS software IPX ACLs:
  - <1200-1299> IPX summary address access list
- ADSL and Dial access for IPv6
- AppleTalk EIGRP (use native AppleTalk routing instead)
- Bridge groups
- Cisco IOS software-based transparent bridging (also called “fallback bridging”)
- Connectionless (CLNS) routing; including IS-IS routing for CLNS. IS-IS is supported for IP routing only.
- DLSw (data-link switching)
- IGRP (use EIGRP instead)
- **isis network point-to-point** command
- Kerberos support for access control
- Lock and key
- NAT-PT for IPv6
- NetFlow
- PBR with Multiple Tracking Options
- QoS for IPv6 (QoS for IPv6 traffic)
- Reflexive ACLs
- Routing IPv6 over an MPLS network
- Two-way community VLANs in private VLANs
- CFM CoS
- PBR with EOT
- Unicast RPF

New and Changed Information

These sections describe the new and changed information for the Catalyst 4900 series switch running Cisco IOS software:

- New Hardware Features in Release 12.2(54)SG, page 21

New Hardware Features in Release 12.2(54)SG

Release 12.2(54)SG provides the following new hardware on the Catalyst 4900 series switch:

- SFP-10G-SR

- SFP-10G-LR
- SFP-10G-LRM
- SFP-H10GB-CU1M
- SFP-H10GB-CU3M
- SFP-H10GB-CU5M
- CVR-X2-SFP10G Converter on Supervisor Engine V-10G, Supervisor Engine II+10G (SFP-10G-SR only), WS-C4948-10GE, and WS-C4928-10GE

New Software Features in Release 12.2(54)SG

Release 12.2(54)SG provides the following new software features on the Catalyst 4900 series switch:

- 802.1X with User Distribution ("Configuring 802.1X Port-Based Authentication" chapter)
- Auto SmartPort ("Configuring Auto SmartPort Macros" chapter)
- DSCP/CoS via LLDP ("Configuring LLDP, LLDP-MED, and Location Service" chapter
- EEM: Embedded Event Manager 3.2

  For details, refer to the URL:

  http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_eem_3.2.html
- EIGRP Service Advertisement Framework

  For details refer to the URL:

  http://www.cisco.com/en/US/docs/ios/saf/configuration/guide/saf_cg.html
- EnergyWise 2.0

  For details refer to the URL:

  http://www.cisco.com/en/US/docs/switches/lan/energywise/phase2/ios/configuration/guide/ew_v2.html
- Identity 4.1 ACL Policy Enhancements ("Configuring Network Security with ACLs" chapter)
- Identity 4.1 Network Edge Access Topology ("Configuring 802.1X Port-Based Authentication" chapter)
- IPSG for Static Hosts (Refer to the Cisco IOS library)
- Layer Control Packet (extended to Supervisor 6)
- Link State Tracking ("Configuring EtherChannel and Link State Tracking" chapter)
- MAC move and replace ("Administering the Switch" chapter)
- Per-VLAN Learning ("Administering the Switch" chapter)
- PoEP via LLDP ("Configuring LLDP, LLDP-MED, and Location Service" chapter)
- RADIUS CoA ("Configuring 802.1X Port-Based Authentication" chapter)
- Sub-second UDLD (Configuring UDLD" chapter)
- VRF-aware TACACS+ ("Configuring VRF-lite" chapter)
- XML Programmatic Interface (Refer to the Cisco IOS library)

For details refer to the URL:

http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_xmlpi_v1.html

New Hardware Features in Release 12.2(53)SG3

Release 12.2(53)SG3 provides the following new hardware on the Catalyst 4500 series switch:

Note This set of optics is not supported on Cisco IOS Release 12.2(54)SG and Cisco IOS XE Release 3.1.0 SG.

- DWDM-SFP-6141
- DWDM-SFP-5736
- DWDM-SFP-5332
- DWDM-SFP-4931
- DWDM-SFP-4532
- DWDM-SFP-4134
- DWDM-SFP-3739
- DWDM-SFP-3346

New Software Features in Release 12.2(53)SG3

Release 12.2(53)SG3 provides no new features for the Catalyst 4500 series switch.

New Hardware Features in Release 12.2(53)SG

Release 12.2(53)SG provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(53)SG

Release 12.2(53)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

- IP Multicast Load Splitting (Equal Cost Multipath (ECMP) using S, G and Next-hop)

New Hardware Features in Release 12.2(52)SG

Release 12.2(52)SG provides no new hardware for the Catalyst 4900 series switch.

New Software Features in Release 12.2(52)SG

Release 12.2(52)SG provides the following new Cisco IOS software features for the Catalyst 4900 series switch:

- Catalyst 4948 IP Base Upgrade License for LAN Base IOS (WS-C4900-SW-LIC)

  All LAN Base customers looking to upgrade from LAN Base to IP Base or Enterprise services are required to order "The Catalyst 4948 IP Base upgrade license WS-C4900-SW-LIC." This license is not required for customers currently running IP base or enterprise services.

Note LAN base is only supported on Catalyst 4948 and Catalyst 4948-10GE. It is not supported on Catalyst 4900M or Catalyst 4928-10GE (ME 4900).

- DHCPv6 Enhancements
  - DHCPv6 Ethernet Remote ID option
  - DHCPv6 Relay - Persistent Interface ID option DHCPv6 Relay Agent notification for Prefix Delegation
- EnergyWise
- Identity ACL Policy Enforcement Enhancement
  - Filter-ID
  - Per-user ACL
- Local WebAuth Enhancement
- Network Mobility Services Protocol
- Online Diagnostics
- PIM Accept Register - Rogue Multicast Server Protection (**route-map** option is not supported)
- QinQ Tunneling and Layer 2 Protocol Tunneling ("Configuring 802.1Q and Layer 2 Protocol Tunneling" chapter)

Note Support has now been extended to Catalyst 4900M series switch and Supervisor Engine 6L-E.

- Smart Call Home
- SSM Mapping
- Supported MIBs
  - Cisco Enhanced Image MIB
  - Cisco HSRP extension MIB
  - CISCO-CALLHOME-MIB.my
  - EnergyWise MIB
  - POE MIB
  - POE ext MIB
  - Entity-Diag-MIB
  - Bridge MIB

- NTP master command

New Hardware Features in Release 12.2(50)SG2

Release 12.2(50)SG2 provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(50)SG2

Release 12.2(50)SG2 provides the following new Cisco IOS software features for the Catalyst 4900 series switch:

- None

New Hardware Features in Release 12.2(50)SG1

Release 12.2(50)SG1 provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(50)SG1

Release 12.2(50)SG1 provides the following new Cisco IOS software features for the Catalyst 4900 series switch:

- EEM version 2

New Hardware Features in Release 12.2(50)SG

Release 12.2(50)SG provides the following new hardware for the Catalyst 4900 series switch:

- SFP+ using X2 hole adaptor
- X2-10GB-ZR optical module
- X2-10GB-DWDM optical module

New Software Features in Release 12.2(50)SG

Release 12.2(50)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- IGMP Querier (“Configuring IGMP Snooping” chapter)

- OSPF and EIGRP fast convergence and protection (Refer to the Cisco IOS Release 12.4 documentation)
- CDP 2nd Port Status TLV (no configuration required on the switch)
- Flexible Authentication Sequencing (“Configuring 802.1X” chapter)
- Multi-Authentication (“Configuring 802.1X” chapter)
- Open Authentication (“Configuring 802.1X” chapter)
- Web Authentication (“Configuring Web Authentication” chapter)
- Inactivity Timer (“Configuring 802.1X” chapter)
- Downloadable ACLs (“Configuring Network Security with ACLs” chapter)
- ANCP Client (not supported on E-Series Supervisor Engine 6-E; “Configuring ANCP Client” chapter)
- PPPoE Intermediate Agent (not supported on E-Series Supervisor Engine 6-E; “PPPoE Circuit-Id Tag Processing” chapter)
- VTP version 3 (“Configuring VLANs, VTP, and VMPS” chapter)
- VRF-aware IP services (“Configuring VRF-Lite” chapter)
- ANCP Client (not supported on E-Series Supervisor Engine 6-E; “Configuring ANCP Client” chapter)
- PPPoE Intermediate Agent (not supported on E-Series Supervisor Engine 6-E; “PPPoE Circuit-Id Tag Processing” chapter)
- VTP version 3 (“Configuring VLANs, VTP, and VMPS” chapter)
- VRF-aware IP services (“Configuring VRF-Lite” chapter)
- **boot config** command (Refer to the Cisco IOS Release 12.2 documentation)
- Archiving Crashinfo Files (“Configuring Command-Line Interfaces” chapter)
- Unicast MAC filtering (“Configuring Network Security with ACLs” chapter)
- Configuration Rollback
- Cisco TrustSec SGT Exchange Protocol (SXP) IPv4

  For more information, refer to the following URLs:

  http://www.cisco.com/en/US/docs/switches/lan/trustsec/configuration/guide/trustsec.html

  and

  http://www.cisco.com/en/US/docs/switches/lan/trustsec/release/notes/rn_cts_xplat.html

New Hardware Features in Release 12.2(46)SG

Release 12.2(46)SG provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(46)SG

Release 12.2(46)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- FlexLink and FlexLink+ with MAC Address-Table Move Update (Refer to the "Configuring FlexLink" chapter)
- LLDP-MED: location TLV and MIB (Refer to the "Configuring LLDP and LLDP-MED" chapter)
- Enhanced Object Tracking (EOT) ((Refer to the Cisco IOS Release 12.2 documentation)
  - HSRP with EOT
  - VRRP with EOT
  - GLBP with EOT
  - IP SLA with EOT
  - Reliable Backup Static Routing with EOT
- CFM 802.1ag (Refer to the "Configuring Ethernet CFM and OAM" chapter)
- E-OAM 802.3ah (Refer to the "Configuring Ethernet CFM and OAM" chapter)
- Ethernet Management Port (Refer to the "Configuring Interfaces" chapter)

New Hardware Features in Release 12.2(44)SG

Release 12.2(44)SG provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(44)SG

Release 12.2(44)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- REP (Refer to the "Configuring REP" chapter)
- VSS client with PagP+

  After configuring VSS dual-active on a Catalyst 6500 switches, the Catalyst 4500 series switch can detect VSS dual-active with PagP+ support.
- IP SLA (Refer to the Cisco IOS Release 12.2 documentation)
- 802.1ab LLDP and LLDP-MED (Refer to the "Configuring LLDP and LLDP-MED" chapter)
- X2 Link Debounce Timer (Refer to the "Configuring Interfaces" chapter)

- ESM

  For details, refer to the ESM Home Page:
  http://www.cisco.com/en/US/docs/ios/12_3t/12_3t2/feature/guide/gt_esm.html

New Hardware Features in Release 12.2(40)SG

Release 12.2(40)SG provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(40)SG

Release 12.2(40)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- Embedded Event Manager (Refer to the Cisco IOS Release 12.4 documentation)
- Gateway Load Balancing Protocol (Refer to the Cisco IOS Release 12.4 documentation)

New Hardware Features in Release 12.2(37)SG

Release 12.2(37)SG provides the following new hardware for the Catalyst 4900 series switch:

- None

New Software Features in Release 12.2(37)SG

Release 12.2(37)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- Selective Dynamic Buffer Limiting (“Configuring QoS” chapter)
- SVI Autostate Exclude (“Configuring Layer 3 Interface” chapter)
- IP Source Guard for Static Hosts (“Configuring DHCP Snooping, IP Source Guard, and IPSG for Static Hosts” chapter)
- BGP route-map Continue Support for Outbound Policy

  For details, locate the feature entry in the Feature Information Table located toward the end of the "Connecting to a Service Provider Using External BGP" module
- Auto RP Listerner (Refer to the Cisco IOS Release 12.4 documentation)

New Hardware Features in Release 12.2(31)SGA

Cisco IOS Release 12.2(31)SGA is the first IOS release supporting the Cisco ME 4900 Series Ethernet Switch.

Following hardware was supported:

- X2-10GB-LRM

New Software Features in Release 12.2(31)SGA

Release 12.2(31)SGA provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- Trunk Port Security over EtherChannel (“Configuring Port Security and Configuring EtherChannel” chapters)
- Match CoS for Non-IPv4 Traffic (“Configuring QoS” chapter)
- CoS Mutation (“Configuring QoS” chapter)
- QinQ Tunneling and Layer 2 Protocol Tunneling (“Configuring 802.1Q and Layer 2 Protocol Tunneling” chapter)

Note This support applies to WS-X4948 only.

- IP Unnumbered (“Configuring IP Unnunmbered Support” chapter)

New Hardware Features in Release 12.2(31)SG

There are no new hardware features in Cisco IOS Release 12.2(31)SG.

New Software Features in Release 12.2(31)SG

Release 12.2(31)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- Control Plane Policing (“Configuring Control Plane Policing” chapter)
- WCCPv2 Layer 2 Redirection (“Configuring WCCPv2 Services” chapter)
- MAC Authentication Bypass (“Configuring 802.1X Port-Based Authentication” chapter)

- 802.1X Inaccessible Authentication Bypass (“Configuring 802.1X Port-Based Authentication” chapter)
- 802.1X Unidirectional Controlled Port (“Configuring 802.1X Port-Based Authentication” chapter)
- Private VLAN Promiscuous Trunk (“Configuring Private VLANs” chapter)
- MAC Address Notification (“Administering the Switch” chapter)
- Voice VLAN Sticky Port Security (“Configuring Port Security” chapter)
- Virtual Router Redundancy Protocol (VRRP) (Refer to the Cisco IOS Release 12.3 documentation)
- Secure Copy Protocol (SCP) (Refer to the Cisco IOS Release 12.3 documentation)

New Hardware Features in Release 12.2(25)SG

There are no new hardware features in Cisco IOS Release 12.2(25)SG.

New Software Features in Release 12.2(25)SG

Release 12.2(25)SG provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- IEEE 802.1S Standards Compliance (Refer to the Cisco IOS Release 12.3 documentation)

Note In Cisco IOS Release 12.2(25)SG for the Catalyst 4500 and 4900 series switches, the implementation for multiple spanning tree (MST) changed from the previous release. Multiple STP (MSTP) complies with IEEE 802.1s standard. Previous MSTP implementations were based on a draft of the IEEE 802.1s standard.

- 802.1X Authentication Failure VLAN (“Understanding and Configuring 802.1X Port-Based Authentication” chapter)
- HTTPS (Refer to the Cisco IOS Release 12.3 documentation)
- IS-IS MIB (Refer to the Cisco IOS Release 12.3 documentation
- OSPF Fast Convergence (Refer to the Cisco IOS Release 12.3 documentation)
- Time Domain Reflectometry (“Checking Port Status and Connectivity” chapter)
- IEEE 802.1S Standards Compliance (Refer to the Cisco IOS Release 12.3 documentation)
- SNMP V3 support for Bridge-MIB with VLAN indexing
- Interface Link and Trunk Status Logging Event Enhancement (“Configuring Interfaces” chapter)

New Hardware Features in Release 12.2(25)EWA

Release 12.2(25)EWA provides the following new hardware for the Catalyst 4900 series switch:

- WS-X4948-10GE—Catalyst 4948 48-Port 10/100/1000 + 2 10GE in a 1 RU with dual, redundant AC/DC power

Caution If you plan to insert X2 transceivers in the Cisco Catalyst 4948-10GE, you should ensure that the Catalyst 4900 series switch and the X2 back interfaces are properly oriented during the OIR (Online insertion and removal) of the transceivers. The top transceiver (port tengig1/49) should be inserted with heatsink facing up. The bottom transceiver (port tengig1/50) should be plugged in with heatsink facing down, CLEI (Common Language Equipment Identifiers) label facing up. When inserted correctly, the TX/RX of the bottom transceiver would look reversed. For more details refer to the *Catalyst 4948-10GE Switch Installation Guide*.

New Software Features in Release 12.2(25)EWA

Release 12.2(25)EWA provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- Per-Port Per-VLAN QoS (“Configuring QoS and Per-Port Per-VLAN QoS” chapter)
- Trunk-Port Security (“Configuring Port Security and Trunk Port Security” chapter)
- 802.1X Private VLAN Assignment (“Understanding and Configuring 802.1X Port-Based Authentication” chapter)
- 802.1X Private Guest VLAN (“Understanding and Configuring 802.1X Port-Based Authentication” chapter)
- 802.1X Radius-Supplied Session Timeout (“Understanding and Configuring 802.1X Port-Based Authentication” chapter)
- DHCP Option 82 Pass Through (“Configuring DHCP Snooping and IP Source Guard” chapter)

New Hardware Features in Release 12.2(25)EW

There are no new hardware features in Release 12.2(25)EW.

New Software Features in Release 12.2(25)EW

There are no new software features in Cisco IOS Release 12.2(25)EW

New Hardware Features in Release 12.2(20)EWA

There are no new hardware features in Cisco IOS Release 12.2(20)EWA.

New Software Features in Release 12.2(20)EWA

Release 12.2(20)EWA provides the following Cisco IOS software features for the Catalyst 4900 series switch:

Note The following chapter references are for the *Catalyst 4500 Series Switch Cisco IOS Software Configuration Guide*.

- 802.1X with Voice VLAN ID ("Understanding and Configuring 802.1X Port-Based Authentication" chapter)
- Forced 10/100 Auto Negotiation ("Configuring Interfaces" chapter)

Upgrading the System Software

In most cases, upgrading the switch to a newer release of Cisco IOS software does not require a ROMMON upgrade. However, if you are running an early release of Cisco IOS software and plan to upgrade, the following tables list the recommended ROMMON release.

Caution Most supervisor engines have the required ROMMON release. However, due to caveat CSCed25996, we recommend that you upgrade your ROMMON to the recommended release.

Table 4 Catalyst 4900 Series Switches, Recommended ROMMON Release, and Promupgrade Programs

Switching Module	Minimum ROMMON Release	Promupgrade Program
WS-X4948	12.2(20r)EW	cat4500-ios-promupgrade-122_31r_SGA1
WS-X4948-10GE	12.2(25r)EWA	cat4500-ios-promupgrade-122_31r_SGA1
WS-C4928-10GE	12.2(31r)SGA2	cat4500-ios-promupgrade-122_31r_SGA2

The following sections describe how to upgrade your switch software:

- Upgrading the ROMMON from the Console, page 33

- Upgrading the ROMMON Remotely Using Telnet, page 36
- Upgrading the Cisco IOS Software, page 41

Upgrading the ROMMON from the Console

Caution To avoid actions that might make your system unable to boot, read this entire section before starting the upgrade.

Note The examples in this section use the programmable read-only memory (PROM) upgrade version 12.2(25r)EWA and Cisco IOS Release 12.2(25)EWA. For other releases, replace the ROMMON release and Cisco IOS software release with the appropriate releases and filenames.

Follow this procedure to upgrade your supervisor engine ROMMON:

Step 1 Directly connect a serial cable to the console port.

Note This section assumes that the console baud rate is set to 9600 (default). If you want to use a different baud rate, change the configuration register value for your switch.

Step 2 Download the **cat4000-ios-promupgrade-122_25r_EWA** program from Cisco.com, and place it on a TFTP server in a directory that is accessible from the switch that will be upgraded.

The **cat4000-ios-promupgrade-122_25r_EWA** programs are available on Cisco.com at the same location from which you download Catalyst 4000 system images.

Step 3 Use the **dir bootflash:** command to ensure that there is sufficient space in Flash memory to store the PROM upgrade image. If there is insufficient space, delete one or more images, and then issue the **squeeze bootflash:** command to reclaim the space.

Step 4 Download the **cat4000-ios-promupgrade-122_25r_EWA** program into Flash memory using the **copy tftp** command.

The following example shows how to download the PROM upgrade image **cat4000-ios-promupgrade-122_25r_EWA** from the remote host 172.20.58.78 to bootflash:

```
Switch# copy tftp: bootflash:
Address or name of remote host [172.20.58.78]?
Source filename [cat4000-ios-promupgrade-122_25r_EWA]?
Destination filename [cat4000-ios-promupgrade-122_25r_EWA]?
Accessing tftp://172.20.58.78/cat4000-ios-promupgrade-122_25r_EWA...
Loading cat4000-ios-promupgrade-122_25r_EWA from 172.20.58.78 (via
FastEthernet2/1):!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!
[OK - 455620 bytes]

455620 bytes copied in 2.644 secs (172322 bytes/sec)
Switch#
```

Step 5 Enter the **reload** command to reset the switch, press **Ctrl-C** to stop the boot process, and re-enter ROMMON.

The following example shows the output after a reset into ROMMON:

```
Switch# reload
```

```
Proceed with reload? [confirm]

2d11h: %SYS-5-RELOAD: Reload requested by console. Reload Reason: Reload Command
.
**********************************************************
 *                                                        *
 * Welcome to Rom Monitor for WS-C4948-10GE System.       *
 * Copyright (c) 1999-2005 by Cisco Systems, Inc.         *
 * All rights reserved.                                   *
 *                                                        *
 **********************************************************

 Rom Monitor Program Version 12.2(25r)EWA
 Supervisor: WS-C4948-10GE  Chassis: WS-C4948
 Hardware Revisions - Board: 8.3 CPLD Gill: 17

 MAC Address  : 00-0b-fc-ff-3b-ff
 IP Address   : 10.5.43.225
 Netmask      : 255.255.255.0
 Gateway      : 10.5.43.1
 TftpServer   : 10.5.5.5

 ***** The system will autoboot in 5 seconds *****

 Type control-C to prevent autobooting.
 . .
 Autoboot cancelled......... please wait!!!

 Autoboot cancelled......... please wait!!!
rommon 1 > [interrupt]
```

Step 6 Run the PROM upgrade program by entering this command:
boot bootflash:cat4000-ios-promupgrade-122_25r_EWA

Caution No intervention is necessary to complete the upgrade. To ensure a successful upgrade, do not interrupt the upgrade process. Do not perform a reset, power cycle, or OIR of the supervisor engine until the upgrade is complete.

The following example shows the output from a successful upgrade, followed by a system reset:

```
rommon 2 > boot bootflash:cat4000-ios-promupgrade-122_25r_EWA


 **********************************************************
 *                                                        *
 * Rom Monitor Upgrade Utility For WS-C4948-10GE System   *
 * This upgrades flash Rom Monitor image to the latest    *
 *                                                        *
 * Copyright (c) 1997-2005 by Cisco Systems, Inc.         *
 * All rights reserved.                                   *
 *                                                        *
 **********************************************************

 Image size = 1024.0 KBytes

 Maximum allowed size = 1048576 KBytes


 Upgrading your PROM... DO NOT RESET the system
 unless instructed or upgrade of PROM will fail !!!
```

```
Beginning erase of 0x100000 bytes at offset 0x3e00000...  Done!

Beginning write of prom  (0x100000 bytes at offset 0x3e00000)...

This could take as little as 30 seconds or up to 2 minutes.
Please DO NOT RESET!

Verifying...

Success! The prom has been upgraded successfully.
System will reset itself and reboot within few seconds....
```

Step 7 Boot the Cisco IOS software image, and enter the **show version** command to verify that ROMMON has been upgraded to 12.2(25r)EWA.

Step 8 Use the **delete** command to delete the PROM upgrade program from bootflash and the **squeeze** command to reclaim unused space.

The following example shows how to delete the **cat4000-ios-promupgrade-122_25r_EWA** image from bootflash and reclaim unused space:

```
Switch# delete bootflash:cat4000-ios-promupgrade-122_25r_EWA
Switch# squeeze bootflash:

All deleted files will be removed, proceed (y/n) [n]? y

Squeeze operation may take some time, proceed (y/n) [n]? y
Switch#
```

Step 9 Use the **show version** command to verify that the ROMMON has been upgraded

```
Switch# show version
Cisco IOS Software, Catalyst 4900 L3 Switch Software (cat4500-IPBASE-M), Version
12.2(25)EWA, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 17-Aug-05 17:09 by alnguyen
Image text-base: 0x10000000, data-base: 0x11269914

ROM: 12.2(25r)EWA
Pod Revision 0, Force Revision 31, Tie Revision 17

Switch uptime is 1 minute
System returned to ROM by reload
System image file is "bootflash:cat4500-ipbase-mz.122-25.EWA"

cisco WS-C4948-10GE (MPC8540) processor (revision 3) with 262144K bytes of memory.
Processor board ID 0
MPC8540 CPU at 667Mhz, Fixed Module
Last reset from Reload
1 Virtual Ethernet interface
48 Gigabit Ethernet interfaces
2 Ten Gigabit Ethernet interfaces
511K bytes of non-volatile configuration memory.

Configuration register is 0x2

Switch#
```

The ROMMON has now been upgraded.

See the "Upgrading the Cisco IOS Software" section on page 41 for instructions on how to upgrade the Cisco IOS software on your switch.

Upgrading the ROMMON Remotely Using Telnet

Caution To avoid actions that might make your system unable to boot, read this entire section before starting the upgrade.

Follow this procedure to upgrade your supervisor engine ROMMON to Release 12.2(25r)EWA. This procedure can be used when console access is not available and when the ROMMON upgrade must be performed remotely.

Note In the following section, use the PROM upgrade version **cat4000-ios-promupgrade-122_25r_EWA**.

Step 1 Establish a Telnet session to the supervisor engine.

Note In the following discussion, we assume that at least one IP address has been assigned to either an SVI or a routed port.

Step 2 Download the **cat4000-ios-promupgrade-122_25r_EWA** program from Cisco.com, and place it on a TFTP server in a directory that is accessible from the switch to be upgraded.

The **cat4000-ios-promupgrade-122_25r_EWA** programs are available on Cisco.com at the same location from which you download Catalyst 4000 system images.

Step 3 Use the **dir bootflash:** command to ensure that there is sufficient space in Flash memory to store the PROM upgrade image. If there is insufficient space, delete one or more images, and then issue the **squeeze bootflash:** command to reclaim the space.

Step 4 Download the **cat4000-ios-promupgrade-122_25r_EWA** program into Flash memory using the **copy tftp** command.

The following example shows how to download the PROM upgrade image **cat4000-ios-promupgrade-122_25r_EWA** from the remote host 10.5.5.5 to bootflash:

```
Switch# copy tftp: bootflash:
Address or name of remote host [10.5.5.5]?
Source filename [cat4000-ios-promupgrade-122_25r_EWA]?
/tftpboot/pjose/cat4000-ios-promupgrade-122_25r_EWA
Destination filename [cat4000-ios-promupgrade-122_25r_EWA]?
Accessing tftp://10.5.5.5//tftpboot/pjose/cat4000-ios-promupgrade-122_25r_EWA...
Loading /tftpboot/pjose/cat4000-ios-promupgrade-122_25r_EWA from 10.5.5.5 (via G
igabitEthernet1/1): !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!
[OK - 1244496 bytes]

1244496 bytes copied in 9.484 secs (131221 bytes/sec)
Switch#
```

Step 5 Use the **no boot system flash bootflash:***file_name* command to clear all BOOT variable commands in the configuration file. In this example, the BOOT variable was set to boot the image **cat4000-ios-promupgrade-122_25r_EWA** from bootflash:

```
Switch# configure terminal
Switch(config)# no boot system flash bootflash:cat4000-ios-promupgrade-122_25r_EWA
Switch(config)# exit
```

```
Switch# write
Building configuration...
Compressed configuration from 3641 to 1244 bytes [OK]
Switch#

Use the boot system flash bootflash:file_name command to set the BOOT variable. You will
use two BOOT commands: one to upgrade the ROMMON and a second to load the Cisco IOS
software image after the ROMMON upgrade is complete. Notice the order of the BOOT
variables in the example below. At bootup the first BOOT variable command upgrades the
ROMMON. When the upgrade is complete the supervisor engine will autoboot, and the second
BOOT variable command will load the Cisco IOS software image specified by the second BOOT
command.
```

Note The **config-register** must be set to autoboot.

```
In this example, we assume that the console port baud rate is set to 9600 bps and that the
config-register is set to 0x0102.

Use the config-register command to autoboot using image(s) specified by the BOOT variable.
Configure the BOOT variable to upgrade the ROMMON and then autoboot the IOS image after
the ROMMON upgrade is complete. In this example, we are upgrading the ROMMON to version
12.2(25r)EWA. After the ROMMON upgrade is complete, the supervisor engine will boot Cisco
IOS software Release 12.2(25)EWA.

config-register to 0x0102.

Switch# configure terminal
Switch(config)# boot system flash bootflash:cat4000-ios-promupgrade-122_25r_EWA
Switch(config)# boot system flash bootflash:cat4500-ipbase-mz.122-25.EWA
Switch(config)# config-register 0x0102
Switch(config)# exit
Switch# write
Building configuration...
Compressed configuration from 3641 to 1244 bytes [OK]
Switch#
```

Step 6 Use the **show bootvar** command to verify the boot string. The BOOT variable in this example will first run the PROM upgrade to upgrade ROMMON. Then, the upgrade software will reload and the supervisor engine will load the Cisco IOS software image.

```
Switch#sh bootvar
BOOT variable =
bootflash:cat4000-ios-promupgrade-122_25r_EWA,1;bootflash:cat4500-ipbase-mz.122-25.EWA
CONFIG_FILE variable does not exist
BOOTLDR variable does not exist
Configuration register is 0x2102
```

Step 7 Run the PROM upgrade program by issuing the **reload** command. Issuing this command will terminate your Telnet session.

Caution Verify the boot string in step 6. No intervention is necessary to complete the upgrade. To ensure a successful upgrade, do not interrupt the upgrade process. Do not perform a reset, power cycle, or OIR of the supervisor engine until the upgrade is complete.

The following example shows the console port output from a successful ROMMON upgrade followed by a system reset. Your Telnet session will be disconnected during the ROMMON upgrade, so you will not see this output. This step could take 2-3 minutes to complete. You will need to reconnect your Telnet session after 2-3 minutes when the Cisco IOS software image and the interfaces are loaded.

```
Switch# reload
Proceed with reload? [confirm]

00:00:36: %SYS-5-RELOAD: Reload requested by console. Reload Reason: Reload Command.


************************************************************
*                                                          *
* Welcome to Rom Monitor for WS-C4948-10GE System.         *
* Copyright (c) 1999-2005 by Cisco Systems, Inc.           *
* All rights reserved.                                     *
*                                                          *
************************************************************

Rom Monitor Program Version 12.2(25r)EWA
Supervisor: WS-C4948-10GE  Chassis: WS-C4948
Hardware Revisions - Board: 8.0 CPLD : 17 FPGA : 0

MAC Address  : 00-0b-fc-ff-3b-ff
IP Address   : 10.5.43.225
Netmask      : 255.255.255.0
Gateway      : 10.5.43.1
TftpServer   : 10.5.5.5

***** The system will autoboot in 5 seconds *****

Type control-C to prevent autobooting.
. . . . .
******** The system will autoboot now ********

config-register = 0x102
Autobooting using BOOT variable specified file.....
Current BOOT file is --- bootflash:cat4000-ios-promupgrade-122_25r_EWA




************************************************************
*                                                          *
* Rom Monitor Upgrade Utility For WS-C4948-10GE System     *
* This upgrades flash Rom Monitor image to the latest      *
*                                                          *
* Copyright (c) 1997-2005 by Cisco Systems, Inc.           *
* All rights reserved.                                     *
*                                                          *
************************************************************
Image size = 1024.0 KBytes
Maximum allowed size = 1048576 KBytes

Upgrading your PROM... DO NOT RESET the system
unless instructed or upgrade of PROM will fail !!!
Beginning erase of 0x100000 bytes at offset 0x3e00000...  Done!
Beginning write of prom  (0x100000 bytes at offset 0x3e00000)...
This could take as little as 30 seconds or up to 2 minutes.
Please DO NOT RESET!
Verifying...
Success! The prom has been upgraded successfully.
```

```
 System will reset itself and reboot within few seconds....

****
 (output truncated)
 . . . . .
 ******** The system will autoboot now ********

 config-register = 0x102
 Autobooting using BOOT variable specified file.....
 Current BOOT file is --- bootflash:cat4500-ipbase-mz.122-25.EWA
Rommon reg: 0x00004180
############
(output truncated)
Exiting to ios...
Rommon reg: 0x00000180
##############################
              Restricted Rights Legend
Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph
(c) of the Commercial Computer Software - Restricted
Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.
           cisco Systems, Inc.
           170 West Tasman Drive
           San Jose, California 95134-1706

Cisco IOS Software, Catalyst 4900 L3 Switch Software (cat4500-IPBASE-M), Version
12.2(25)EWA, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 17-Aug-05 17:09 by alnguyen
Image text-base: 0x10000000, data-base: 0x11269914


cisco WS-C4948-10GE (MPC8540) processor (revision 3) with 262144K bytes of memory.
Processor board ID 0
MPC8540 CPU at 667Mhz, Fixed Module
Last reset from Reload
1 Virtual Ethernet interface
48 Gigabit Ethernet interfaces
2 Ten Gigabit Ethernet interfaces
511K bytes of non-volatile configuration memory.
Uncompressed configuration from 1171 bytes to 2726 bytes

Press RETURN to get started!

Switch>en
Switch#
```

Step 8 Use the **no boot system flash bootflash:***file_name* command to clear the BOOT command used to upgrade the ROMMON.

```
Switch# configure terminal
Switch(config)# no boot system flash bootflash:cat4000-ios-promupgrade-122_25r_EWA
Switch(config)# exit
Switch# write
Building configuration...
Compressed configuration from 3641 to 1244 bytes [OK]
Switch#
```

Step 9 Use the **show version** command to verify that the ROMMON has been upgraded.

```
Switch# show version
```

```
Cisco IOS Software, Catalyst 4900 L3 Switch Software (cat4500-IPBASE-M), Version
12.2(25)EWA, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 17-Aug-05 17:09 by alnguyen
Image text-base: 0x10000000, data-base: 0x11269914

ROM: 12.2(25r)EWA
Pod Revision 0, Force Revision 31, Tie Revision 17

Switch uptime is 0 minutes
System returned to ROM by reload
System image file is "bootflash:cat4500-ipbase-mz.122-25.EWA"

cisco WS-C4948-10GE (MPC8540) processor (revision 3) with 262144K bytes of memory.
Processor board ID 0
MPC8540 CPU at 667Mhz, Fixed Module
Last reset from Reload
1 Virtual Ethernet interface
48 Gigabit Ethernet interfaces
2 Ten Gigabit Ethernet interfaces
511K bytes of non-volatile configuration memory.

Configuration register is 0x102

Switch#
```

Step 10 Use the **delete** command to delete the PROM upgrade program from bootflash and the **squeeze** command to reclaim unused space.

The following example shows how to delete the **cat4000-ios-promupgrade-122_25r_EWA** image from bootflash and reclaim unused space:

```
Switch# delete bootflash:cat4000-ios-promupgrade-122_25r_EWA
Switch# squeeze bootflash:

All deleted files will be removed, proceed (y/n) [n]? y

Squeeze operation may take some time, proceed (y/n) [n]? y
Switch#
```

Step 11 Use the **show bootvar** command to verify that the ROMMON upgrade program has been removed from the BOOT variable.

```
Switch# show bootvar
BOOT variable = bootflash:cat4500-ipbase-mz.122-25.EWA,12;
CONFIG_FILE variable does not exist
BOOTLDR variable does not exist
Configuration register is 0x2102
Switch#
```

The ROMMON has now been upgraded.

See the "Upgrading the Cisco IOS Software" section on page 41 for instructions on how to upgrade the Cisco IOS software on your switch.

Upgrading the Cisco IOS Software

Caution To avoid actions that might make your system unable to boot, please read this entire section before starting the upgrade.

Before you proceed, observe the following rules for hostname:

- Do not expect case to be preserved

  Uppercase and lowercase characters look the same to many internet software applications. It may seem appropriate to capitalize a name the same way you might do in English, but conventions dictate that computer names appear all lowercase. For more information, refer to RFC 1178, Choosing a Name for Your Computer.
- Must start with a letter and end with a letter or digit.
- Interior characters can only be letters, digits, and hyphens; periods and underscores not allowed.
- Names must be 63 characters or fewer; hostname of fewer than 10 characters is recommended.
- On most systems, a field of 30 characters is used for the host name and the prompt in the CLI. Longer configuration mode prompts may be truncated.

To upgrade the Cisco IOS software on your Catalyst 4900 series switch, use this procedure:

Step 1 Download Cisco IOS Release 12.2(25)EWA from Cisco.com, and place the image on a TFTP server in a directory that is accessible from the supervisor engine that will be upgraded.

Step 2 Use the **dir bootflash:** command to ensure that there is sufficient space in Flash memory to store the **promupgrade** image. If there is insufficient space, delete one or more images, and then enter the **squeeze bootflash:** command to reclaim the space.

Step 3 Download the software image into Flash memory using the **copy tftp** command.

The following example shows how to download the Cisco IOS software image **cat4500-ipbase-mz.122-25.EWA** from the remote host **172.20.58.78** to **bootflash**:

```
Switch# copy tftp: bootflash:
Address or name of remote host [172.20.58.78]?
Source filename [cat4500-ipbase-mz.122_25.EWA]?
Destination filename [cat4500-ipbase-mz.122-25.EWA]?
Accessing tftp://172.20.58.78/cat4500-ipbase-mz.122-25.EWA...
Loading cat4500-ipbase-mz.122-25.EWA from 172.20.58.78 (via
FastEthernet2/1):!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
|!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
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!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 6923388/13846528 bytes]
```

```
6923388 bytes copied in 72.200 secs (96158 bytes/sec)
Switch#
```

Step 4 Use the **no boot system flash bootflash:***file_name* command to clear the **cat4500-ipbase-mz.122-25.EWA** file and to save the BOOT variable.

The following example shows how to clear the BOOT variable:

```
Switch# configure terminal
Switch(config)# no boot system flash bootflash:cat4500-ipbase-mz.122_25.EWA
Switch(config)# exit
Switch# write
Building configuration...
Compressed configuration from 3641 to 1244 bytes [OK]
Switch#
```

Step 5 Use the **boot system flash** command to add the Cisco IOS software image to the BOOT variable.

The following example shows how to add the **cat4500-ipbase-mz.122-25.EWA** image to the BOOT variable:

```
Switch# configure terminal
Switch(config)# boot system flash bootflash:cat4500-ipbase-mz.122_25.EWA
Switch(config)# exit
Switch# write
Building configuration...
Compressed configuration from 3641 to 1244 bytes [OK]
Switch#
```

Step 6 Use the **config-register** command to set the configuration register to 0x2102.

The following example show how to set the second least significant bit in the configuration register:

```
Switch# configure terminal
Switch(config)# config-register 0x2102
Switch(config)# exit
Switch# write
Building configuration...
Compressed configuration from 3723 to 1312 bytes [OK]
Switch#
```

Step 7 Enter the **reload** command to reset the switch and load the software.

Caution No intervention is necessary to complete the upgrade. To ensure a successful upgrade, do not interrupt the upgrade process by performing a reset, power cycle, or OIR of the supervisor, for at least five minutes.

The following example shows the output from a successful upgrade followed by a system reset:

```
Switch# reload

System configuration has been modified. Save? [yes/no]: yes
Building configuration...
Compressed configuration from 2668 bytes to 1127 bytes[OK]
Proceed with reload? [confirm]

00:02:11: %SYS-5-RELOAD: Reload requested by console. Reload Reason: Reload Comm
and.
```

```
 ********************************************************
 *                                                      *
 * Welcome to Rom Monitor for WS-C4948-10GE System.     *
 * Copyright (c) 1999-2005 by Cisco Systems, Inc.       *
 * All rights reserved.                                 *
 *                                                      *
 ********************************************************

 Rom Monitor Program Version 12.2(25r)EWA
 Supervisor: WS-C4948-10GE  Chassis: WS-C4948
 Hardware Revisions - Board: 8.3 CPLD Gill: 17


 MAC Address  : 00-0b-fc-ff-3b-ff
 IP Address   : 10.5.43.225
 Netmask      : 255.255.255.0
 Gateway      : 10.5.43.1
 TftpServer   : 10.5.5.5


 ***** The system will autoboot in 5 seconds *****


 Type control-C to prevent autobooting.
 . . . . .

 ******** The system will autoboot now ********


 config-register = 0x2102
 Autobooting using BOOT variable specified file.....

 Current BOOT file is --- bootflash:cat4500-ipbase-mz.122-25.EWA

Rommon reg: 0x00004180
############
k2diags version 5.0.1_e

prod: WS-C4948-10GE  part: 0  serial: 0


Power-on-self-test for Module 1:  WS-C4948-10GE
 Port/Test Status: (. = Pass, F = Fail, U = Untested)

Cpu Subsystem Tests ...
seeprom: . temperature_sensor: .

Port Traffic: L2 Serdes Loopback ...
 0: .  1: .  2: .  3: .  4: .  5: .  6: .  7: .  8: .  9: . 10: . 11: .
12: . 13: . 14: . 15: . 16: . 17: . 18: . 19: . 20: . 21: . 22: . 23: .
24: . 25: . 26: . 27: . 28: . 29: . 30: . 31: . 32: . 33: . 34: . 35: .
36: . 37: . 38: . 39: . 40: . 41: . 42: . 43: . 44: . 45: . 46: . 47: .
62: . 63: .


Port Traffic: L2 Asic Loopback ...
 0: .  1: .  2: .  3: .  4: .  5: .  6: .  7: .  8: .  9: . 10: . 11: .
12: . 13: . 14: . 15: . 16: . 17: . 18: . 19: . 20: . 21: . 22: . 23: .
24: . 25: . 26: . 27: . 28: . 29: . 30: . 31: . 32: . 33: . 34: . 35: .
36: . 37: . 38: . 39: . 40: . 41: . 42: . 43: . 44: . 45: . 46: . 47: .
62: . 63: .


Port Traffic: L3 Asic Loopback ...
```

```
 0: .  1: .  2: .  3: .  4: .  5: .  6: .  7: .  8: .  9: . 10: . 11: .
12: . 13: . 14: . 15: . 16: . 17: . 18: . 19: . 20: . 21: . 22: . 23: .
24: . 25: . 26: . 27: . 28: . 29: . 30: . 31: . 32: . 33: . 34: . 35: .
36: . 37: . 38: . 39: . 40: . 41: . 42: . 43: . 44: . 45: . 46: . 47: .
62: . 63: .


Switch Subsystem Memory ...
 1: .  2: .  3: .  4: .  5: .  6: .  7: .  8: .  9: . 10: . 11: . 12: .
13: . 14: . 15: . 16: . 17: . 18: . 19: . 20: . 21: . 22: . 23: . 24: .
25: . 26: . 27: . 28: . 29: . 30: . 31: . 32: . 33: . 34: . 35: . 36: .
37: . 38: . 39: . 40: . 41: . 42: . 43: . 44: . 45: . 46: . 47: . 48: .
49: . 50: . 51: .


Front Panel Ports ...
 1: .  2: .  3: .  4: .  5: .  6: .  7: .  8: .  9: . 10: . 11: . 12: .
13: . 14: . 15: . 16: . 17: . 18: . 19: . 20: . 21: . 22: . 23: . 24: .
25: . 26: . 27: . 28: . 29: . 30: . 31: . 32: . 33: . 34: . 35: . 36: .
37: . 38: . 39: . 40: . 41: . 42: . 43: . 44: . 45: . 46: . 47: . 48: .


Module 1 Passed


Exiting to ios...

Rommon reg: 0x00000180
################################
              Restricted Rights Legend

Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph
(c) of the Commercial Computer Software - Restricted
Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.

           cisco Systems, Inc.
           170 West Tasman Drive
           San Jose, California 95134-1706



Cisco IOS Software, Catalyst 4900 L3 Switch Software (cat4500-IPBASE-M), Version
 12.2(25)EWA, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 17-Aug-05 17:09 by alnguyen
Image text-base: 0x10000000, data-base: 0x11269914
```

```
#    #    ##    #####   #    #    #    #    #   ####
#    #   #  #   #    #  ##   #    #    ##   #  #    #
#    #  #    #  #    #  # #  #    #    # #  #  #
# ## #  ######  #####   #  # #    #    #  # #  #  ###
##  ##  #    #  #   #   #   ##    #    #   ##  #    #
#    #  #    #  #    #  #    #    #    #    #   ####

The following environment variable(s) are set.  Setting these
environment variables may cause the system to behave unpredictably.
        "DontShipAllowChassisSimulation"
        "gdbEnable"
Use 'clear platform environment variable unsupported' to clear these variables.

cisco WS-C4948-10GE (MPC8540) processor (revision 3) with 262144K bytes of memor
y.
Processor board ID 0
MPC8540 CPU at 667Mhz, Fixed Module
Last reset from Reload
1 Virtual Ethernet interface
48 Gigabit Ethernet interfaces
2 Ten Gigabit Ethernet interfaces
511K bytes of non-volatile configuration memory.

Uncompressed configuration from 1127 bytes to 2668 bytes

Press RETURN to get started!

00:00:06: %C4K_IOSMODPORTMAN-4-POWERSUPPLYBAD: Power supply 2 has failed or been
 turned off
00:00:06: %C4K_IOSMODPORTMAN-4-POWERSUPPLYFANBAD: Fan of power supply 2 has fail
ed
00:00:15: %SPANTREE-5-EXTENDED_SYSID: Extended SysId enabled for type vlan
00:00:15: %C4K_IOSMODPORTMAN-6-MODULEONLINE: Module 1 (WS-C4948-10GE S/N: 0 Hw:
0.3) is online
00:00:16: %SYS-5-CONFIG_I: Configured from memory by console
00:00:16: %SYS-5-RESTART: System restarted --
Cisco IOS Software, Catalyst 4900 L3 Switch Software (cat4500-IPBASE-M), Version
 12.2(25)EWA, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 17-Aug-05 17:09 by alnguyen
Switch>
Switch#
```

Step 8 Use the **show version** command to verify that the new Cisco IOS release is operating on the switch.

Limitations and Restrictions

These sections list the limitations and restrictions for the current release of Cisco IOS software on the Catalyst 4900 series switch.

- For IP Unnumbered, the following are not supported:
  - Dynamic routing protocols
  - HSRP/VRRP
  - Static arp

  - Unnumbered interface and Numbered interface in different VRFs
- For WCCP version 2, the following are not supported:
  - GRE encapsulation forwarding method
  - Hash bucket based assignment method
  - Redirection on an egress interface (redirection out)
  - Redirect-list ACL
- For IPX software routing, the following are not supported:
  - NHRP (Next Hop Resolution Protocol)
  - NLSP
  - Jumbo Frames
- For AppleTalk software routing, the following are not supported:
  - AURP
  - AppleTalk Control Protocol for PPP
  - Jumbo Frames
  - EIGRP
- For PBR, the following are not supported:
  - Matching cannot be performed on packet lengths
  - IP precedence, TOS, and QoS group are fixed
  - ACL or route-map statistics cannot be updated
- IGRP not supported (use EIGRP, instead).
- IP classful routing is not supported; do not use the **no ip classless** command; it will have no effect, as only classless routing is supported. The command **ip classless** is not supported as classless routing is enabled by default.
- Catalyst 4500 supervisor engines will not be properly initialized if the VLAN configuration in the startup file does not match the information stored in the VLAN database file. This situation might occur if a backup configuration file was used.
- A Layer 2 LACP channel cannot be configured with the spanning tree PortFast feature.
- Netbooting using a boot loader image is not supported. See the "Troubleshooting" section on page 352 for details on alternatives.
- An unsupported default CLI for mobile IP is displayed in the HSRP configuration. Although this CLI will not harm your system, you might want to remove it to avoid confusion.

  Workaround: Display the configuration with the **show standby** command, then remove the CLI. Here is sample output of the **show standby GigabitEthernet1/1** command:

  ```
  switch(config)# interface g1/1
  switch(config)# no standby 0 name (0 is hsrp group number)
  ```

- For HSRP "preempt delay" to function consistently, you must use the **standby delay minimum** command. Be sure to set the delay to more than 1 hello interval, thereby ensuring that a hello is received before HSRP leaves the initiate state.

  Use the **standby delay reload** option if the router is rebooting after reloading the image.

- When you attempt to run OSPF between a Cisco router and a third party router, the two interfaces might get stuck in the Exstart/Exchange state. This problem occurs when the maximum transmission unit (MTU) settings for neighboring router interfaces do not match. If the router with the higher MTU sends a packet larger than the MTU set on the neighboring router, the neighboring router ignores the packet.

  Workaround: Since the problem is caused by mismatched MTUs, the solution is to change the MTU on either router to match the neighbor's MTU.
- The Ethernet management port on the supervisor module is active in ROMMON mode only.
- If an original packet is dropped due to transmit queue shaping and/or sharing configurations, a SPAN packet copy can still be transmitted on the SPAN port.
- All software releases support a maximum of 32,768 IGMP snooping group entries.
- Use the **no ip unreachables** command on all interfaces with ACLs configured for performance reasons.
- The threshold for the Dynamic Arp Inspection err-disable function is set to 15 ARP packets per second per interface. You should adjust this threshold depending on the network configuration. The CPU should not receive DHCP packets at a sustained rate greater than 1000 pps.

  Workaround: Verify whether or not the Neighbor discovery cache has an entry, separate from regular troubleshooting areas of IPv6 address configurations and other configurations.
- If you first configure an IP address or IPv6 address on a Layer 3 port, then change the Layer 3 port to a Layer 2 port with the **switchport** command, and finally change it back to a Layer 3 port, the original IP/IPv6 address will be lost.
- By default, IPv6 is not enabled. To route IPv6, you must issue the **IPv6 unicast-routing** command. If you plan to use IPv6 multicast routing, use the **IPv6 multicast-routing** command.
- By default, CEF is not enabled for IPv6 (once IPv6 unicast routing is enabled). To prevent IPv6 traffic from being process-switched, use the **IPv6 cef** command.
- Multicast sources in community VLANs are not supported.
- Two-way community VLANs are not supported.
- Voice VLANs are not supported on community VLAN host interfaces.
- Private VLAN trunks do not carry community VLANs.
- The maximum number of unique private VLAN pairs supported by the **switchport private-vlan mapping trunk** command above is 1000. For example, one thousand secondary VLANs could map to one primary VLAN, or one thousand secondary VLANs could map one to one to one thousand primary VLANs.
- While configuring PVLAN promiscuous trunk ports, the maximum number of mappings is 500 primary VLANs to 500 secondary VLANs.
- 802.1X inaccessible authentication bypass feature is not supported with NAC LAN port IP feature.
- Changes to the console speed in "line console 0" configuration mode do not impact console speed in ROMMON mode. To apply the same console speed in ROMMON mode, use the "confreg" ROMMON utility and change ROMMON console speed.
- If a Catalyst 4900 series 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.

- The **bgp shutdown** command is not supported in BGP router configuration mode. Executing this command might produce unexpected results.
- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)
- IPSG for Static Hosts basically supports the same port mode as IPSG except that it does not support trunk port:
  - It supports Layer 2 access port and PVLAN host port (isolated or community port).
  - It does not support trunk port, Layer 3 port or EtherChannel.
- IPSG for Static Hosts should not be used on uplink ports.
- Selective DBL is only supported for non-tagged or single-tagged IP packets. To achieve Selective DBL-like functionality with a non-IP packet (like Q-in-Q and IPX), apply an input policy map that matches COS values and specifies DBL in the class map.
- For Selective DBL, if the topology involves Layer 2 Q in Q tunneling, the match cos policy map will apply to the incoming port.
- If a set of DSCP values are already configured (e.g. 0-30, 0-63), specifying a subset of these DSCP values with the **qos dbl dscp-based 0-7** command will not remove the unwanted DSCP values of 8 through 63. Rather, you must use the **no** form of the command to remove the extraneous values. In this case, the **no qos dbl dscp-based 8-63** command will leave 0-7 selected.
- When using Port Security with Multi Domain Authentication (MDA) on an interface:
  - You must allow for at least 3 MAC addresses to access the switch: 2 for the phone (the MAC address of a phone gets registered to the Data domain and Voice domain), and one for the PC.
  - The data and voice VLAN IDs must differ.
- For IP Port Security (IPSG) for static hosts, the following apply:
  - As IPSG learns the static hosts on each interface, the switch CPU may hit 100 per cent if there are a large number of hosts to learn. The CPU usage will drop once the hosts are learned.
  - IPSG violations for static hosts are printed as they occur. If multiple violations occur simultaneously on different interfaces, the CLI displays the last violation. For example, if IPSG is configured for 10 ports and violations exist on ports 3,6 and 9, the violation messages are printed only for port 9.
  - Inactive host bindings will appear in the device tracking table when either a VLAN is associated with another port or a port is removed from a VLAN. So, as hosts are moved across subnets, the hosts are displayed in the device tracking table as INACTIVE.
  - Autostate SVI does not work on EtherChannel.
- After the fix for CSCsg08775, a GARP ACL entry is no longer part of the Static CAM area, but there is still a system-defined GARP class in Control Plane Policing (CPP). CPP is a macro with many CLIs and the GARP class creation CLI has been removed.
- When ipv6 is enabled on an interface via any CLI, it is possible to see the following message:

  ```
  % Hardware MTU table exhausted
  ```

  In such a scenario, the ipv6 MTU value programmed in hardware will be different from the ipv6 interface MTU value. This will happen if there is no room in the hw MTU table to store additional values.

You must free up some space in the table by unconfiguring some unused MTU values and subsequently disable/re-enable ipv6 on the interface or reapply the MTU configuration.

- To stop IPSG with Static Hosts on an interface, use the following commands in interface configuration submode:

```
Switch(config-if)# no ip verify source
Switch(config-if)# no ip device tracking max"
```

To enable IPSG with Static Hosts on a port, issue the following commands:

```
Switch(config)# ip device tracking ****enable IP device tracking globally
Switch(config)# ip device tracking max <n> ***set an IP device tracking maximum on int
Switch(config-if)# ip verify source tracking [port-security] ****activate IPSG on port
```

Caution If you only configure the **ip verify source tracking [port-security]** interface configuration command on a port without enabling IP device tracking globally or setting an IP device tracking maximum on that interface, IPSG with Static Hosts will reject all the IP traffic from that interface.

Note The issue above also applies to IPSG with Static Hosts on a PVLAN Host port.

- Management port does not support *non-VRF* aware features.
- When you enter the **permit any any ?** command you will observe the **octal** option, which is unsupported in Cisco IOS Release 12.2(52)SG.

  CSCsy31324
- A Span destination of fa1 is not supported.
- The "keepalive" CLI is not supported in interface mode on the switch, although it will appear in the running configuration. This behavious has no impact on functionality.
- TDR is only supported on interfaces Gi1/1 through Gi1/48, at 1000BaseT under open or shorted cable conditions. TDR length resolution is +/- 10 m. If the cable is less than 10 m or if the cable is properly terminated, the TDR result displays "0" m. If the interface speed is not 1000BaseT, an "unsupported" result status displays. TDR results will be unreliable for cables extended with the use of jack panels or patch panels.
- The following guidelines apply to Fast UDLD:
  - Fast UDLD is disabled by default.
  - Configure fast UDLD only on point-to-point links between network devices that support fast UDLD.
  - You can configure fast UDLD in either normal or aggressive mode.
  - Do not enter the link debounce command on fast UDLD ports.
  - Configure fast UDLD on at least two links between each connected network device. This reduces the likelihood of fast UDLD incorrectly error disabling a link due to false positives.
  - Fast UDLD does not report a unidirectional link if the same error occurs simultaneously on more than one link to the same neighbor device.
- A XML-PI specification file entry does not return the desired CLI output.

  The outputs of certain commands, such as **show ip route** and **show access-lists**, contain non-deterministic text. While the output is easily understood, the output text does not contain strings that are consistently output. A general purpose specification file entry is unable to parse all possible output.

Workaround (1):

While a general purpose specification file entry may not be possible, a specification file entry might be created that returns the desired text by searching for text that is guaranteed to be in the output. If a string is guaranteed to be in the output, it can be used for parsing.

For example, the output of the show ip access-lists SecWiz_Gi3_17_out_ip command is this:

```
Extended IP access list SecWiz_Gi3_17_out_ip
    10 deny ip 76.0.0.0 0.255.255.255 host 65.65.66.67
    20 deny ip 76.0.0.0 0.255.255.255 host 44.45.46.47
    30 permit ip 76.0.0.0 0.255.255.255 host 55.56.57.57
```

The first line is easily parsed because access list is guaranteed to be in the output:

```
<Property name="access list" alias="Name" distance="1.0" length="-1" type="String"
/>
```

The remaining lines all contain the term host. As a result, the specification file may report the desired values by specifying that string. For example, this line

```
<Property name="host" alias="rule" distance="s.1" length="1" type="String" />
```

will produce the following for the first and second rules

```
<rule>
    deny
</rule>
```

and the following for the third statement

```
<rule>
    permit
<rule>
```

Workaround (2):

Request the output of the **show running-config** command using NETCONF and parse that output for the desired strings. This is useful when the desired lines contain nothing in common. For example, the rules in this access list do not contain a common string and the order (three permits, then a deny, then another permit), prevent the spec file entry from using permit as a search string, as in the following example:

```
Extended MAC access list MACCOY
    permit 0000.0000.ffef ffff.ffff.0000 0000.00af.bcef ffff.ff00.0000 appletalk
    permit any host 65de.edfe.fefe xns-idp
    permit any any protocol-family rarp-non-ipv4
    deny   host 005e.1e5d.9f7d host 3399.e3e1.ff2c dec-spanning
    permit any any
```

The XML output of **show running-config** command includes the following, which can then be parsed programmatically, as desired:

```
<mac><access-list><extended><ACLName>MACCOY</ACLName></extended></access-list></mac>
    <X-Interface> permit 0000.0000.ffef ffff.ffff.0000 0000.00af.bcef ffff.ff00.0000
appletalk</X-Interface>
    <X-Interface> permit any host 65de.edfe.fefe xns-idp</X-Interface>
    <X-Interface> permit any any protocol-family rarp-non-ipv4</X-Interface>
    <X-Interface> deny   host 005e.1e5d.9f7d host 3399.e3e1.ff2c
dec-spanning</X-Interface>
    <X-Interface> permit any any</X-Interface>
```

- Although the Catalyst 4900 series switch still supports legacy 802.1X commands used in Cisco IOS Release 12.2(46)SG and earlier releases (that is, they are accepted on the CLI), they do not display in the CLI help menu.
- Current IOS software cannot support filenames exceeding 64 characters.
- If you use MDA or multi-auth host mode in conjunction with pre-authentication open access, a switch ignores unicast EAPOL responses.

  Workarounds:

  – Force the supplicant to use multicast EAPOL.

  – Avoid authentication open mode

  CSCtq33048
- For any configuration where the source-interface keyword is used, if you provide an SVI that is associated with a secondary private VLAN, configuration involving the secondary VLAN may be lost when the switch is reloaded. In such scenarios, always use the primary private VLAN.

Caveats

Caveats describe unexpected behavior in Cisco IOS releases. Caveats listed as open in a prior release are carried forward to the next release as either open or resolved.

Note For the latest information on PSIRTS, refer to the Security Advisories on CCO at the following URL:

http://tools.cisco.com/security/center/publicationListing

Open Caveats in Cisco IOS Release 12.2(54)SG1

This section lists the open caveats in Cisco IOS Release 12.2(54)SG1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)
- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:
  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct. CSCsz20149

- On a wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored. CSCsz34522

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command. CSCta16492

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range. CSCte51948

- On a peer interface on a Catalyst 4948E Ethernet Switch, if errdisabled mode flap detection is set to a very small number (such as 2 flaps in 10 sec), a 10GE link flap may cause the peer interface to enter the errdisabled state.

  Workarounds: The Cisco switch default link-flap detection value is 5 flaps in 10 seconds. Use the default value or larger numbers. CSCtg07677

- If you disable and re-enable IGMP Snooping on a VLAN, the output of the **show mac address** command does not display the [term] Switch against the multicast entry. Multicast traffic is not impacted.

  Workaround: Do **shut**, then **no shut** on the SVI. CSCtg72559

- When you have enabled EPM logging and the client is authenticated via MAB or Webauth, the value of AUTHTYPE is DOT1X in EPM syslog messages irrespective of the authentication method.

  Similarly, the show epm sessions command always displays the authentication method as DOT1X.

  Workaround: To view the authentication method used for a client, enter the **show authentication sessions** command. CSCsx42157

- When Fallback WebAuth and Multi-host is configured on a port and no PACL exists, "permit ip any any" is installed in the TCAM and all traffic from the host is allowed to pass.

  Workaround: Configure an ACL on the port. CSCte18760

- With a NEAT configuration on an ASW (Catalyst 4500 series switch) connected to an SSW (Catalyst 3750 series switch) serving as a root bridge and with redundant links between ASW and SSW, the following occur:
  - STP does not stabilize.
  - The SVI (network) is unreachable. If an SVI exists on the ASW, because of the STP flap in the setup as well as the CISP operations, the SVI MAC configuration on the ASW is incorrect.

  Workaround: Configure the ASW or any other switch upstream as the root-bridge for all the VLANs. CSCtg71030

- If host-mode multi-domain is configured and authorization succeeds, traffic may not pass from an IP phone or a data device.

  Workaround: None. CSCtj56811

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command. CSCtn68186

- When a switch is configured for MAC Authentication Bypass (MAB) EAP and the AAA server requests EAP-TLS (as the EAP method) first, MAB fails.

  Workarounds:
  - Configure the switch port for *mab* rather than *mab eap.*
  - Configure the AAA server to propose EAP-MD5 first rather than EAP-TLS for MAB EAP requests. CSCti78674

Resolved Caveats in Cisco IOS Release 12.2(54)SG1

This section lists the resolved caveats in Release 12.2(54)SG1:

- Catalyst 4500 series switches may lose the per-vlan maximum mac addresses for port-security when the link goes down. This applies to the following interface configuration :

```
switchport port-security maximum <number> vlan access
switchport port-security maximum <number> vlan voice
```

  Workaround: None. CSCti74791..ALL

- If **no vtp** is configured on ports that receive VTP updates, a switch no longer processes Layer 2 control traffic (STP and CDP).

  Workaround: Upgrade to 12.2(53)SG3, 12.2(50)SG8, or later. CSCth00398 .....ALL

- When the **show ip ospf int** command is paused while the backup designated router neighbor goes down, a switch may reload when you enter the **show ip ospf int** command:

```
c3560sw2# show ip ospf int
 Vlan804 is up, line protocol is up
   Internet Address 10.0.0.2/24, Area 0
   Process ID 1, Router ID 10.0.0.2, Network Type BROADCAST, Cost: 1
   Transmit Delay is 1 sec, State DR, Priority 1
   Designated Router (ID) 10.0.0.2, Interface address 10.0.0.2
  --More--
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/8,
```

```
 changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan804, changed
 state to down
%OSPF-5-ADJCHG: Process 1, Nbr 10.0.0.1 on Vlan804 from FULL to DOWN,
 Neighbor Down: Interface down or detached
%LINK-3-UPDOWN: Interface FastEthernet0/8, changed state to down
```

The next line in the output of the **show ip ospf int** command is the following:

```
Backup Designated router (ID) 10.0.0.1, Interface address 10.0.0.1
```

If you now advance the output by pressing either **Enter** or the space bar, the device reloads and the following error message displays:

```
Unexpected exception to CPUvector 2000, PC = 261FC60
```

Workaround: None. CSCtd73256

- The **show tacacs+** command does not provide private tacacs+ server statistics.

  Workaround: None. CSCta96363

Open Caveats in Cisco IOS Release 12.2(54)SG

This section lists the open caveats in Cisco IOS Release 12.2(54)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  – After a reload, copy the startup-config to the running-config.

  – Use a loopback interface as the target of the **ip unnumbered** command

  – Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct. CSCsz20149

- On a wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored. CSCsz34522

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command. CSCta16492

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range. CSCte51948

- On a peer interface on a Catalyst 4948E Ethernet Switch, if errdisabled mode flap detection is set to a very small number (such as 2 flaps in 10 sec), a 10GE link flap may cause the peer interface to enter the errdisabled state.

  Workarounds: The Cisco switch default link-flap detection value is 5 flaps in 10 seconds. Use the default value or larger numbers. CSCtg07677

- If you disable and re-enable IGMP Snooping on a VLAN, the output of the **show mac address** command does not display the [term] Switch against the multicast entry. Multicast traffic is not impacted.

  Workaround: Do **shut**, then **no shut** on the SVI. CSCtg72559

- When you have enabled EPM logging and the client is authenticated via MAB or Webauth, the value of AUTHTYPE is DOT1X in EPM syslog messages irrespective of the authentication method.

  Similarly, the show epm sessions command always displays the authentication method as DOT1X.

  Workaround: To view the authentication method used for a client, enter the **show authentication sessions** command. CSCsx42157

- When Fallback WebAuth and Multi-host is configured on a port and no PACL exists, "permit ip any any" is installed in the TCAM and all traffic from the host is allowed to pass.

  Workaround: Configure an ACL on the port. CSCte18760

- With a NEAT configuration on an ASW (Catalyst 4500 series switch) connected to an SSW (Catalyst 3750 series switch) serving as a root bridge and with redundant links between ASW and SSW, the following occur:
  - STP does not stabilize.
  - The SVI (network) is unreachable. If an SVI exists on the ASW, because of the STP flap in the setup as well as the CISP operations, the SVI MAC configuration on the ASW is incorrect.

  Workaround: Configure the ASW or any other switch upstream as the root-bridge for all the VLANs. CSCtg71030

- If host-mode multi-domain is configured and authorization succeeds, traffic may not pass from an IP phone or a data device.

  Workaround: None. CSCtj56811

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command. CSCtn68186

- When a switch is configured for MAC Authentication Bypass (MAB) EAP and the AAA server requests EAP-TLS (as the EAP method) first, MAB fails.

  Workarounds:

  - Configure the switch port for *mab* rather than *mab eap.*
  - Configure the AAA server to propose EAP-MD5 first rather than EAP-TLS for MAB EAP requests. CSCti78674

Resolved Caveats in Cisco IOS Release 12.2(54)SG

This section lists the resolved caveats in Release 12.2(54)SG:

- When you configure **switchport block multicast** on a switch running Cisco IOS Release 12.2(53)SG1 or 12.2(50)SG6, Layer 2 multicast is not blocked.

  Prior to Cisco IOS Release 12.2(53)SG1, 12.2(50)SG6, the **switchport block multicast** command would block IP Multicast, Layer 2 multicast, and broadcast traffic .

  Workaround: None CSCta61825

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. CSCsv54529

- On a switch running Cisco IOS Release 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface. CSCso50921

- IP Router Option may not work with IGMP version 2.

  Workaround: None. CSCsv42869

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None. CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None. CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
```

```
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

Workaround: Specify a profile name when you enter the diagnostic command.

You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

CSCsz05888

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- A switch fails if you configure a PBR policy to match on prefix-list(s) instead of ACL(s).

  Workaround: Configure the route map to only match on ACL(s).

  CSCtg22126

- On a redundant switch running Cisco IOS Release 12.2(52)SG, after a ports is authorized through 802.1X, the **show dot1x interface statistics** command may display empty values on the standby supervisor engine.

  The statistics are displayed properly on the active supervisor.

  Workaround: None.

  CSCsx64308

- After three failed authentication attempts, WinXP stops responding to EAPOL requests from the switch that caused the 802.1X timeout (default or configured). After the timeout, WinXP moves to auth-fail VLAN.

  Workaround: Attempt an authorization after a timeout.

  CSCte84432

- The switch may reload after destroying the expExpressionTable row via SNMP when you enter the **debug management expression evaluator** command.

  Workaround: Disable the **debug management expression evaluator** command. (CSCsu67323)

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None. CSCsz63739

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

```
"%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
Or
"%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

"%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
14" (where n is a slot number)
```

Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

Open Caveats in Cisco IOS Release 12.2(53)SG10

This section lists the open caveats in Cisco IOS Release 12.2(53)SG10:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  – After a reload, copy the startup-config to the running-config.

  – Use a loopback interface as the target of the **ip unnumbered** command

  – Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  – Use clear text (non encryption)

  – Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

  ```
  %SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
  eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
  106617F8
  %SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
  eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
  106617F8
  ```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  Or
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

  "%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

  CSCtl70275

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

  The active supervisor engine also displays following log message for each linecard slot in the chassis:

  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14
  ```

  where *n* is the slot number

  If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

  ```
  %C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
  supervisor detected. Detected the Standby Supervisor bootupFailed
  ```

  While active supervisor engine is up, no traffic can be handled by the switch.

  The two supervisor engines might alternately reboot continuously.

  Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis.

  CSCtl84092

- If a port is configured for Private VLAN and is authorized in a guest VLAN, a traceback appears on the console.

  Workaround: None.

  CSCtq73579

Resolved Caveats in Cisco IOS Release 12.2(53)SG10

This section lists the resolved caveats in Release 12.2(53)SG10:

- The following message appears during MAC aging or learning on ports where dot1x or port security is configured:

  ```
  %C4K_HWL2MAN-4-ADDRESSNOTLOADABLE message appears
  ```

  Workaround: None. The message is cosmetic.CSCue77562

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Open Caveats in Cisco IOS Release 12.2(53)SG9

This section lists the open caveats in Cisco IOS Release 12.2(53)SG9:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# sh policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  – After a reload, copy the startup-config to the running-config.

  – Use a loopback interface as the target of the **ip unnumbered** command

  – Change the CLI configuration such that during bootup, the router port is created first.

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- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

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  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

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  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

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- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

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Switch# call-home send alert-group diagnostic module 2
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message failed to send (ERR 18, The alert group is not subscribed)
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  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

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- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

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- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

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- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

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  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

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- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the **auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

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  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  Or
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

  "%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

  CSCtl70275

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

  The active supervisor engine also displays following log message for each linecard slot in the chassis:

  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14
  ```

  where *n* is the slot number

  If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

  ```
  %C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
  supervisor detected. Detected the Standby Supervisor bootupFailed
  ```

  While active supervisor engine is up, no traffic can be handled by the switch.

  The two supervisor engines might alternately reboot continuously.

  Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis.

  CSCtl84092

- If a port is configured for Private VLAN and is authorized in a guest VLAN, a traceback appears on the console.

  Workaround: None.

  CSCtq73579

- The following message appears during MAC aging or learning on ports where dot1x or port security is configured:

  ```
  %C4K_HWL2MAN-4-ADDRESSNOTLOADABLE message appears
  ```

  Workaround: None. The message is cosmetic.CSCue77562

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG9

This section lists the resolved caveats in Release 12.2(53)SG9:

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- The Cisco IOS Software implementation of the virtual routing and forwarding (VRF) aware network address translation (NAT) feature contains a vulnerability when translating IP packets that could allow an unauthenticated, remote attacker to cause a denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are not available.

  This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20130327-nat

  Note: The March 27, 2013, Cisco IOS Software Security Advisory bundled publication includes seven Cisco Security Advisories. All advisories address vulnerabilities in Cisco IOS Software. Each Cisco IOS Software Security Advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all Cisco IOS Software vulnerabilities in the March 2013 bundled publication.

  Individual publication links are in “Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication” at the following link:

  http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar13.html

  CSCtg47129

Open Caveats in Cisco IOS Release 12.2(53)SG8

This section lists the open caveats in Cisco IOS Release 12.2(53)SG8:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# sh policy-map int
    FastEthernet3/2

     Service-policy output: p1
  ```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)
- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)
- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)
- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)
- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

```
Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
software error occurred. Null0 linked to wrong hwidb Null0
```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  - Use clear text (non encryption)
  - Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

```
*Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
2.2.2.1(64999)
```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

(CSCsv33136)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

This occurs only if the following conditions are satisfied:

- Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
- Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
- Dynamic policy authorization for the client specifies **permit ip any any**.

Workaround: None.

CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

  Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  Or
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

  "%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

  CSCtl70275

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

The active supervisor engine also displays following log message for each linecard slot in the chassis:

```
%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
14
```

where *n* is the slot number

If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

```
%C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
supervisor detected. Detected the Standby Supervisor bootupFailed
```

While active supervisor engine is up, no traffic can be handled by the switch.

The two supervisor engines might alternately reboot continuously.

Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis. CSCtl84092

- If a port is configured for Private VLAN and is authorized in a guest VLAN, a traceback appears on the console.

  Workaround: None. CSCtq73579

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG8

This section lists the resolved caveats in Release 12.2(53)SG8:

- While processing a CDP frame, a switch may crash after displaying SYS-2-FREEFREE and SYS-6-MTRACE messages.

  Workaround: Enter the **no cdp run** command to disable CDP. CSCub45763

Open Caveats in Cisco IOS Release 12.2(53)SG7

This section lists the open caveats in Cisco IOS Release 12.2(53)SG7:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1
```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)
- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)
- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)
- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)
- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

```
Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
software error occurred. Null0 linked to wrong hwidb Null0
```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  - Use clear text (non encryption)
  - Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

```
*Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
2.2.2.1(64999)
```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

(CSCsv33136)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

This occurs only if the following conditions are satisfied:

- Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
- Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
- Dynamic policy authorization for the client specifies **permit ip any any**.

Workaround: None.

CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

  Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  Or
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

  "%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

  CSCtl70275

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

The active supervisor engine also displays following log message for each linecard slot in the chassis:

```
%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
14
```

where *n* is the slot number

If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

```
%C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
supervisor detected. Detected the Standby Supervisor bootupFailed
```

While active supervisor engine is up, no traffic can be handled by the switch.

The two supervisor engines might alternately reboot continuously.

Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis.

CSCtl84092

- If a port is configured for Private VLAN and is authorized in a guest VLAN, a traceback appears on the console.

  Workaround: None.

  CSCtq73579

- While processing a CDP frame, a switch may crash after displaying SYS-2-FREEFREE and SYS-6-MTRACE messages.

  Workaround: Enter the **no cdp run** command to disable CDP. CSCub45763

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG7

This section lists the resolved caveats in Release 12.2(53)SG7:

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

This advisory is available at the following link:

http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

Additional information on Cisco's security vulnerability policy can be found at the URL:

http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

CSCtr28857

- A switch crashes after displaying the message:

  ```
  %AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
  MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
  ```

  provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

Open Caveats in Cisco IOS Release 12.2(53)SG6

This section lists the open caveats in Cisco IOS Release 12.2(53)SG6:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.

  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

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  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
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  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

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  Workaround: None. (CSCso68331)

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*Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
2.2.2.1(64999)
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This issue is seen when the default SXP password is encrypted with type-6 encryption.

Workaround: Do one of the following:

- Use type 7 password encryption to encrypt the default SXP password
- Don't enable password encryption and allow the default SXP password to set in clear text.

(CSCsv33136)

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%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
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eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
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This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine’s MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
```

```
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

Workaround: Specify a profile name when you enter the diagnostic command.

You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

  Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  Or
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  ```

```
"%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
14" (where n is a slot number)
```

Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

CSCtl70275

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

  The active supervisor engine also displays following log message for each linecard slot in the chassis:

  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14
  ```

  where *n* is the slot number

  If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

  ```
  %C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
  supervisor detected. Detected the Standby Supervisor bootupFailed
  ```

  While active supervisor engine is up, no traffic can be handled by the switch.

  The two supervisor engines might alternately reboot continuously.

  Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis.

  CSCtl84092

- If a port is configured for Private VLAN and is authorized in a guest VLAN, a traceback appears on the console.

  Workaround: None.

  CSCtq73579

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

  This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

  Additional information on Cisco's security vulnerability policy can be found at the URL:

http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

CSCtr28857

- A switch crashes after displaying the message:

  ```
  %AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
  MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
  ```

  provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG6

This section lists the resolved caveats in Release 12.2(53)SG6:

- When you enter the **rep preempt segment** command, the MAC might not flush.

  Workaround: Re-enter the **rep preempt segment** command.

  CSCtr89862

- A switch crashes following changes to policy-based routing (route-map).

  Workaround: Ensure that a policy is configured on an interface prior to changing a default next-hop in route-map. CSCtr31759

- The following problems are experienced with IPv6 SNMP, when an IPv4 address is not configured:
  - Traps are not sent through IPv6.
  - SNMP GETs sent to a switch IPv6 address trigger a traceback.

  Workaround: Perform the following task:

  1. Disable the SNMP engine with the **no snmp-server** command.
  2. Configure an IPv4 address and an IPv6 address on loopback interfaces.
  3. Enable the SNMP engine.

  CSCsw76894

- If you enable SNMP before assigning an IPv4 address, SNMP does not listen for requests.

  Workaround: Perform the following task:

  1. Disable the SNMP engine with the **no snmp-server** command.
  2. Configure an IP address and an IPv6 address on loopback interfaces.
  3. Enable the SNMP engine.

  CSCsw92921

- When flex link load balancing is used, MAC addresses sourced over the backup interface are not programmed into the dynamic MAC address table. Source address learning is triggered for all traffic from these MAC addresses, which may cause high CPU.

  Workaround: Configure static MAC addresses for the source addresses on the backup flex link interface. CSCtr40070

- On networks with round-trip-time (RTT) delay of 5 milisec and over, IP SLA ethernet jitter probes are stuck in NoConnection/Busy/Timeout state:

  ```
  uPE1#sh ip sla stat | inc Timeout
  Latest RTT: NoConnection/Busy/Timeout
  ```

  Issue is likely not to appear in environments with low latency (<5msec).

  Workarounds:
  - None (regarding ethernet jitter probe)
  - Consider using the IP sla ethernet echo probes to collect RTT statistics. CSCtb96522

- A system may crash if it receives more than 10 MA (Management Address) TLVs per LLDP neighbor entry.

Workaround: Disable LLDP MA TLV sending on the peers. CSCtj22354

- Querying rttMonHistory objects using an invalid index causes a switch to crash.

  Workaround: Use **getnext** rather than **get** to list valid indicies for the MIB OID. CSCtr52740

- Registering a TCL policy may cause the switch to hang.

  Workaround: None. CSCto72927

- Flooded multicast traffic is not sent over a port channel interface after a member link or port-channel flaps.

  Workarounds:

  - Delete and add impacted VLAN with **no vlan** *vlan_id* and **vlan** *vlan_id* commands.
  - Flap the impacted port channel with the **shutdown** and **no shutdown** commands. CSCtr17251

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

Open Caveats in Cisco IOS Release 12.2(53)SG5

This section lists the open caveats in Cisco IOS Release 12.2(53)SG5:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1
```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)
- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)
- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)
- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)
- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

```
Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
software error occurred. Null0 linked to wrong hwidb Null0
```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  - Use clear text (non encryption)
  - Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

```
*Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
2.2.2.1(64999)
```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

(CSCsv33136)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

Workaround: Enter **shut**, then **no shut** on the port.

CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the **auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

  Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  ```

```
Or
"%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

"%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
14" (where n is a slot number)
```

Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

CSCtl70275

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

  The active supervisor engine also displays following log message for each linecard slot in the chassis:

  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14
  ```

  where *n* is the slot number

  If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

  ```
  %C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
  supervisor detected. Detected the Standby Supervisor bootupFailed
  ```

  While active supervisor engine is up, no traffic can be handled by the switch.

  The two supervisor engines might alternately reboot continuously.

  Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis.

  CSCtl84092

- If a port is configured for Private VLAN and is authorized in a guest VLAN, a traceback appears on the console.

  Workaround: None.

  CSCtq73579

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

  This advisory is available at the following link:

http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

Additional information on Cisco's security vulnerability policy can be found at the URL:

http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

CSCtr28857

- A switch crashes after displaying the message:

```
%AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
```

  provided the following conditions apply:

  – A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  – The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

Resolved Caveats in Cisco IOS Release 12.2(53)SG5

This section lists the resolved caveats in Release 12.2(53)SG5:

- When you specify a proxy ACL ACE with an extra space, the proxy ACL is not programmed for authenticated and authorized hosts.

  Workarounds:

  - Do not provide an extra space while specifying a proxy ACL ACE.
  - Use a Downloadable ACL or a Filter-ID ACL rather than a proxy ACL. CSCtk67010

- When reconnecting to a switch using IP device tracking, a Windows Vista, Windows 2008, or Windows 2007 device registers a duplicate address message.

  Workaround: Disable gratuitous ARP on the Windows device. CSCtn27420

- 802.1X supplicants connected to ports in a guest VLAN fail the initial authentication.

  Workarounds:

  - Configure the supplicant to retry 802.1X.
  - Connect or disconnect to the port. CSCtl89361

- The switch crashes when AAA accounting packets are generated for web authentications.

  Workaround: Disable AAA accounting. CSCtl77241

- When IP SLA probes are configured and active for a period of 72 weeks, and you poll the rttmon mib for probe statistics, the router reloads.

  The problem is not observed for another 72 weeks.

  Workaround: None. CSCsl70722

- If a device is connected to multiple ports on the switch and **no ip routing** is configured, ARP entries display in an incorrect VLAN (**pv** *vlan* appears in the entry).

  Workaround: Configure **ip routing**. CSCtj20399

- When a switch is using 802.X with web authentication, and you open an http session, you see a login screen using http, rather than https.

  This happens only if you use a custom banner configured like the following:

  ```
  ip auth-proxy auth-proxy-banner http ^C Custom Banner here ^C
  ```

  Workaround: Remove the custom banner. CSCtb77378

- If you change the authentication method for a client to webauth before removing the fallback configuration, web authentication is triggered.

  Workarounds:

  - Reconfigure 802.1X with the **no dot1x pae authenticator/dot1x pae authenticator** command.
  - Reload the switch. CSCtd43793

- LLDP packets are sent (.1q) tagged when the native VLAN of the of the dot1q trunk is not the default (VLAN 1).

LLDP IEEE standard requires frames sent untagged. With this issue, some peer devices may reject the tagged LLDP frame.

Workaround: Use the default native VLAN for the trunks. CSCtn29321

- When a redundant power supply is turned off, ciscoEnvMonAlarmContacts returns 00 even though the LED on the supervisor engine is orange.

  Workaround: If you include **snmp-server enable traps envmon** in the device configuration, a ciscoEnvMonSuppStatusChangeNotification is generated when the power supply either turns off or fails. CSCtl72109

- A switch might crash if **ip cef accounting non-recursive** is configured and BGP routes are being supplied.

  Workaround: Disable IP cef accounting. CSCtn68186

- A port channel will not establish correctly if the following conditions apply:
  - **vlan dot1q tag native** is configured.
  - Either the native VLAN is not allowed on the trunk, or the peer does not accept tagged channel protocol packets.

  Workaround: None. CSCtj90471

- A power supply can be listed as removed, but continues to function normally. This behavior is illustrated by the following system messages:

```
%C4K_IOSMODPORTMAN-4-POWERSUPPLYREMOVED: Power supply 1 has been removed
%C4K_CHASSIS-3-INSUFFICIENTPOWERSUPPLIESDETECTED: Insufficient power supplies present
for specified configuration
%C4K_CHASSIS-2-INSUFFICIENTPOWERDETECTED: Insufficient power available for the
```

  Workaround: None. CSCtn38000

- High CPU results from constant MAC learning when multiple REP rings are used, each with a different VLAN list.

  Workaround: Ensure that all trunk ports in the REP ring topology have the same list of VLANs, including ports in other REP rings that export STCNs into the REP ring where the problem is observed. CSCto67625

- DHCP clients renewing through a load-balanced DHCP relay on an unnumbered interface may be unable to renew their lease because the renew ACK is lost.

  Workaround: Avoid using DHCP load balancing. CSCth00482

- If a switch is configured for multiple authentication host-mode, and an interface on that switch is configured for 802.1X, that interface disallows unidirectional port control, breaking the functionality of Wake on LAN.

  Workaround: Use a different host-mode. CSCti92970

- A memory leak caused by corrupted SSH packets is detected in SSH process during internal testing.

  Workaround: Allow SSH connections only from trusted hosts. CSCth87458

- If you provide extra space anywhere in between while specifying a proxy ACL ACE, the proxy ACL is not programmed for authenticated and authorized hosts.

  Workarounds
  - Do not provide any extra space while specifying a proxy ACL ACE.
  - Use DACL or Filter-Id ACL instead of proxy ACLs. CSCtk67010

- In multi-auth mode, when you disconnect a PC behind a Cisco IP phone, the data session is not removed.

  This behavior is anticipated. In multi-auth mode, the system cannot distinguish between the data client that is attached to the phone and those that are attached to the switch through a hub.

  Workaround: None. CSCtd70009

- A switch crashes when you use **no set extcommunity cost** to remove **set extcommunity cost** in a route-map and you enter **show run**.

  Workaround: Remove the entire route-map and re-create it. CSCsr23563

- On a SSH and telnet-configured switch, if you configure a banner, then SSH to the router, the banner shows incorrectly:

  ```
  pqiu@apt-cse-613% ssh cisco@10.66.79.211
  "$(hostname) via line $(line) $(line-desc)"
  ```

  Here is how you configured the banner:

  ```
  banner login ^CC
  $(hostname) via line $(line) $(line-desc)
  ^C
  !
  ```

  If you telnet to the router, the banner shows correctly as follows:

  ```
  "SV-9-5 via line 67"
  ```

  Workaround: None. CSCei24145

- After you boot a reloaded switch in a REP ring topology, the soon-to-be alternate port forwards traffic and causes a loop. This continues until you enter **shut** and **no shut** on the alternate port.

  Workaround: Enter **shut** and **no shut** on the alternate interface. CSCtn03533

- If a static route is configured for an RP address that is reachable from a directly connected network, the switch does not send a PIM register toward the RP.

  Workaround: Avoid configuring overlapping IP addresses. CSCtj96095

Open Caveats in Cisco IOS Release 12.2(53)SG4

This section lists the open caveats in Cisco IOS Release 12.2(53)SG4:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# sh policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)
- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:
  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  ```

```
software error occurred. Null0 linked to wrong hwidb Null0
```

Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  – Use clear text (non encryption)

  – Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  – Use type 7 password encryption to encrypt the default SXP password

  – Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.

b. **Shut** any one REP port in the segment to cause a failure in that segment.

c. **No-shut** that port to restore normal REP topology with one ALT port.

d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

(CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

Workaround: Specify a profile name when you enter the diagnostic command.

You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the **|auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

  Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- A switch might fail an ftp to a dhcp-snooping file if the file's size is 0 Kb.

  Workaround: When creating the file, enter some characters, remove the **ftp** command, then re-enter it as follows:

  ```
  Switch(config)# no ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.$
  Switch(config)# ip dhcp snooping database ftp://griff:ddd@192.168.1.4/test1.log
  ```

  CSCsk38763

- When you load an unsupported Catalyst 4500 software version on WS-C4507R+E and WS-C4510R+E, the following log messages are seen and none of the ports come up:

  ```
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type"
  Or
  "%C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4507R-E, but chassis' serial eeprom chassis type is Unknown chassis type"

  "%C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Release 12.2(54)SG or 12.2(53)SG4 on WS-C4507R+E and WS-C4510R+E.

CSCtl70275

- A proxy ACL is not programmed for authenticated and authorized hosts, when you specify a proxy ACL ACE with an extra space

  Workarounds:

  - Do not provide an extra space while specifying a proxy ACL ACE.
  - Use a Downloadable ACL or a Filter-ID ACL instead of a proxy ACL.

  CSCtk67010

- When you load software images earlier than Cisco IOS Release 12.2(53)SG4, 12.54(SG) or 15.0(1)SG on a redundant WS-C4510R+E or WS-C4507R+E chassis, the active supervisor engines displays the following log message:

  ```
  %C4K_CHASSIS-3-CHASSISTYPEMISMATCHINSPROM: Supervisor's FPGA register chassis type is
  WS-C4510R-E, but chassis' serial eeprom chassis type is Unknown chassis type
  ```

  The active supervisor engine also displays following log message for each linecard slot in the chassis:

  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14
  ```

  where *n* is the slot number

  If the standby supervisor engine boots, the active supervisor engine displays the following message and reboots:

  ```
  %C4K_REDUNDANCY-2-POSTFAIL_RESET: Power-On Self Test (POST) failure on ACTIVE
  supervisor detected. Detected the Standby Supervisor bootupFailed
  ```

  While active supervisor engine is up, no traffic can be handled by the switch.

  The two supervisor engines might alternately reboot continuously.

  Workaround: Use Cisco IOS Release 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later images with WS-C4510R+E and WS-C4507R+E chassis.

  CSCtl84092

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command.

  (CSCtn68186)

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

  This advisory is available at the following link:

http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

Additional information on Cisco's security vulnerability policy can be found at the URL:

http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

  Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

  http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

  CSCtr28857

- A switch crashes after displaying the message:

  ```
  %AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
  MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
  ```

  provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG4

This section lists the resolved caveats in Release 12.2(53)SG4:

- If you are using a large custom Webauth login page on a switch running Cisco IOS Release 12.2(53)SG3 or IOS-XE 3.1.0 SG and multiple user are trying to access custom HTML pages, the switch might reload.

  Workaround: Unconfigure the customized HTML page to use default internal Webauth pages and reload the switch after changing the configuration. CSCti81874

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

Open Caveats in Cisco IOS Release 12.2(53)SG3

This section lists the open caveats in Cisco IOS Release 12.2(53)SG3:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)
- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:
  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  ```

```
software error occurred. Null0 linked to wrong hwidb Null0
```

Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  – Use clear text (non encryption)

  – Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

This issue is seen when the default SXP password is encrypted with type-6 encryption.

Workaround: Do one of the following:

- Use type 7 password encryption to encrypt the default SXP password
- Don't enable password encryption and allow the default SXP password to set in clear text.

(CSCsv33136)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine’s MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

Workaround: Enter **shut**, then **no shut** on the port.

CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- If you observe a periodic increase in call or packet drops and a constant decrease in free memory available in your switch, you could use the **show memory debug leak** command. However, this command is CPU intensive; it might tear down your call or data session if used on live network.

  The **show memory debug leak lowmem** command can work in extremely low memory conditions but might crash the switch due to its very high CPU intensity. It also takes between 20 and 90 minutes to complete.

  Workaround: If call or packet drops persist, contact TAC rather than entering these commands on your own. CSCsi48986

- If you are using a large custom Webauth login page on a switch running Cisco IOS Release 12.2(53)SG3 or IOS-XE 3.1.0 SG and multiple user are trying to access custom HTML pages, the switch might reload.

  Workaround: Unconfigure the customized HTML page to use default internal Webauth pages and reload the switch after changing the configuration. CSCti81874

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command.

  (CSCtn68186)

- A switch crashes after displaying the message:

  ```
  %AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
  MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
  ```

  provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG3

This section lists the resolved caveats in Release 12.2(53)SG3:

- IP Router Option may not work with IGMP version 2.

  Workaround: None. CSCsv42869

- When you configure **switchport block multicast** on a switch running Cisco IOS Release 12.2(53)SG1 or 12.2(50)SG6, Layer 2 multicast is not blocked.

  Prior to Cisco IOS Release 12.2(53)SG1, 12.2(50)SG6, the **switchport block multicast** command would block IP Multicast, Layer 2 multicast, and broadcast traffic (CSCta61825).

  Workaround: None CSCtb30327

- A switch fails if you configure a PBR policy to match on prefix-list(s) instead of ACL(s).

  Workaround: Configure the route map to only match on ACL(s). CSCtg22126

- Under SSH configuration, when using **access-class vty-login in**, you cannot telnet on an interfaces in a VRF. SSH is still avail but not enabled. As documented, if the **vrf-also** keyword is not used in **access-class**, the SSH to interface in VRF will not work.

  After upgrading to Cisco IOS Release 12.2(53)SG3, ensure that the **vrf-also** keyword follows any **access-class** under the SSH configuration.

Workaround: None. CSCsv86113

Open Caveats in Cisco IOS Release 12.2(53)SG2

This section lists the open caveats in Cisco IOS Release 12.2(53)SG2:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if

QueueID	Old QueueName	New QueueName
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  - Use clear text (non encryption)
  - Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

  ```
  %SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
  eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
  106617F8
  %SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
  eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
  106617F8
  ```

This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

Workaround: None.

CSCsz06719

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When you configure **switchport block multicast** on a switch running Cisco IOS Release 12.2(53)SG1 or 12.2(50)SG6, Layer 2 multicast is not blocked.

  Prior to Cisco IOS Release 12.2(53)SG1, 12.2(50)SG6, the **switchport block multicast** command would block IP Multicast, Layer 2 multicast, and broadcast traffic (CSCta61825).

  Workaround: None

  CSCtb30327

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- A switch fails if you configure a PBR policy to match on prefix-list(s) instead of ACL(s).

  Workaround: Configure the route map to only match on ACL(s).

  CSCtg22126

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command.

  (CSCtn68186)

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

  This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

  Additional information on Cisco's security vulnerability policy can be found at the URL:

  http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

  CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

  Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

  http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

  CSCtr28857

- A switch crashes after displaying the message:

```
%AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
```

  provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG2

This section lists the resolved caveats in Release 12.2(53)SG2:

- A 802.1X port enabled for multi-authentication might not begin learning the MAC address of a successfully authenticated phone.

  Workaround: Configure the port in multi-domain mode (rather than multi-auth mode) with the **authentication host-mode multi-domain** command

  CSCtb28114

- A PBR policy is not honored on a Supervisor Engine 6 running Cisco IOS Release 12.2(53)SG or 12.2(52)SG. Packets are forwarded through the normal routing table instead of through policy based routing.

  This is a side effect of a heavily shared path.

  Workaround: None.

  CSCtc90702

- Upon upgrading to Cisco IOS Releases 12.2(52)SG, 12.2(52)XO, 12.2(53)SG, or 12.2(53)SG1, if the flash device name differs from the default name *flash:*, you might observe the following message continuously on your console:

  ```
  %Error copying flash:/eem_pnt_2 (Invalid path)
  ```

  Workaround: Rename the flash device to the default name *flash:*.

  CSCte05909

- MAC learning does not work with Guest VLAN, Wake-on-LAN, and port security. When these features are enabled simultaneously in an interface, MAC learning does not work; none of the packets are forwarded.

  Workaround: None.

  You will need to disableWake-on-LAN on the interface.

  CSCtc58982

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- When a PVLAN isolated port is connected to a router serving as a multicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbors.

  Workaround: Do one of the following:

  - Do not attach routers to PVLAN isolated ports.
  - Disable igmp snooping (either globally or on the VLAN).
  - Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  - Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.
  - Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- After a .1X port is enabled for Guest VLAN, if you shut down the port connected to the RADIUS server so that the server goes dead and EAPOL packets are sent on that port, it is authorized in the access VLAN although the server is unreachable.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCsz63355

- When a switch enabled for explicit host tracking runs IGMPv3, ports that stopped sending IGMPv3 reports are displayed in the IGMPv3 table until a timeout. This behavior didn't exist in Cisco IOS Release 12.2(50)SG..

  Workaround: Disable explicit host tracking in the affected VLANs.

  CSCsz28612

- On a WS-C4948-10GE, on each reload or power off/on, the system clock may lose (decrease) up to 59 seconds.

  All software releases up to and including Cisco IOS Releases 12.2(31)SGA9, 12.2(50)SG6 and 12,2(53)SG1 are affected.

  Workaround: After rebooting the switch, adjust the system clock with the **clock set** command.

  CSCtc65375

- A switch running Cisco IOS Release 12.2(53)SG displays the message

  %C4K_EBM-4-HOSTFLAPPING: happening between master loopback port and the source port during layer3 (IPv4 and IPv6) packets loop using ethernet oam (EOAM)

  This message is does not impact performance.

  Workaround: None.

  CSCtc26043

- EnergyWise is enabled and you use the **energywise level** *level* **recurrence importance** *importance* **at** *minute hour day_of_month month day_of_week* interface configuration command to configure a recurring event on a switch. After the time changes from daylight savings time to standard time, the switch might

  – Restart when it tries to power a PoE device

  – Power on or off the PoE device at an incorrect time

  – Fail

  This occurs when the time change for the next year occurs after the time change for the current year.

  Before the time change occurs, use one of these workarounds:

  – Remove the recurring events from the EnergyWise configuration, do not use recurring events for a week, and reconfigure them a week after the time change occurs.

  – Use the **energywise level** *level* **recurrence importance** *importance* **time-range** *time-range-name* interface configuration command to reschedule the events.

  – Use the **power inline auto** interface configuration command to power on the PoE port.

  CSCtc91312

- On a 10GE Catalyst 4948 switch, the X2-10GB-LRM link is down on boot up.

  This problem is observed on images later than Cisco IOS Release 12.2(46)SG.

  CSCtf26763

Open Caveats in Cisco IOS Release 12.2(53)SG1

This section lists the open caveats in Cisco IOS Release 12.2(53)SG1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.

  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  - Use clear text (non encryption)
  - Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Certain Cisco Trusted Security (CTS) SXP connection configuration may not consistently select the best source IP for each SXP connection.

  On a switch with multiple Layer 3 interfaces, if the CTS SXP connection is configured without specifying source IP address and no default SXP source IP address is configured on the box, different SXP connections may pickup different source IP address for each connection.

  Workaround: Do one of the following:

  - Ensure that only one active Layer 3 interface exists on the switch.
  - Specify source the IP address in each SXP connection configuration so there is no ambiguity
  - Configure a default SXP source IP address so that the SXP connection without the source IP address will use this source IP address.

  (CSCsv28348)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  - Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.
  - Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- When a PVLAN isolated port is connected to a router serving as a multicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbors.

  Workaround: Do one of the following:

  - Do not attach routers to PVLAN isolated ports.
  - Disable igmp snooping (either globally or on the VLAN).
  - Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine’s MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- When an access-list is attached to an interface under extreme hardware resource exhaustion, the ACL may not be automatically loaded into the hardware even if hardware resources later become available.

  No TCAM entries are available for the new access-list.

  Workaround: Manually remove and reapply the ACL after freeing hardware TCAM resources by removing or shortening other classification policies on the switch.

  CSCsy85006

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- After a .1X port is enabled for Guest VLAN, if you shut down the port connected to the RADIUS server so that the server goes dead and EAPOL packets are sent on that port, it is authorized in the access VLAN although the server is unreachable.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCsz63355

- When a switch enabled for explicit host tracking runs IGMPv3, ports that stopped sending IGMPv3 reports are displayed in the IGMPv3 table until a timeout. This behavior didn't exist in Cisco IOS Release 12.2(50)SG..

  Workaround: Disable explicit host tracking in the affected VLANs.

  CSCsz28612

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the l**auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- A 802.1X port enabled for multi-authentication might not begin learning the MAC address of a successfully authenticated phone.

  Workaround: Configure the port in multi-domain mode (rather than multi-auth mode) with the **authentication host-mode multi-domain** command

  CSCtb28114

- On a WS-C4948-10GE, on each reload or power off/on, the system clock may lose (decrease) up to 59 seconds.

  All software releases up to and including Cisco IOS Releases 12.2(31)SGA9, 12.2(50)SG6 and 12,2(53)SG1 are affected.

  Workaround: After rebooting the switch, adjust the system clock with the **clock set** command.

  CSCtc65375

- When you configure **switchport block multicast** on a switch running Cisco IOS Release 12.2(53)SG1 or 12.2(50)SG6, Layer 2 multicast is not blocked.

  Prior to Cisco IOS Release 12.2(53)SG1, 12.2(50)SG6, the **switchport block multicast** command would block IP Multicast, Layer 2 multicast, and broadcast traffic (CSCta61825).

  Workaround: None

  CSCtb30327

- A switch running Cisco IOS Release 12.2(53)SG displays the message

  %C4K_EBM-4-HOSTFLAPPING: happening between master loopback port and the source port during layer3 (IPv4 and IPv6) packets loop using ethernet oam (EOAM)

  This message is does not impact performance.

  Workaround: None.

  CSCtc26043

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- EnergyWise is enabled and you use the **energywise level** *level* **recurrence importance** *importance* **at** *minute hour day_of_month month day_of_week* interface configuration command to configure a recurring event on a switch. After the time changes from daylight savings time to standard time, the switch might

  – Restart when it tries to power a PoE device

  – Power on or off the PoE device at an incorrect time

  – Fail

  This occurs when the time change for the next year occurs after the time change for the current year.

  Before the time change occurs, use one of these workarounds:

  – Remove the recurring events from the EnergyWise configuration, do not use recurring events for a week, and reconfigure them a week after the time change occurs.

  – Use the **energywise level** *level* **recurrence importance** *importance* **time-range** *time-range-name* interface configuration command to reschedule the events.

  – Use the **power inline auto** interface configuration command to power on the PoE port.

  CSCtc91312

- Upon upgrading to Cisco IOS Releases 12.2(52)SG, 12.2(52)XO, 12.2(53)SG, or 12.2(53)SG1, if the flash device name differs from the default name *flash:*, you might observe the following message continuously on your console:

  ```
  %Error copying flash:/eem_pnt_2 (Invalid path)
  ```

  Workaround: Rename the flash device to the default name *flash:*.

  CSCte05909

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

Despite the different default value, you can configure any value in the time range.

CSCte51948

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command.

  (CSCtn68186)

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

  This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

  Additional information on Cisco's security vulnerability policy can be found at the URL:

  http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

  CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

CSCtr28857

- A switch crashes after displaying the message:

```
%AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
```

provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

  Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG1

This section lists the resolved caveats in Release 12.2(53)SG1:

- When a service-policy is attached to a port-channel and that service-policy is configured to match CPU generated packets, the classification statistics do not increment for the CPU generated packets.

  Workaround: Configure an access-list to permit the CPU generated packets and apply the ACL to the class-map.

  CSCsy43967

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- If many ARP entries (47k) exist and you clear the ARP table, the system reloads and the switch crashes with the message:

```
ROM by abort at PC 0x0
```

  Workaround: None.

  Downgrade to Cisco IOS Release 12.2(50)SG3 if needed.

  CSCta49512

- On a switch running Cisco IOS Release 12.2(50)SG or 12.2(52)SG, when an 802.1X port configured with PVLAN community VLAN receives a new PVLAN assignment from the AAA server, resetting the configuration on this interface may cause the switch to reload.

  Workaround: None.

  CSCsz38442

- When the vlan-port state changes on flexlink ports, the following two messages appear on the console:

  ```
  A syslog warning message "%SM-4-BADEVENT: Event 'forward' is invalid for the current
  state 'present': pm_vp .."

  A traceback error message
  ```

  This issue happens only on flexlink ports under the following two scenarios:

  - You configure flexlink vlan load balancing before changing the port mode of a backup interface to trunk mode.
  - Flexlink recovers from per vlan-port error disable states.

  Workaround: None

  The syslog and Traceback do not impact functionality. Flexlink states end up with correct states and there is no impact on traffic forwarding.

  CSCta05317

- Per vlan-port error disable features (dhcp-rate-limit and arp-inspection) do not work on flexlink (without VLAN load balancing). When a violation occurs on the Active link, the corresponding vlan-port will not be error disabled.

  The existing per-port error disable (that is, when a violation happens, the entire port will be error disabled) still works on flexlink.

  Workaround: Use flexlink with VLAN load balancing.

  If you do not want to use vlan load balancing, then enter the **switchport backup interface perfer vlan** command on the Active interface, where vlan z is set to an unused vlan on the system

  CSCta76320

- If you enable VTP pruning after a switch is moved to VTP version 3, VLAN pruning does not happen on the trunks.

  Workaround: Change the VTP version from 3 to version 2 or 1 and then revert to version 3.

  CSCsy66803

- If a switch running Cisco IOS Release 12.2(52)SG receives MPLS packets, SA miss and host learning will cause high CPU.

  Workarounds:

  - Enter the **mac address-table dynamic group protocols ip other** command.
  - Configure a static MAC address.

  CSCta09651

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

CSCsy27389

Open Caveats in Cisco IOS Release 12.2(53)SG

This section lists the open caveats in Cisco IOS Release 12.2(53)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if

QueueID	Old QueueName	New QueueName
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  – After a reload, copy the startup-config to the running-config.

  – Use a loopback interface as the target of the **ip unnumbered** command

  – Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  – Use clear text (non encryption)

  – Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Certain Cisco Trusted Security (CTS) SXP connection configuration may not consistently select the best source IP for each SXP connection.

  On a switch with multiple Layer 3 interfaces, if the CTS SXP connection is configured without specifying source IP address and no default SXP source IP address is configured on the box, different SXP connections may pickup different source IP address for each connection.

  Workaround: Do one of the following:

  – Ensure that only one active Layer 3 interface exists on the switch.

  – Specify source the IP address in each SXP connection configuration so there is no ambiguity

  - Configure a default SXP source IP address so that the SXP connection without the source IP address will use this source IP address.

  (CSCsv28348)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  - Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.
  - Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- When a PVLAN isolated port is connected to a router serving as a multicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbors.

  Workaround: Do one of the following:

  - Do not attach routers to PVLAN isolated ports.
  - Disable igmp snooping (either globally or on the VLAN).
  - Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

```
*Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
2.2.2.1(64999)
```

This issue is seen when the default SXP password is encrypted with type-6 encryption.

Workaround: Do one of the following:

- Use type 7 password encryption to encrypt the default SXP password
- Don't enable password encryption and allow the default SXP password to set in clear text.

(CSCsv33136)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine’s MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

Workaround: None.

CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- If you enable VTP pruning after a switch is moved to VTP version 3, VLAN pruning does not happen on the trunks.

  Workaround: Change the VTP version from 3 to version 2 or 1 and then revert to version 3.

  CSCsy66803

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- When an access-list is attached to an interface under extreme hardware resource exhaustion, the ACL may not be automatically loaded into the hardware even if hardware resources later become available.

  No TCAM entries are available for the new access-list.

  Workaround: Manually remove and reapply the ACL after freeing hardware TCAM resources by removing or shortening other classification policies on the switch.

  CSCsy85006

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- On a switch running Cisco IOS Release 12.2(50)SG or 12.2(52)SG, when an 802.1X port configured with PVLAN community VLAN receives a new PVLAN assignment from the AAA server, resetting the configuration on this interface may cause the switch to reload.

  Workaround: None.

  CSCsz38442

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

CSCsz06719

- After a .1X port is enabled for Guest VLAN, if you shut down the port connected to the RADIUS server so that the server goes dead and EAPOL packets are sent on that port, it is authorized in the access VLAN although the server is unreachable.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCsz63355

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- When a switch enabled for explicit host tracking runs IGMPv3, ports that stopped sending IGMPv3 reports are displayed in the IGMPv3 table until a timeout. This behavior didn't exist in Cisco IOS Release 12.2(50)SG..

  Workaround: Disable explicit host tracking in the affected VLANs.

  CSCsz28612

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- If a host is authenticated in the data VLAN, the STP state of the VLAN is blocked.

  Assuming that you configured authentication open on the port and a host is authenticated on that port, if you unconfigure open auth (no authentication open), the STP state becomes blocked on an authenticated port.

  The connected host is authenticated so it should be able to send traffic and the STP state should be Forwarding.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCta04665

- On a Layer 2 port (that is, a switchport) of Supervisor Engine II+ thru V-10GE, the **|auto qos voice trust** command auto generates qos trust cos configuration, in addition to other parameters. However, when the port is converted from Layer 2 to Layer 3 with the no switchport command, the **qos trust dscp** command should be generated.

  Workaround: When interface mode is changed from Layer2 to Layer3, manually change interface trust state by enter the **cos trust dscp** command.

  CSCta16492

- When the vlan-port state changes on flexlink ports, the following two messages appear on the console:

```
A syslog warning message "%SM-4-BADEVENT: Event 'forward' is invalid for the current
state 'present': pm_vp .."

A traceback error message
```

This issue happens only on flexlink ports under the following two scenarios:

- You configure flexlink vlan load balancing before changing the port mode of a backup interface to trunk mode.
- Flexlink recovers from per vlan-port error disable states.

Workaround: None

The syslog and Traceback do not impact functionality. Flexlink states end up with correct states and there is no impact on traffic forwarding.

CSCta05317

- Per vlan-port error disable features (dhcp-rate-limit and arp-inspection) do not work on flexlink (without VLAN load balancing). When a violation occurs on the Active link, the corresponding vlan-port will not be error disabled.

  The existing per-port error disable (that is, when a violation happens, the entire port will be error disabled) still works on flexlink.

  Workaround: Use flexlink with VLAN load balancing.

  If you do not want to use vlan load balancing, then enter the **switchport backup interface perfer vlan** command on the Active interface, where vlan z is set to an unused vlan on the system

  CSCta76320

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If a switch running Cisco IOS Release 12.2(52)SG receives MPLS packets, SA miss and host learning will cause high CPU.

  Workarounds:

  - Enter the **mac address-table dynamic group protocols ip other** command.
  - Configure a static MAC address.

  CSCta09651

- EnergyWise is enabled and you use the **energywise level** *level* **recurrence importance** *importance* **at** *minute hour day_of_month month day_of_week* interface configuration command to configure a recurring event on a switch. After the time changes from daylight savings time to standard time, the switch might

  - Restart when it tries to power a PoE device

  - Power on or off the PoE device at an incorrect time
  - Fail

  This occurs when the time change for the next year occurs after the time change for the current year.

  Before the time change occurs, use one of these workarounds:

  - Remove the recurring events from the EnergyWise configuration, do not use recurring events for a week, and reconfigure them a week after the time change occurs.
  - Use the **energywise level** *level* **recurrence importance** *importance* **time-range** *time-range-name* interface configuration command to reschedule the events.
  - Use the **power inline auto** interface configuration command to power on the PoE port.

  CSCtc91312

- Upon upgrading to Cisco IOS Releases 12.2(52)SG, 12.2(52)XO, 12.2(53)SG, or 12.2(53)SG1, if the flash device name differs from the default name *flash:*, you might observe the following message continuously on your console:

  ```
  %Error copying flash:/eem_pnt_2 (Invalid path)
  ```

  Workaround: Rename the flash device to the default name *flash:*.

  CSCte05909

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

- A switch may crash while loading BGP routes if the **ip cef accounting non-recursive** command is already configured.

  Workaround: Disable the **ip cef accounting non-recursive** command.

  (CSCtn68186)

- If you use AAA accounting with the **broadcast** keyword, a switch may either display unpredictable behavior or crash.

  Workaround: Do not use AAA accounting with the **broadcast** keyword. CSCts56125

- A vulnerability exists in the Cisco IOS software that may allow a remote application or device to exceed its authorization level when authentication, authorization, and accounting (AAA) authorization is used. This vulnerability requires that the HTTP or HTTPS server is enabled on the Cisco IOS device.

  Products that are not running Cisco IOS software are not vulnerable.

  Cisco has released free software updates that address these vulnerabilities.

  The HTTP server may be disabled as a workaround for the vulnerability described in this advisory.

  This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-pai

  Additional information on Cisco's security vulnerability policy can be found at the URL:

http://www.cisco.com/web/about/security/psirt/security_vulnerability_policy.html

CSCtr91106

- A switch operating as a DHCP server where sessions receive DHCP information from a RADIUS server may experience a crash and DHCP related errors.

  Workaround: None. CSCtj48387

- A vulnerability in the Multicast Source Discovery Protocol (MSDP) implementation of Cisco IOS Software and Cisco IOS XE Software could allow a remote, unauthenticated attacker to cause a reload of an affected device. Repeated attempts to exploit this vulnerability could result in a sustained denial of service (DoS) condition.

  Cisco has released free software updates that address this vulnerability. Workarounds that mitigate this vulnerability are available. This advisory is available at the following link:

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20120328-msdp

Note The March 28, 2012, Cisco IOS Software Security Advisory bundled publication includes nine Cisco Security Advisories. Each advisory lists the Cisco IOS Software releases that correct the vulnerability or vulnerabilities detailed in the advisory as well as the Cisco IOS Software releases that correct all vulnerabilities in the March 2012 bundled publication.

Individual publication links are in "Cisco Event Response: Semiannual Cisco IOS Software Security Advisory Bundled Publication" at the following link:

http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_mar12.html

CSCtr28857

- A switch crashes after displaying the message:

  ```
  %AUTHMGR-7-RESULT: Authentication result 'success' from 'dot1x' for client (Unknown
  MAC) on Interface Gi5/39 AuditSessionID AC156241000000670001BC9.
  ```

  provided the following conditions apply:

  - A switchport is configured with the following:

    authentication event server dead action authorize...

    authenticaton event server alive action reinitalize

  - The RADIUS server was down previously, and a port without traffic (for example, a hub with no devices attached) was authorized into the inaccessible authentication bypass (IAB) VLAN without an associated MAC address.

    The RADIUS server becomes available again, and the IAB-authorized port transitions to another state.

  Workaround: None. CSCtx61557

- When a trunk port is configured with a native VLAN other than VLAN 1, REP packets are not sent on that VLAN.

  Workaround: Retain the default setting (VLAN 1) for the native VLAN on trunks ports. CSCud05521

- After TCAM resources are first exhausted, then freed, CPU remains high.

Workaround: Reconfigure ACLs on all interfaces.CSCuf93866

Resolved Caveats in Cisco IOS Release 12.2(53)SG

This section lists the resolved caveats in Release 12.2(53)SG:

- When port-security is configured on normal trunks carrying primary and secondary private VLANs, its configuration can be erased from the running-config under the following circumstances:

  Entering **shut/no shut** on the port after deleting a secondary VLAN.

  Workarounds:

  - Configure error recovery for port-security violation instead of entering **shut/no shut** after deleting the VLAN.
  - Configure port-security aging time to age out the MAC addresses before entering **shut/no shut**. Then, you can reconfigure port-security on the port only after reloading the switch.

  (CSCsz73895)

- On a Catalyst 4948 switch operating with high CPU, when you configure a large number of VLANs as the SPAN source, reloading causes a link up delay.

  The link partner detects the link as up although the link on the 4948 is still down, causing the partner to start forwarding traffic. Because the Catalyst 4948 is down, it drops the traffic.

  Workarounds:

  - Reduce the number of VLAN in the SPAN source session.
  - Remove the SPAN source session completely when rebooting.

  CSCsz21181

- Entering **shut/no shut** on the port after configuring **port-security vp err disable** and a violation occurs. (CSCsy80415)

  Workarounds:

  - Configure error recovery for port-security violation instead of entering **shut/no shut** to recover the port.
  - Configure **clear errdisable interface** *name* **vlan** [*range*] instead of entering **shut/no shut**.
  - Configure port-security aging time to age out the MAC addresses before entering **shut/no shut**. Then, reconfigure port-security on the port after reloading the switch.

- Cisco IOS Software contains a vulnerability that could allow an attacker to cause a Cisco IOS device to reload by remotely sending a crafted encryption packet. Cisco has released free software updates that address this vulnerability.

  CSCsq24002

- Cisco devices running affected versions of Cisco IOS Software are vulnerable to a denial of service (DoS) attack if configured for IP tunnels and Cisco Express Forwarding.

  Cisco has released free software updates that address this vulnerability.

  CSCsx70889

Open Caveats in Cisco IOS Release 12.2(52)SG

This section lists the open caveats in Cisco IOS Release 12.2(52)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.

  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds: Use either of the following to set the sxp default password:

  - Use clear text (non encryption)
  - Type 7 password encryption

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFP+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+, SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Certain Cisco Trusted Security (CTS) SXP connection configuration may not consistently select the best source IP for each SXP connection.

  On a switch with multiple Layer 3 interfaces, if the CTS SXP connection is configured without specifying source IP address and no default SXP source IP address is configured on the box, different SXP connections may pickup different source IP address for each connection.

  Workaround: Do one of the following:

  - Ensure that only one active Layer 3 interface exists on the switch.
  - Specify source the IP address in each SXP connection configuration so there is no ambiguity
  - Configure a default SXP source IP address so that the SXP connection without the source IP address will use this source IP address.

  (CSCsv28348)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configured with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  - Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.
  - Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed, do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- When a PVLAN isolated port is connected to a router serving as a multicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbors.

  Workaround: Do one of the following:

  - Do not attach routers to PVLAN isolated ports.
  - Disable igmp snooping (either globally or on the VLAN).
  - Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine’s MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- When .1X with MDA is set in host mode and guest VLAN is enabled, when you pump traffic from a traffic generator at a high rate, a Security violation is wrongly flagged.

  Workaround: None.

  CSCsy38640

- When you enter the **show adjacency x.x.x.x internal** command for an adjacency, the packet counters are increment correctly but the byte counters remain 0.

  Workaround: None.

  CSCsu35604

- If you enable VTP pruning after a switch is moved to VTP version 3, VLAN pruning does not happen on the trunks.

  Workaround: Change the VTP version from 3 to version 2 or 1 and then revert to version 3.

  CSCsy66803

- When you request an on demand Call Home message send without specifying a profile name & the specified module returns an unknown diagnostic result, the following error message displays:

```
Switch# call-home send alert-group diagnostic module 2
Sending diagnostic info call-home message ...
Please wait. This may take some time ...
Switch#
*Jan  3 01:54:24.471: %CALL_HOME-3-ONDEMAND_MESSAGE_FAILED: call-home on-demand
message failed to send (ERR 18, The alert group is not subscribed)
```

  Workaround: Specify a profile name when you enter the diagnostic command.

  You might want to avoid requesting on demand send for invalid modules. First, enter the **show module** command to check for valid or present modules.

  CSCsz05888

- When an access-list is attached to an interface under extreme hardware resource exhaustion, the ACL may not be automatically loaded into the hardware even if hardware resources later become available.

  No TCAM entries are available for the new access-list.

  Workaround: Manually remove and reapply the ACL after freeing hardware TCAM resources by removing or shortening other classification policies on the switch.

  CSCsy85006

- If you simultaneously apply a service-policy to a port in the output direction and a service-policy to a vlan-range under that port in the output direction, the class-map hit counters in the output of the **show policy-map interface** command are wrong.

  Workaround: None.

  The queue transmit counters as well as the policing statistics (if any) are correct.

  CSCsz20149

- On a switch running Cisco IOS Release 12.2(50)SG or 12.2(52)SG, when an 802.1X port configured with PVLAN community VLAN receives a new PVLAN assignment from the AAA server, resetting the configuration on this interface may cause the switch to reload.

  Workaround: None.

  CSCsz38442

- Packets entering a switch as fragments or with a non-zero fragment offset field are not be subjected to PBR.

  Workaround: None.

  CSCsz06719

- After a .1X port is enabled for Guest VLAN, if you shut down the port connected to the RADIUS server so that the server goes dead and EAPOL packets are sent on that port, it is authorized in the access VLAN although the server is unreachable.

  Workaround: Enter **shut**, then **no shut** on the port.

  CSCsz63355

- When you configure EnergyWise power control on PoE ports with a time-based execution schedule, time entry executes without adjusting for daylight savings time.

  Workaround: Manually re-enter all entries with new time settings.

  CSCsy27389

- When a switch enabled for explicit host tracking runs IGMPv3, ports that stopped sending IGMPv3 reports are displayed in the IGMPv3 table until a timeout. This behavior didn't exist in Cisco IOS Release 12.2(50)SG.

  Workaround: Disable explicit host tracking in the affected VLANs.

  CSCsz28612

- On wireless control system (WCS), some device information is incorrectly displayed for PCs sitting behind an lldp-med capable phone. Specifically, WCS displays the phone's serial number, model number, and software version in the PC's device information. All other information about the PC is correctly displayed on WCS.

  This only happens when the switch is running network mobility service protocol (nmsp). It does not happen if the phone is CDP enabled.

  Workaround: Use VLAN ID or name to differentiate the IP phone and the PC sitting behind the phone on the WCS. Specifically, the IP phone is detected on the voice VLAN, and the displayed information of serial number, model number, and software version is correct. However, a PC sitting behind the phone is detected on a data VLAN, and the displayed device information is wrong and should be ignored.

  CSCsz34522

- When port-security is configured on normal trunks carrying primary and secondary private VLANs, its configuration can be erased from the running-config under the following circumstances:

  Entering **shut/no shut** on the port after deleting a secondary VLAN. (CSCsz73895)

  Workarounds:

  – Configure error recovery for port-security violation instead of entering **shut/no shut** after deleting the VLAN.

  – Configure port-security aging time to age out the MAC addresses before entering **shut/no shut**. Then, you can reconfigure port-security on the port only after reloading the switch.

  Entering **shut/no shut** on the port after configuring **port-security vp err disable** and a violation occurs. (CSCsz80415)

  Workarounds:

  – Configure error recovery for port-security violation instead of entering **shut/no shut** to recover the port.

  – Configure **clear errdisable interface** *name* **vlan** [*range*] instead of entering **shut/no shut**.

  – Configure port-security aging time to age out the MAC addresses before entering **shut/no shut**. Then, reconfigure port-security on the port after reloading the switch.

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If a switch running Cisco IOS Release 12.2(52)SG receives MPLS packets, SA miss and host learning will cause high CPU.

  Workarounds:

  – Enter the **mac address-table dynamic group protocols ip other** command.

  – Configure a static MAC address.

  CSCta09651

- EnergyWise is enabled and you use the **energywise level** *level* **recurrence importance** *importance* **at** *minute hour day_of_month month day_of_week* interface configuration command to configure a recurring event on a switch. After the time changes from daylight savings time to standard time, the switch might

  – Restart when it tries to power a PoE device

  – Power on or off the PoE device at an incorrect time

  – Fail

  This occurs when the time change for the next year occurs after the time change for the current year.

  Before the time change occurs, use one of these workarounds:

  – Remove the recurring events from the EnergyWise configuration, do not use recurring events for a week, and reconfigure them a week after the time change occurs.

  – Use the **energywise level** *level* **recurrence importance** *importance* **time-range** *time-range-name* interface configuration command to reschedule the events.

  – Use the **power inline auto** interface configuration command to power on the PoE port.

  CSCtc91312

- Upon upgrading to Cisco IOS Releases 12.2(52)SG, 12.2(52)XO, 12.2(53)SG, or 12.2(53)SG1, if the flash device name differs from the default name *flash:*, you might observe the following message continuously on your console:

  ```
  %Error copying flash:/eem_pnt_2 (Invalid path)
  ```

  Workaround: Rename the flash device to the default name *flash:*.

  CSCte05909

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

Despite the different default value, you can configure any value in the time range.

CSCte51948

Resolved Caveats in Cisco IOS Release 12.2(52)SG

This section lists the resolved caveats in Release 12.2(52)SG:

- Under control place policing, control plane classes (the classes that are auto created by the **macro global apply system-cpp** command and use predefined ACLs to match traffic) increment both their packet and byte count. So, both counters are non-zero.

  In contrast, data plane classes (the classes that are configured manually by user written ACLs), the byte counter increments as expected, but the packet count remains 0.

  Workaround: None.

  CSCsw16557

- On a Catalyst 4500, if an isolated private VLAN trunk interface flaps, the ingress and egress per-port per-vlan service policies are no longer applied on the port.

  This impacts Cisco IOS Releases 12.2(31)SGA08, 12.2(37)SG, 12.2(40)SG, 12.2(44)SG, 12.2(46)SG, 12.2(50)SG, and 12.2(50)SG1.

  Workarounds:

  For a Classic Series Supervisor Engine, disable and configure QoS on the port.

  For example, to configure Gig 2/1 as an isolated private VLAN trunk port, do the following:

  ```
  Switch# conf t
  Enter configuration commands, one per line.  End with CNTL/Z.
  Switch(config)# interface gigabitEthernet 2/1
  Switch(config-if)# no qos
  Switch(config-if)# qos
  Switch(config-if)# end
  Switch#
  ```

  You can configure the following EEM script to automate this workaround. QoS will be disabled and re-enabled whenever a port flaps.

  ```
  logging event link-status global

  event manager applet linkup-reqos
   event syslog pattern "changed state to up"
   action 1 cli command "enable"
   action 2 cli command "conf t"
   action 3 cli command "interface gigabitEthernet 2/1"
   action 4 cli command "no qos"
   action 5 cli command "qos"
  ```

  CSCsw19087

- When you run an SNMP (getmany) query on cbQosPoliceStatsTable and cbQosREDClassStatsTable with a single SSH window (session), CPU utilization achives 99 per cent. If you query cbQosPoliceStatsTable and cbQosREDClassStatsTable from 18 SSH sessions, a CPU-HOG error message displays.

  Workaround: None, other than stopping the query.

  CSCsw89720

- On a supervisor engine running Cisco IOS Release 12.2(50)SG or later releases with one or more ports configured for single-host mode, MAB, and authentication control-direction in, hosts are not authenticated through MAB when a port is configured for single-host mode and you enter the **unidirectional control in** command (Wake-on-LAN).

  Workaround: Disable the **authentication control-direction in** command.

  If you require **authentication control-direction in**, configure the port for multi-authentication or Multi-Domain Authentication (MDA).

  CSCsx98360

- On a redundant switch running Cisco IOS Releases 12.2(50)SG or 12.2(50)SG1 where 802.1X VVID and port security are configured on a port, CDP MAC from the non 802.1X capable Cisco IP phone might not be added to the port security table on the standby supervisor engine.

  Workaround: None.

  This problem is fixed in Cisco IOS Releases 12.2(50)SG2 and 12.2(52)SG.

  CSCsw29489

- On a switch running Cisco IOS Release 12.2(50)SG or 12.2(50)SG1 where 802.1X VVID and port security are configured on a port, inserting a non 802.1X capable Cisco IP phone with LLDP capability and a PC behind it may trigger a security violation.

  Workaround: Turn off LLDP (on the switch) and the phone (from Call Manager).

  This problem is fixed in 12.2(50)SG2 and 12.2(52)SG.

  CSCsy21167

- Parity errors in the CPU's cache cause IOS to crash with a crashdump file like the following:

```
Switch# show platform crashdump

VECTOR 0

*** CRASH DUMP ***
02/09/2009 10:10:30
Last crash: 02/09/2009 10:10:30

Build: 12.2(20090206:234053) IPBASE
buildversion addr: 13115584

MCSR: 40000000 <--- non-zero value!
.
```

  The key pieces of data are "VECTOR 0" and a MCSR value of 40000000, 20000000, or 10000000.

  Workaround: Enter the **show platform cpu cach**e command to launch an IOS algorithm that detects and recovers from parity errors in the CPU's cache. You will obtain a running count of the number of CPU cache parity errors that have been successfully detected and corrected on a running system:

```
Switch# show platform cpu cache
L1 Instruction Cache: ENABLED
L1 Data Cache: ENABLED
L2 Cache: ENABLED
Machine Check Interrupts: 5
L1 Instruction Cache Parity Errors: 3
L1 Instruction Cache Parity Errors (CPU30): 1
L1 Data Cache Parity Errors: 1
```

  CSCsx15372

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Unauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running Cisco IOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.
  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- On classic series supervisors and Supervisor Engine 6-E running Cisco IOS Release 12.2(50)SG and later releases, egress traffic is not allowed on ports configured for Wake-on-LAN (through the **authentication control-direction in** command) and Multi-domain Authentication (MDA) (through the **authentication host-mode multi-domain** command) before the port is authorized.

  Workaround: None. CSCsy29140

- Under normal operation, you will observe the following messages in the logs:

```
001298: .Oct  8 01:38:50.968: %C4K_SWITCHINGENGINEMAN-4-TCAMINTERRUPT: flCam0
aPErr interrupt. errAddr: 0x2947 dPErr: 1 mPErr: 0 valid: 1
001299: .Oct  8 01:51:20.100: %C4K_SWITCHINGENGINEMAN-4-TCAMINTERRUPT: flCam0
aPErr interrupt. errAddr: 0x2B59 dPErr: 1 mPErr: 0 valid: 1
```

Workaround: None

CSCsv17545

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- When you use a WCCPv2 service group employing promiscuous TCP mode on an interface, the switch redirects GRE traffic to one of the WAAS devices in the group.

  Workaround: Remove the WCCP redirection.

  If the WAAS device drops this unexpected GRE traffic, the WCCP service group with promiscuous mode cannot be used on the interface. Conversely, if the WAAS device returns the traffic to the switch, the switch routes it normally to the original destination.

  CSCsx56922

- Cisco IOS Software contains a vulnerability that could allow an attacker to cause a Cisco IOS device to reload by remotely sending a crafted encryption packet. Cisco has released free software updates that address this vulnerability.

  CSCsq24002

- On a switch running Cisco IOS 12.2(52)SG, when a port configured with 802.1X enters per vp errdisable mode because of a violation triggered by port security, DAI, DHCP snooping, or BPDU guard, the port's 802.1X sessions are not cleared despite the linkdown.

  Workaround: None.

  Do not configure 802.1X with other per vp errdisable features.

  CSCsx74871

- AutoQoS cannot be configured on member ports of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in Cisco IOS Release 12.2(40)SG.

  Workaround: Manually apply the configuration that would be generated by Auto QoS.

  CSCsv03316

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

Open Caveats in Cisco IOS Release 12.2(50)SG8

This section lists the open caveats in Cisco IOS Release 12.2(50)SG8:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
```

```
FastEthernet3/2

 Service-policy output: p1

   Class-map: c1 (match-all)
     0 packets<--------It stays at '0' despite of traffic being received
     Match: access-group name fnacl21
     police: Per-interface
       Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  – Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.

  – Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  – Do not attach routers to PVLAN isolated ports.

  – Disable igmp snooping (either globally or on the VLAN).

  – Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.
  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- AutoQoS cannot be configured on member port(s) of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in 12.2(40)SG.

  Workaround: Manually apply the configuration that is generated by AutoQoS. Do not use Auto Qos. CSCsv03316

- Class-map hit counters do not increment on the egress policy-map when it is attached to primary VLAN on private VLAN trunk ports. However, the traffic is properly classified and the actions configured in policy are applied properly.

  Workaround: None.

  CSCsy72343

- On a Catalyst 4900 series switch running Cisco IOS Release 12.2(46)SG and later versions, if you enter the **clear port-security dynamic interface fastethernet1** command, the switch reloads.

  Do not enter this command if port security is not configured on the interface.

  Do not enter this command on fa1.

  Workaround: None. CSCtb16586

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

Resolved Caveats in Cisco IOS Release 12.2(50)SG8

This section lists the resolved caveats in Release 12.2(50)SG8:

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

Open Caveats in Cisco IOS Release 12.2(50)SG7

This section lists the open caveats in Cisco IOS Release 12.2(50)SG7:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.
  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- AutoQoS cannot be configured on member port(s) of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in 12.2(40)SG.

  Workaround: Manually apply the configuration that is generated by AutoQoS. Do not use Auto Qos. CSCsv03316

- Class-map hit counters do not increment on the egress policy-map when it is attached to primary VLAN on private VLAN trunk ports. However, the traffic is properly classified and the actions configured in policy are applied properly.

  Workaround: None.

  CSCsy72343

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

Resolved Caveats in Cisco IOS Release 12.2(50)SG7

This section lists the resolved caveats in Release 12.2(50)SG7:

- On a 10GE Catalyst 4948 switch, the X2-10GB-LRM link is down on boot up.

  This problem is observed on images later than Cisco IOS Release 12.2(46)SG.

  CSCtf26763

- A PBR policy is not honored on a Supervisor Engine 6 running Cisco IOS Release 12.2(53)SG or 12.2(52)SG. Packets are forwarded through the normal routing table instead of through policy based routing.

  This is a side effect of a heavily shared path.

  Workaround: None.

  CSCtc90702

- In Cisco IOS Releases 12.2(50)SG, 12.2(52)SG and 12.2(53)SG, some GBICs may be deemed incompatible after you upgrade to 12.2(50)SG. The following message may be displayed:

  ```
  %C4K_TRANSCEIVERMAN-3-INCOMPATIBLE: Port Gi5/10: New transceiver (speed
   10Gbps) is incompatible with this module
   The Gbic is unusable in the switch configuration with the 12.2(50)SG IOS.
  ```

  Workarounds: Do one of the following

  - Use a different GBIC.
  - Downgrade to Cisco IOS Release 12.2(46)SG.
  - Upgrade to Cisco IOS Release 12.2(53)SG2 or 12.2(50)SG7.

  CSCtd40838

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  - Do not attach routers to PVLAN isolated ports.
  - Disable igmp snooping (either globally or on the VLAN).
  - Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  - Do not attach routers to PVLAN isolated ports.
  - Disable igmp snooping (either globally or on the VLAN).
  - Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- On a Catalyst 4900 series switch running Cisco IOS Release 12.2(46)SG and later versions, if you enter the **clear port-security dynamic interface fastethernet1** command, the switch reloads.

  Do not enter this command if port security is not configured on the interface.

  Do not enter this command on fa1.

Workaround: None. CSCtb16586

Open Caveats in Cisco IOS Release 12.2(50)SG6

This section lists the open caveats in Cisco IOS Release 12.2(50)SG6:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if

QueueID	Old QueueName	New QueueName
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  – Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.

  – Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  – Do not attach routers to PVLAN isolated ports.

  – Disable igmp snooping (either globally or on the VLAN).

  – Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.
  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

This is a configuration error.

Workaround: None. (CSCsv91302)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- AutoQoS cannot be configured on member port(s) of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in 12.2(40)SG.

  Workaround: Manually apply the configuration that is generated by AutoQoS. Do not use Auto Qos. CSCsv03316

- Class-map hit counters do not increment on the egress policy-map when it is attached to primary VLAN on private VLAN trunk ports. However, the traffic is properly classified and the actions configured in policy are applied properly.

  Workaround: None.

  CSCsy72343

- On a Catalyst 4900 series switch running Cisco IOS Release 12.2(46)SG and later versions, if you enter the **clear port-security dynamic interface fastethernet1** command, the switch reloads.

  Do not enter this command if port security is not configured on the interface.

  Do not enter this command on fa1.

  Workaround: None. CSCtb16586

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

CSCsz63739

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None.

  Despite the different default value, you can configure any value in the time range.

  CSCte51948

Resolved Caveats in Cisco IOS Release 12.2(50)SG6

This section lists the resolved caveats in Release 12.2(50)SG6:

- If many ARP entries (47k) exist and you clear the ARP table, the system reloads and the switch crashes with the message:

  ```
  ROM by abort at PC 0x0
  ```

  Workaround: None.

  Downgrade to Cisco IOS Release 12.2(50)SG3 if needed.

  CSCta49512

- ARP entries learned on PVLAN SVIs are not aged out even if the **no ip sticky arp** command is configured globally.

  ARP entries learned on normal SVIs are unaffected.

  Workaround: Clear these ARP entries with the **clear ip arp** command.

  CSCtb37718

- When port security and ARP inspection are configured together, the first ARP packet from a host, which is connected to the switch, could bypass the ARP inspection and be bridged out mistakenly.

  Workaround: Disable port security.

  CSCtb40187

- When you exit policy-map configuration mode without making changes to a policy-map on a switch configured with a service-policy for QoS, configuring an output service policy on an EtherChannel interface causes a link flap.

  Workarounds: Configure identical policy-maps with different names so that each EtherChannel has its own policy. This action restricts the effect of this link flap to a limited number of EtherChannels.

  CSCsz82795

Open Caveats in Cisco IOS Release 12.2(50)SG4

This section lists the open caveats in Cisco IOS Release 12.2(50)SG4:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# sh policy-map int
    FastEthernet3/2

     Service-policy output: p1
  ```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)
- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)
- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)
- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)
- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

```
Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
software error occurred. Null0 linked to wrong hwidb Null0
```

  Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  – Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.

  – Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  – Do not attach routers to PVLAN isolated ports.

  – Disable igmp snooping (either globally or on the VLAN).

  – Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.
  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

  Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- AutoQoS cannot be configured on member port(s) of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in 12.2(40)SG.

  Workaround: Manually apply the configuration that is generated by AutoQoS. Do not use Auto Qos. CSCsv03316

- Class-map hit counters do not increment on the egress policy-map when it is attached to primary VLAN on private VLAN trunk ports. However, the traffic is properly classified and the actions configured in policy are applied properly.

  Workaround: None.

  CSCsy72343

- On a Catalyst 4900 series switch running Cisco IOS Release 12.2(46)SG and later versions, if you enter the **clear port-security dynamic interface fastethernet1** command, the switch reloads.

  Do not enter this command if port security is not configured on the interface.

  Do not enter this command on fa1.

  Workaround: None. CSCtb16586

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  - Multi-host mode configured on the port with the **authentication host-mode multi-host** command.
  - Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.
  - Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

Resolved Caveats in Cisco IOS Release 12.2(50)SG4

This section lists the resolved caveats in Release 12.2(50)SG4:

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running Cisco IOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.

  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

- **Workaround**s: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Unauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- AutoQoS cannot be configured on member port(s) of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in 12.2(40)SG.

  Workaround: Manually apply the configuration that is generated by AutoQoS. Do not use Auto Qos. CSCsv03316

- Under normal operation, you will observe the following messages in the logs:

```
001298: .Oct  8 01:38:50.968: %C4K_SWITCHINGENGINEMAN-4-TCAMINTERRUPT: flCam0
aPErr interrupt. errAddr: 0x2947 dPErr: 1 mPErr: 0 valid: 1
001299: .Oct  8 01:51:20.100: %C4K_SWITCHINGENGINEMAN-4-TCAMINTERRUPT: flCam0
aPErr interrupt. errAddr: 0x2B59 dPErr: 1 mPErr: 0 valid: 1
```

  Workaround: None

  CSCsv17545

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- On classic series supervisors and Supervisor Engine 6-E running Cisco IOS Release 12.2(50)SG and later releases, egress traffic is not allowed on ports configured for Wake-on-LAN (through the **authentication control-direction in** command) and Multi-domain Authentication (MDA) (through the **authentication host-mode multi-domain** command) before the port is authorized.

  Workaround: None. CSCsy29140

  Cisco IOS Software configured with Authentication Proxy for HTTP(S), Web Authentication or the consent feature, contains a vulnerability that may allow an unauthenticated session to bypass the authentication proxy server or bypass the consent webpage.

There are no workarounds that mitigate this vulnerability.

CSCsy15227

- Cisco IOS Software contains a vulnerability that could allow an attacker to cause a Cisco IOS device to reload by remotely sending a crafted encryption packet. Cisco has released free software updates that address this vulnerability.

  CSCsq24002

- Cisco devices running affected versions of Cisco IOS Software are vulnerable to a denial of service (DoS) attack if configured for IP tunnels and Cisco Express Forwarding.

  Cisco has released free software updates that address this vulnerability.

  CSCsx70889

- AutoQoS cannot be configured on member ports of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in Cisco IOS Release 12.2(40)SG.

  Workaround: Manually apply the configuration that would be generated by Auto QoS.

  CSCsv03316

Open Caveats in Cisco IOS Release 12.2(50)SG2

This section lists the open caveats in Cisco IOS Release 12.2(50)SG2:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)
- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:
  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  ```

```
software error occurred. Null0 linked to wrong hwidb Null0
```

Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  – Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.

  – Enter **shut** then **no shut** on a 802.1X port.

(CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  – Do not attach routers to PVLAN isolated ports.

  – Disable igmp snooping (either globally or on the VLAN).

  – Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  – The router is configured with AAA authentication and authorization.

  – The AAA server runs CiscoSecure ACS 2.4.

  – The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- AutoQoS cannot be configured on member ports of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in Cisco IOS Release 12.2(40)SG.

  Workaround: Manually apply the configuration that would be generated by Auto QoS.

  CSCsv03316

- The host's MAC address is not synchronized to the standby supervisor engine after you unconfigure 802.1X on the port and reconnect the host to a IP phone (with CDP port status TLV support) that is connected to the switch.

  If the switch were to run a supervisor switchover while in this state, the host's MAC address would not be present in the new active supervisor engine's MAC address table, causing possible connectivity interruption on the host.

Workaround: Enter the **shutdown** command, followed by the **no shutdown** command on the interface. This triggers relearning and synchronizing of the host's MAC to the standby supervisor engine. CSCsw91661

- On classic series supervisors and Supervisor Engine 6-E running Cisco IOS Release 12.2(50)SG and later releases, egress traffic is not allowed on ports configured for Wake-on-LAN (through the **authentication control-direction in** command) and Multi-domain Authentication (MDA) (through the **authentication host-mode multi-domain** command) before the port is authorized.

  Workaround: None. CSCsy29140

- Class-map hit counters do not increment on the egress policy-map when it is attached to the primary VLAN on a PVLAN trunk ports. However, the traffic is properly classified and the actions configured in the policy are applied properly.

  Workaround: None. CSCsy72343

- AutoQoS cannot be configured on member port(s) of a port-channel.

```
Switch# sh runn int fa 3/1
 channel-group 2 mode on  -- Port in etherchannel
Switch# conf t
Switch(config)# int fa 3/1
Switch(config-if)# auto qos voip trust
AutoQoS Error: AutoQoS can not be configured on member port(s) of a port-channel
```

  This problem is first seen in 12.2(40)SG.

  Workaround: Manually apply the configuration that is generated by AutoQoS. Do not use Auto Qos. CSCsv03316

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

Resolved Caveats in Cisco IOS Release 12.2(50)SG2

This section lists the resolved caveats in Release 12.2(50)SG2:

- Packets for traffic destined to SNAP host might be dropped if the ARP table indicates that the MAC entry is SNAP.

  Workarounds:

  1. Configure a static ARPA entry for host.

  2. Upgrade to a future IOS release containing the fix.

  CSCsu90780

- When SPAN is enabled and the SPAN source port is receiving malformed packet such as the error packets produced by collision, the port might stop receiving packets or might replay the packets repeatedly to cause flooding to other ports.

  This issue is observed on platforms including WS-C4948 and WS-X4548-GB, and linecards including:

  - WS-X4418-GB (Port 3-18)
  - WS-X4506-GB-T (RJ45 ports)
  - WS-X4424-GB-RJ45
  - WS-X4448-GB-RJ45
  - WS-X4548-GB-RJ45
  - WS-X4524-GB-RJ45V
  - WS-X4548-GB-RJ45V

  Workaround: Enable packet filter function to alert the SPAN session to pass good packet only with the command:

  ```
  monitor session 1 filter packet-type good rx
  ```

  CSCsv07168

- On a Catalyst 4948-10GE chassis running IOS Cisco Releases 12.21(31)SGA or 12.2(46)SG, the default transmit queue selection based on IP DSCP value is incorrect. For example, both CS1 and CS5 traffics are passing through transmit queue 1, instead of 1 and 3.

  Workaround: Enable and disable global QoS, as follows:

  ```
  switch# conf t
  switch(conf)# qos
  switch(conf)# no qos
  ```

  CSCsv29945

- On a Catalyst 4500 switch running 12.2(50)SG or 12.2(50)SG1, when 802.1X VVID and port security are configured together on a switch port, inserting a non 802.1x capable Cisco IP phone with a PC behind it may trigger a security violation.

  Workaround: None. CSCsv63638

- If you configure multiple REP segments, pre-emption in one segment brings down all REP segments.

  Workaround: None. CSCsv91297

- On a Catalyst 4500 series switch, if an isolated private VLAN trunk interface flaps, the ingress per-port per-vlan policer is no longer applied on the port.

  Affected Cisco IOS releases include 12.2(31)SGA08, 12.2(37)SG, 12.2(40)SG, 12.2(46)SG, and 12.2(50)SG.

  Workaround: Disable and configure QoS, as follows:

  ```
  Switch# conf t
  Enter configuration commands, one per line.  End with CNTL/Z.
  Switch(config)# no qos
  Switch(config)# qos
  Switch(config)# end
  Switch#
  ```

  CSCsw19087

- A crash occurs when you enter the **show idprom interface FastEthernet 1** command.

  Workaround: None. CSCsw77413

- Hosts are not authenticated through MAB when you configure a port for single-host mode (with the **authentication host-mode single-host** command) and Wake-on-LAN (with the **authentication control-direction in** command).

  Workarounds: Disable Wake-on-LAN with the **no authentication control-direction in** command.

  CSCsx98360

- On a Catalyst 4500 series switch running Cisco IOS Release 12.2(50)SG or 12.2(50)SG1, when you configure both 802.1X VVID and port security together on a switch port, then insert a non-802.1X capable Cisco IP phone with LLDP capability and a PC behind it, you might trigger a security violation. The violation is triggered when the PC behind the phone gets authorized on the port before the IP phone sends LLDP packet.

  Workaround: Turn off LLDP on the switch and Cisco IP phone from Call Manager.

  CSCsy21167

- When using control place policing, the control plane classes (the classes which are auto created by the **macro global apply system-cpp** command and use the predefined ACLs to match traffic) increment the packet and byte count. This mean that both counters are non-zero.

  Instead, the data plane classes (configured manually by user written ACLs) increment the byte counter, but not the packet count (remains 0).

  Workaround: None. CSCsw16557

Open Caveats in Cisco IOS Release 12.2(50)SG1

This section lists the open caveats in Cisco IOS Release 12.2(50)SG1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)
- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:
  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command
  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  ```

```
software error occurred. Null0 linked to wrong hwidb Null0
```

Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds:Use either of the following to set the sxp default password:

  – Use clear text(non encryption)

  – Type 7 password encryptio

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- Certain Cisco Trusted Security (CTS) SXP connection configuration may not consistently select the best source IP for each SXP connection.

  On a switch with multiple Layer 3 interfaces, if the CTS SXP connection is configured without specifying source IP address and no default SXP source IP address is configured on the box, different SXP connections may pickup different source IP address for each connection.

  Workaround: Do one of the following:

  – Ensure that only one active Layer 3 interface exists on the switch.

  – Specify source the IP address in each SXP connection configuration so there is no ambiguity

  – Configure a default SXP source IP address so that the SXP connection without the source IP address will use this source IP address.

  (CSCsv28348)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

(CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  – Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.

  – Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  – Enter any commands for that port.

  – Insert an SFP+ in that port.

  – Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  – Do not attach routers to PVLAN isolated ports.

  – Disable igmp snooping (either globally or on the VLAN).

  – Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  - Use type 7 password encryption to encrypt the default SXP password
  - Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  - The router is configured with AAA authentication and authorization.
  - The AAA server runs CiscoSecure ACS 2.4.
  - The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.
  b. **Shut** any one REP port in the segment to cause a failure in that segment.
  c. **No-shut** that port to restore normal REP topology with one ALT port.
  d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

  (CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

Resolved Caveats in Cisco IOS Release 12.2(50)SG1

This section lists the resolved caveats in Release 12.2(50)SG1:

- When port security is configured on a port connected to a host via an IP phone and the host is disconnected, the host's MAC address is not removed from the port security MAC address table even if the IP phone and switch support the CDP 2nd port disconnect TLV feature.

  Workaround:To remove the host's MAC address from the port security MAC address table, unconfigure and reconfigure port security on the port. (CSCsr74097)

Open Caveats in Cisco IOS Release 12.2(50)SG

This section lists the open caveats in Cisco IOS Release 12.2(50)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2
```

```
Service-policy output: p1

  Class-map: c1 (match-all)
    0 packets<--------It stays at '0' despite of traffic being received
    Match: access-group name fnacl21
    police: Per-interface
      Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  – A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  – This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  – Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.

  – Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  – After a reload, copy the startup-config to the running-config.

  – Use a loopback interface as the target of the **ip unnumbered** command

  – Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

```
%PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
```

Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

```
Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
software error occurred. Null0 linked to wrong hwidb Null0
```

Workaround: None. (CSCso68331)

- When you configure **ip source binding** statically on an interface, and then remove linecard on which the interface resides, the entries are not removed from the running config.

  Workaround: Before removing a linecard, delete the statically configured **ip source binding** entries on any of the interfaces on the line-card. (CSCsv54529)

- If you configure OFM on an Etherchannel (with at least two interfaces), when you shut or remove the first member that joined the channel, the CFM neighbor is lost.

  Workaround: Clear the errors with the **clear ethernet cfm errors** command in EXEC mode. (CSCsv43819)

- The CTS SXP **cts sxp default password mypassword** configuration command does not work when you configure type 6 password encryption on the switch.

  Workarounds:Use either of the following to set the sxp default password:

  – Use clear text(non encryption)

  – Type 7 password encryptio

  (CSCsv33006)

- Duplicate serial number error messages are reported on switching One X Convertor with SFP+, SFP+, X2 to another port, the inserted port enters a faulty status.

  This problem impacts X2, OneX converters, and SFp+ on the Supervisor Engine 6-E, and linecards.

  Workaround: Remove and reinsert the One X Convertor with SFP+ , SFP+ alone, or X2 after some perceivable delay. (CSCsu43461)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- Certain Cisco Trusted Security (CTS) SXP connection configuration may not consistently select the best source IP for each SXP connection.

  On a switch with multiple Layer 3 interfaces, if the CTS SXP connection is configured without specifying source IP address and no default SXP source IP address is configured on the box, different SXP connections may pickup different source IP address for each connection.

  Workaround: Do one of the following:

  – Ensure that only one active Layer 3 interface exists on the switch.

  – Specify source the IP address in each SXP connection configuration so there is no ambiguity

  – Configure a default SXP source IP address so that the SXP connection without the source IP address will use this source IP address.

  (CSCsv28348)

- On a Catalyst 4500 switch running 12.2(50)SG, when the access VLAN is deleted and then restored on a port configurd with 802.1x multi-auth, authorized 802.1X clients cannot pass traffic because the spanning tree remains in a Disabled state after the access VLAN is restored.

  This problem occurs when an 802.1X client is authorized on a multi-auth port. After the access VLAN is deleted, then restored, the client is reauthorized but the spanning tree state of the access VLAN remains Disabled.

  Workaround: Shut down then reopen the interface.

  (CSCso50921)

- On a switch running Cisco IOS Release12.2(50)SG, supplicants authorized on PVLAN in multi-auth host mode are not moved to an Uauthorized state when the PVLAN is removed.

  This problem occurs only when a port is configured with PVLAN and 802.1X multi-auth.

  Workaround: Shut down then reopen the interface. (CSCsr58573)

- When the switch port configured with 802.1X Multi-Domain Authentication (MDA) and Guest VLAN is connected to a non-802.1X supplicant PC through a hub, the port falls back to guest VLAN. Subsequently, it is stuck in the guest VLAN and ignores all EAPOL traffic from another 802.1X supplicant PC connected to the hub.

  Workaround: None. (CSCsu42775)

- VTP databases do not propagate through promiscuous trunk ports. If only promiscuous trunks are configured, users will not see the VLAN updates on the other switches in the VTP domain.

  Workaround: For VTP database propagation, configure ISL/dot1q trunk port. (CSCsu43445)

- Egress traffic may not be allowed when 802.1X is configured as a Unidirectional Controlled Port.

  Workarounds: Do one of the following:

  - Enter **spanning-tree portfast** then **authentication control-direction in** on a 802.1X port.
  - Enter **shut** then **no shut** on a 802.1X port.

  (CSCsv05205)

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes roughly 45 seconds for the system to recognize this. Any commands during this time will indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can result in Duplicate Seeprom error message.

  Workaround: When a log message appears indicating that the SFP+ has been removed , do one of the following:

  - Enter any commands for that port.
  - Insert an SFP+ in that port.
  - Reinsert the removed SFP+ in any other port.

  (CSCsv90044)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- The switch does not accept the snmp mib target list vrf command. This CLI is rejected even if the vrf is present in the DUT.

  Workaround: None. (CSCsr95941)

- When a PVLAN isolated port is connected to a router serving as a mutlicast source, and you enable igmp snooping, the routers connected to the isolated ports display as PIM neighbours.

  Workaround: Do one of the following:

  – Do not attach routers to PVLAN isolated ports.

  – Disable igmp snooping (either globally or on the VLAN).

  – Do not use a router connected to PVLAN isolated port as a multicast source.

  (CSCsu39009)

- When you delete and recreate an interface, the tacking process is unable to track its state track.

  Workaround: Reconfigure tracking on the newly created interface. (CSCsr66876)

- CTS SXP connection with a default password may cause the following message to display on the console because of bad TCP authentication:

  ```
  *Oct 27 10:32:01.159: %TCP-6-BADAUTH: No MD5 digest from 2.2.2.3(50374) to
  2.2.2.1(64999)
  ```

  This issue is seen when the default SXP password is encrypted with type-6 encryption.

  Workaround: Do one of the following:

  – Use type 7 password encryption to encrypt the default SXP password

  – Don't enable password encryption and allow the default SXP password to set in clear text.

  (CSCsv33136)

- The switch may reload after destroying the expExpressionTable row via SNMP when you enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug command. (CSCsu67323)

- IP Router Option may not work with IGMP version 2.

  Workaround: None. (CSCsv42869)

- A router may crash when a privilege-level 15 user logs on with the callback or callback-dialstring attribute.

  'This problem is seen on all Catalyst 4500 or 4900 chassis running CiscoIOS Release 12.2.(50)SG. The problem occurs when the following conditions are present:

  – The router is configured with AAA authentication and authorization.

  – The AAA server runs CiscoSecure ACS 2.4.

  – The callback or callback-dialstring attribute is configured on the AAA server for the user.

  Workarounds: Do not configure the callback or callback-dialstring attribute for the user. If you use the callback-dialstring attribute in the TACACS+ profile, ensure that the NULL value is not configured. (CSCei62358)

- When you attempt an ISSU upgrade or downgrade between Cisco IOS Release 12.2(50)SG and 12.2(44)SG or 12.2(46)SG, the switch displays a traceback.

  Workaround: None. (CSCsw32519)

- If VLAN Load Balancing is progressing, and you reconfigure VLAN Load Balancing to reflect different blocking ports, manual preemption does not occur.

  Workaround: To reconfigure VLAN Load Balancing with a different configuration, do the following:

  a. Reconfigure the VLAN Load Balancing configuration on the desired REP ports.

b. **Shut** any one REP port in the segment to cause a failure in that segment.

c. **No-shut** that port to restore normal REP topology with one ALT port.

d. Invoke manual preemption on a primary edge port to obtain VLAN Load Balancing with the new configuration.

(CSCsv69853)

- After posture validation succeeds, the following benign traceback messages may appear after you unconfigure the global RADIUS and IP device tracking commands:

```
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.101   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
%SM-4-BADEVENT: Event 'eouAAAAuthor' is invalid for the current state 'eou_abort':
eou_auth 4.1.0.102   Traceback= 101D9A88 10B76BB0 10B76FE0 10B7A114 10B7A340 1066A678
106617F8
```

  This applies to classic or E-series Catalyst 4500 supervisor engines running Cisco IOS Release 12.2(50)SG

  Workaround: None. (CSCsw14005)

- Entering the channel-group x mode or channel-protocol followed by **lacp** or **pagp** command on an fa1 management interface causes the active supervisor engine to reload.

  Port-channel functionality is not supported on the management interface.

  This is a configuration error.

  Workaround: None. (CSCsv91302)

- When using dynamic policy installation for a client or host that is authenticated on a secure port, the traffic from the client is not permitted even though the **permit ip any any** command is specified as the dynamic policy for the client.

  This occurs only if the following conditions are satisfied:

  – Multi-host mode configured on the port with the **authentication host-mode multi-host** command.

  – Default ACL (the IP access-list) configured on the interface specifies **deny ip any any**.

  – Dynamic policy authorization for the client specifies **permit ip any any**.

  Workaround: None.

  CSCsz63739

Resolved Caveats in Cisco IOS Release 12.2(50)SG

This section lists the resolved caveats in Release 12.2(50)SG:

- With CFM, if the VLAN associated with the service instance/MEP is allocated after the Inward Facing MEP (IFM) is configured on an interface whose status is **down**, the IFM CC status remains **inactive** in the output of the **show ethernet CFM maintenance local** command. Also, the CFM remote neighbor is not seen.

  This behavior is only seen when VLAN is allocated after the IFM is configured.

  Workaround: Unconfigure with the **no ethernet cfm mep level mpid vlan** command, then reconfigure the IFM with the **ethernet cfm mep level mpid vlan** command on the port after the VLAN is allocated. Verify that the C-Status of the IFM is Active with the **show ethernet cfm maintenance-points local** command. (CSCsm85460)

- Occasionally, if a PC continues to send traffic behind an 802.1X capable phone that is plugged into a port configured with MDA (Multi-Domain Authentication), MAB (MAC Authentication Bypass) and port security, a 802.1X security violation is triggered if the port observes traffic from the PC before the phone is fully authorized on the port.

  Workaround: Authenticate the phone before plugging a PC behind the phone. (CSCsq92724)

- After CFM is disabled globally and then a switch is reloaded with the CFM configuration in place, and after reload when cfm is enabled globally, the cfm meps are being inactive, which results in loss of cfm neighbors.

  Workarounds: Do one of the following:

  – Reapply the cfm configuration; at a minimum, remove and re-add the MEPs configured on all the interfaces of the switch.

  – Deallocate cfm service VLANs and reallocate them.

  (CSCsq90598)

- The **show ip cache verbose flow** command does not display the AS path information, when netflow aggregation for origin-as is configured.

  Workaround: None. (CSCsq63572)

- In REP, when you change the VLAN Load Balancing configuration to reflect different VLAN blocking, Manual Preemption doesn't occur.

  Workaround: Intentionally fail the link between two switches by physically pulling the cable or shutting down the interface. Then, return the links to a normal condition. This will be followed by delayed preemption, which you might have already configured. (CSCsm91997)

- Cisco IOS software contains a vulnerability in multiple features that could allow an attacker to cause a denial of service (DoS) condition on the affected device. A sequence of specially crafted TCP packets can cause the vulnerable device to reload.

  Cisco has released free software updates that address this vulnerability.

  Several mitigation strategies are outlined in the workarounds section of this advisory.

  CSCsr29468

- Symptoms: Several features within Cisco IOS software are affected by a crafted UDP packet vulnerability. If any of the affected features are enabled, a successful attack will result in a blocked input queue on the inbound interface. Only crafted UDP packets destined for the device could result in the interface being blocked, transit traffic will not block the interface.

  Cisco has released free software updates that address this vulnerability.

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

  CSCsk64158

- Symptoms: SSLVPN service stops accepting any new SSLVPN connections.

  Conditions: A device configured for SSLVPN may stop accepting any new SSLVPN connections, due to a vulnerability in the processing of new TCP connections for SSLVPN services. If “debug ip tcp transactions” is enabled and this vulnerability is triggered, debug messages with connection queue limit reached will be observed. This vulnerability is documented in two separate Cisco bug IDs, both of which are required for a full fix: CSCso04657 and CSCsg00102.

  CSCso04657

- If a redundant switch is in SSO mode or during an ISSU upgrade/downgrade, and the standby supervisor is running IOS software release 12.2(44)SG or 12.2(46)SG, when you enter the **auto qos voip trust** command on an interface with an attached service-policy, the standby supervisor engine reboots.

  Workaround: Remove all service-policies from the interface before entering the **auto qos voip trust** command.

  CSCsq37471

- Multiple Cisco products are affected by denial of service (DoS) vulnerabilities that manipulate the state of Transmission Control Protocol (TCP) connections. By manipulating the state of a TCP connection, an attacker could force the TCP connection to remain in a long-lived state, possibly indefinitely. If enough TCP connections are forced into a long-lived or indefinite state, resources on a system under attack may be consumed, preventing new TCP connections from being accepted. In some cases, a system reboot may be necessary to recover normal system operation. To exploit these vulnerabilities, an attacker must be able to complete a TCP three-way handshake with a vulnerable system.

  In addition to these vulnerabilities, Cisco Nexus 5000 devices contain a TCP DoS vulnerability that may result in a system crash. This additional vulnerability was found as a result of testing the TCP state manipulation vulnerabilities.

  Cisco has released free software updates for download from the Cisco website that address these vulnerabilities. Workarounds that mitigate these vulnerabilities are available.

  CSCsv04836

Open Caveats in Cisco IOS Release 12.2(46)SG

This section lists the open caveats in Cisco IOS Release 12.2(46)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  – A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  – This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  – Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.

  – Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- In REP, when you change the VLAN Load Balancing configuration to reflect different VLAN blocking, Manual Preemption doesn't occur.

  Workaround: Intentionally fail the link between two switches by physically pulling the cable or shutting down the interface. Then, return the links to a normal condition. This will be followed by delayed preemption, which you might have already configured. (CSCsm91997)

- Occasionally, if a PC continues to send traffic behind an 802.1X capable phone that is plugged into a port configured with MDA (Multi-Domain Authentication), MAB (MAC Authentication Bypass) and port security, a 802.1X security violation is triggered if the port observes traffic from the PC before the phone is fully authorized on the port.

  Workaround: Authenticate the phone before plugging a PC behind the phone. (CSCsq92724)

- With CFM, if the VLAN associated with the service instance/MEP is allocated after the Inward Facing MEP (IFM) is configured on an interface whose status is **down**, the IFM CC status remains **inactive** in the output of the **show ethernet CFM maintenance local** command. Also, the CFM remote neighbor is not seen.

  This behavior is only seen when VLAN is allocated after the IFM is configured.

  Workaround: Unconfigure with the **no ethernet cfm mep level mpid vlan** command, then reconfigure the IFM with the **ethernet cfm mep level mpid vlan** command on the port after the VLAN is allocated. Verify that the C-Status of the IFM is Active with the **show ethernet cfm maintenance-points local** command. (CSCsm85460)

- The **show ip cache verbose flow** command does not display the AS path information, when netflow aggregation for origin-as is configured.

  Workaround: None. (CSCsq63572)

- CFM packets pass through the Layer 2 protocol tunnel.

  Workaround: None. (CSCsq72572)

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with HWCOPP (HW Control Plane Policing).

  Workaround: None. (CSCso93282)

- An IP unnumbered configuration is lost after a reload.

  Workarounds: Do one of the following:

  - After a reload, copy the startup-config to the running-config.
  - Use a loopback interface as the target of the **ip unnumbered** command

  - Change the CLI configuration such that during bootup, the router port is created first.

  (CSCsq63051)

- After CFM is disabled globally and then a switch is reloaded with the CFM configuration in place, and after reload when cfm is enabled globally, the cfm meps are being inactive, which results in loss of cfm neighbors.

  Workarounds: Do one of the following:

  - Reapply the cfm configuration; at a minimum, remove and re-add the MEPs configured on all the interfaces of the switch.
  - Deallocate cfm service VLANs and reallocate them.

  (CSCsq90598)

- In SSO mode, when a port-channel is created, deleted, and re-created on an active supervisor engine with the same channel-number, the standby port-channel state goes out of sync. After a switch over, the following message displays:

  ```
  %PM-4-PORT_INCONSISTENT: STANDBY:Port is inconsistent:
  ```

  Workaround: When the port channel starts to flap, enter **shut** and **no shut** on the port channel. After the first switchover and after deleting the portchannel, create a new channel. (CSCsr00333)

- During an ISSU upgrade or downgrade from v122_31_sg_throttle to v122_46_sg_throttle, the following error message displays on console of the active supervisor engine:

  ```
  Mar 6 03:28:29.140 EST: %COMMON_FIB-3-FIBHWIDBINCONS: An internal
  software error occurred. Null0 linked to wrong hwidb Null0
  ```

  Workaround: None. (CSCso68331)

Resolved Caveats in Cisco IOS Release 12.2(46)SG

This section lists the resolved caveats in Release 12.2(46)SG:

- The REP Admin VLAN and RSPAN destination VLAN should not match. A given VLAN can be configured as a REP Admin VLAN as well as an RSPAN destination VLAN.

  Workaround: Ensure that the REP Admin VLAN and the RSPAN destination VLAN differ. (CSCso12495)

- Under VLAN Load Balancing, the failure of a segment or the removal of supervisor engine may cause looping in the REP segment.

  Workaround: None. (CSCsm61748)

- If you configure IPv6 MTU on an interface using the ipv6 mtu *mtu-value* command without first enabling IPv6 on the interface, your switch might pause indefinitely on startup.

  Workarounds: Before configuring IPv6 MTU on an interface you must enable IPv6 on the interface. To enable IPv6, use the ipv6 enable command.

  If you encounter this issue use the following commands in this order to recover your switch:

---

1. from the rommon prompt, use the **confreg** command to ignore the startup configuration
2. **reset** command to reboot your switch

3. **copy startup-config running-config** command to copy your startup configuration to your running configuration
4. **ipv6 enable** command to enable IPv6 on the interfaces
5. **ipv6 mtu** *mtu-value* command to configure IPv6 MTU on your interface
6. **copy running-config startup-config** command to save your recovered configuration
7. **reload** command on the switch to return to Rommon
8. from rommon, use the **confreg** command to process the startup config
9. reset the switch to resume normal operation. (CSCso42867)

Open Caveats in Cisco IOS Release 12.2(44)SG1

This section lists the open caveats in Cisco IOS Release 12.2(44)SG1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The REP Admin VLAN and RSPAN destination VLAN should not match. A given VLAN can be configured as a REP Admin VLAN as well as an RSPAN destination VLAN.

  Workaround: Ensure that the REP Admin VLAN and the RSPAN destination VLAN differ. (CSCso12495)

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- In REP, when you change the VLAN Load Balancing configuration to reflect different VLAN blocking, Manual Preemption doesn't occur.

  Workaround: Intentionally fail the link between two switches by physically pulling the cable or shutting down the interface. Then, return the links to a normal condition . This will be followed by delayed preemption, which you might have already configured. (CSCsm91997)

- Under VLAN Load Balancing, the failure of a segment or the removal of supervisor engine may cause looping in the REP segment.

  Workaround: None. (CSCsm61748)

- If you configure IPv6 MTU on an interface using the ipv6 mtu mtu-value command without first enabling IPv6 on the interface, your switch might pause indefinitely on startup.

  Workarounds: Before configuring IPv6 MTU on an interface you must enable IPv6 on the interface. To enable IPv6, use the ipv6 enable command.

  If you encounter this issue use the following commands in this order to recover your switch:

---

10. from the rommon prompt, use the **confreg** command to ignore the startup configuration
11. **reset** command to reboot your switch
12. **copy startup-config running-config** command to copy your startup configuration to your running configuration
13. **ipv6 enable** command to enable IPv6 on the interfaces
14. **ipv6 mtu** *mtu-value* command to configure IPv6 MTU on your interface
15. **copy running-config startup-config** command to save your recovered configuration
16. **reload** command on the switch to return to Rommon
17. from rommon, use the **confreg** command to process the startup config
18. reset the switch to resume normal operation . (CSCso42867)

Resolved Caveats in Cisco IOS Release 12.2(44)SG1

This section lists the resolved caveats in Release 12.2(44)SG1:

- When an interface configured as an EIGRP passive interface experiences a link up or link down event, the switch may have an unexpected reload. This is usually accompanied with the message: “Vector 300" message on the console.”

  Workaround: Remove the EIGRP passive interface configuration.

  Upgrading to 12.2(44)SG1 or 12.2(46)SG for all supervisors eliminates the problem.

  This defect is not present in the 12.2(31)SGA software train, which only supports classic supervisors. (CSCsk04287).

Open Caveats in Cisco IOS Release 12.2(44)SG

This section lists the open caveats in Cisco IOS Release 12.2(44)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The REP Admin VLAN and RSPAN destination VLAN should not match. A given VLAN can be configured as a REP Admin VLAN as well as an RSPAN destination VLAN.

  Workaround: Ensure that the REP Admin VLAN and the RSPAN destination VLAN differ. (CSCso12495)

- When traffic is sent on a VLAN ID higher than 3000, the convergence timing caused by a failure exceeds 225ms.

  Workaround: None. (CSCsm30320)

- In REP, when you change the VLAN Load Balancing configuration to reflect different VLAN blocking, Manual Preemption doesn't occur.

  Workaround: Intentionally fail the link between two switches by physically pulling the cable or shutting down the interface. Then, return the links to a normal condition . This will be followed by delayed preemption, which you might have already configured. (CSCsm91997)

- Under VLAN Load Balancing, the failure of a segment or the removal of supervisor engine may cause looping in the REP segment.

  Workaround: None. (CSCsm61748)

- If you configure IPv6 MTU on an interface using the ipv6 mtu mtu-value command without first enabling IPv6 on the interface, your switch might pause indefinitely on startup.

  Workarounds: Before configuring IPv6 MTU on an interface you must enable IPv6 on the interface. To enable IPv6, use the ipv6 enable command.

  If you encounter this issue use the following commands in this order to recover your switch:

19. from the rommon prompt, use the **confreg** command to ignore the startup configuration
20. **reset** command to reboot your switch
21. **copy startup-config running-config** command to copy your startup configuration to your running configuration
22. **ipv6 enable** command to enable IPv6 on the interfaces
23. **ipv6 mtu** *mtu-value* command to configure IPv6 MTU on your interface
24. **copy running-config startup-config** command to save your recovered configuration
25. **reload** command on the switch to return to Rommon
26. from rommon, use the **confreg** command to process the startup config
27. reset the switch to resume normal operation . (CSCso42867)

Resolved Caveats in Cisco IOS Release 12.2(44)SG

This section lists the resolved caveats in Release 12.2(44)SG:

- 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.

  (CSCsj85065)

- Cisco IOS Software Multiprotocol Label Switching (MPLS) Forwarding Infrastructure (MFI) is vulnerable to a Denial of Service (DoS) attack from specially crafted packets. Only the MFI is affected by this vulnerability. Older Label Forwarding Information Base (LFIB) implementation, which is replaced by MFI, is not affected.

  Cisco has released free software updates that address this vulnerability.

  (CSCsk93241)

Open Caveats in Cisco IOS Release 12.2(40)SG

This section lists the open caveats in Cisco IOS Release 12.2(40)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

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5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

This does not impact performance.

Workaround: Issue the **no shutdown** command. (CSCsg27395)

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

Resolved Caveats in Cisco IOS Release 12.2(40)SG

This section lists the resolved caveats in Release 12.2(40)SG:

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- When dot1x (radius assigned vlan), port security and voice VLAN is enabled on the port with phone and PC connected to it and PC get authenticated in radius assigned VLAN, on switchover, first packet come from PC will trigger the security violation.

  Workaround: Issue **shut/no shut** on the port to authorize the PC correctly. (CSCsi31362

- When dot1x (radius assigned vlan), port security and voice VLAN is enabled on the port with phone and PC connected to it and PC get authenticated in radius assigned VLAN, on switchover, first packet come from PC will trigger the security violation.

  Workaround: Issue **shut/no shut** on the port to authorize the PC correctly. (CSCsi31362

- SNMPv3 might not work after an IOS upgrade.

  Workaround: Re-apply user credentials with the **snmp-server user** command.

- A vulnerability in the Cisco implementation of Multicast Virtual Private Network (MVPN) is subject to exploitation that can allow a malicious user to create extra multicast states on the core routers or receive multicast traffic from other Multiprotocol Label Switching (MPLS) based Virtual Private Networks (VPN) by sending specially crafted messages.

  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/en/US/products/csa/cisco-sa-20080326-mvpn.html

  (CSCsi01470)

Open Caveats in Cisco IOS Release 12.2(37)SG1

This section lists the open caveats in Cisco IOS Release 12.2(37)SG1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- When dot1x (radius assigned vlan), port security and voice VLAN is enabled on the port with phone and PC connected to it and PC get authenticated in radius assigned VLAN, on switchover, first packet come from PC will trigger the security violation.

  Workaround: Issue **shut/no shut** on the port to authorize the PC correctly. (CSCsi31362

- IGMP Filtering feature is not available in Cisco IOS Release 12.2(37)SG. For example, the command **igmp filter ....**, used to apply IGMP filtering on an interface, is not recognized by IOS.

  This is a temporary issue and is expected to be resolved in future IOS releases

  Workaround: None. (CSCsi40783)

Resolved Caveats in Cisco IOS Release 12.2(37)SG1

This section lists the resolved caveats in Release 12.2(37)SG1:

- Cisco IOS Software has been enhanced with the introduction of additional software checks to signal improper use of data structures.

  This feature has been introduced in select Cisco IOS Software releases published after April 5, 2007.

  The %DATACORRUPTION-1-DATAINCONSISTENCY error message is preceded by a timestamp:

  ```
  May 17 10:01:27.815 UTC: %DATACORRUPTION-1-DATAINCONSISTENCY: copy error
  ```

  The error message is then followed by a traceback.

  Workaround: Gather the output from the **show tech-support** command and open a service request with the Technical Assistance Center (TAC) or designated support organization. (CSCsj44081)

- Multiple voice-related vulnerabilities are identified in Cisco IOS software, one of which is also shared with Cisco Unified Communications Manager. These vulnerabilities pertain to the following protocols or features:
  - Session Initiation Protocol (SIP)
  - Media Gateway Control Protocol (MGCP)
  - Signaling protocols H.323, H.254
  - Real-time Transport Protocol (RTP)
  - Facsimile reception

  Cisco has made free software available to address these vulnerabilities for affected customers. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities mentioned 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.

  (CSCeb21064)

- Multiple voice-related vulnerabilities are identified in Cisco IOS software, one of which is also shared with Cisco Unified Communications Manager. These vulnerabilities pertain to the following protocols or features:
  - Session Initiation Protocol (SIP)
  - Media Gateway Control Protocol (MGCP)
  - Signaling protocols H.323, H.254
  - Real-time Transport Protocol (RTP)
  - Facsimile reception

Cisco has made free software available to address these vulnerabilities for affected customers. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities mentioned 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.

(CSCsd81407)

- Multiple voice-related vulnerabilities are identified in Cisco IOS software, one of which is also shared with Cisco Unified Communications Manager. These vulnerabilities pertain to the following protocols or features:
  - Session Initiation Protocol (SIP)
  - Media Gateway Control Protocol (MGCP)
  - Signaling protocols H.323, H.254
  - Real-time Transport Protocol (RTP)
  - Facsimile reception

  Cisco has made free software available to address these vulnerabilities for affected customers. Fixed Cisco IOS software listed in the Software Versions and Fixes section contains fixes for all vulnerabilities mentioned 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.

  (CSCsi60004)

- The Cisco Next Hop Resolution Protocol (NHRP) feature in Cisco IOS contains a vulnerability that can result in a restart of the device or possible remote code execution.

  NHRP is a primary component of the Dynamic Multipoint Virtual Private Network (DMVPN) feature.

  NHRP can operate in three ways: at the link layer (Layer 2), over Generic Routing Encapsulation (GRE) and multipoint GRE (mGRE) tunnels and directly on IP (IP protocol number 54). This vulnerability affects all three methods of operation.

  NHRP is not enabled by default for Cisco IOS.

  This vulnerability is addressed by Cisco bug IDs CSCin95836 for non-12.2 mainline releases and CSCsi23231 for 12.2 mainline releases.

  (CSCin95836)

- A vulnerability in the Cisco implementation of Multicast Virtual Private Network (MVPN) is subject to exploitation that can allow a malicious user to create extra multicast states on the core routers or receive multicast traffic from other Multiprotocol Label Switching (MPLS) based Virtual Private Networks (VPN) by sending specially crafted messages.

  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/en/US/products/csa/cisco-sa-20080326-mvpn.html

  (CSCsi01470)

Open Caveats in Cisco IOS Release 12.2(37)SG

This section lists the open caveats in Cisco IOS Release 12.2(37)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# sh policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- When dot1x (radius assigned vlan), port security and voice VLAN is enabled on the port with phone and PC connected to it and PC get authenticated in radius assigned VLAN, on switchover, first packet come from PC will trigger the security violation.

  Workaround: Issue **shut/no shut** on the port to authorize the PC correctly. (CSCsi31362

- IGMP Filtering feature is not available in Cisco IOS Release 12.2(37)SG. For example, the command **igmp filter ....**, used to apply IGMP filtering on an interface, is not recognized by IOS.

  This is a temporary issue and is expected to be resolved in future IOS releases

  Workaround: None. (CSCsi40783)

Resolved Caveats in Cisco IOS Release 12.2(37)SG

This section lists the resolved caveats in Release 12.2(37)SG:

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-SSL

  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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-crypto

  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.

  (CSCsb12598, CSCsb40304, and CSCsd92405)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-crypto

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 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-SSL

(CSCsd85587)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20080326-IPv4IPv6
  (CSCse56501)

Open Caveats in Cisco IOS Release 12.2(31)SGA11

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA11:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:
  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  – A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  – This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  – Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.

  – Configure the correct default gateway on the host side. (CSCse75660)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA11

This section lists the resolved caveats in Release 12.2(31)SGA11:

- When running Cisco IOS Release 12.2(37)SG1 or 12.2(40)SG, if you have 802.1X with voice VLAN enabled on a switchport and have a 3rd generation phone (7961/41/70/71) running firmware 8-3-3 or greater to generate LLDP frames and cause the following traceback:

  ```
  %SYS-2-NOBLOCK: idle with blocking disabled.
  -Process= "Cat4k Mgmt HiPri", ipl= 0, pid= 42
  -Traceback= 10677608 11127844 11129E2C 1109C640 103D3448 103D2008 103D3C10 1054BA14
  10056108 1005F378 11301CDC 11811E7C 11395664 113971D4
  1139B2F8 1139EBA0
  ```

  When running Cisco IOS Release 12.2(40)SG, having a 3rd generation phone (7961/41/70/71) running firmware 8-3-3 or greater to generate LLDP frames might cause the switch to crash.

  This behavior occurs because LLDP is sent out from the phone to the switch un-tagged and is flagged as a security violation.

  If you enter the **debug dot1x all** command, you see the following security violation.

  ```
  12:59:51: dot1x-ev:Potential Security Violation Packet on GigabitEthernet2/1 with MAC
  = 001b.d584.6873, Vlan = 7
  12:59:51: dot1x-ev:Passing CDP packet from IP Phone with MAC = 001b.d584.6873, VLAN =
  7 through to CDP handler
  12:59:51: dot1x-ev:Dot1x Querying CDP for 001b.d584.6873 Mac
  12:59:51: dot1x-ev:dot1x_switch_addr_add: Host access entry already exists for
  001b.d584.6873 15
  12:59:51: dot1x-ev:dot1x_switch_addr_add: Added MAC 001b.d584.6873 to vlan 15 on
  interface GigabitEthernet2/1
  12:59:51: dot1x-ev:dot1x_switch_secure_vvid_pkt:Secured Phone MAC = 001b.d584.6873 on
  Vlan = 15
  ```

  VLAN 7 is the data VLAN and VLAN 15 is the voice VLAN.

  Workaround: Disable LLDP on the IP phone.

  CSCsq34665

- Roughly 25 seconds after a link event occurs, PIM DR and HSRP status changes. At that time, IGMPSN process usage is high:

  ```
   - Chassis Type : WS-C4510R
   - SUP: WS-X4516-10GE(2ea. Redundancy)
   - 12.2(31)SGA8
   - PIM Sparse Mode / MSDP
   - The problem was happened on two C4510Rs(Active/Standby)

  #sh proc cpu | ex 0.0
  CPU utilization for five seconds: 61%/0%; one minute: 26%; five minutes:20%
   PID Runtime(ms)   Invoked      uSecs   5Sec   1Min   5Min TTY Process
    34     1150480    695383       1654  0.13%  0.15%  0.15%   0 IDB Work
    40    26451856 202703548        130  4.50%  6.97%  6.90%   0 Cat4k Mgmt HiPri
    82     2545752  54203550         46  0.62%  0.46%  0.41%   0 IP Input
   109      181684    514353        353 46.22%  3.72%  0.77%   0 IGMPSN
   151     4226436  64869492         65  0.96%  0.57%  0.60%   0 IP SNMP
  ```

```
 152      760372  23713135          32  0.20%  0.12%  0.12%   0 PDU DISPATCHER
 153     5295944  26411152         200  1.38%  0.85%  0.88%   0 SNMP ENGINE  E
```

Workaround: None.

CSCsx75612

- ARP entries learned on PVLAN SVIs are not aged out even if enter the **no ip sticky arp** command.

  This only happens to ARP entries learned on SVIs that are mapped to PVLANs. ARP entries learned on normal SVIs are not impacted.

  Workaround: Clear the ARP entries with the **clear ip arp** command.

  CSCtb37718

- When a WS-C4500-E series chassis with WS-X45-SUP6-E, two 4200W AC power supplies, and 4 identical inputs is configured for power redundant mode, and one of the inputs is lost, a 4200WAC power supply enters err-disable state and linecards may get powered down due to insufficient power. The switch detects unequal wattage power supplies and selects the lower wattage supply while err-disabling the higher one. The following messages display:

  ```
  00:33:49: %C4K_IOSMODPORTMAN-4-POWERSUPPLYOUTPUTDECREASED: Power
  supply 2 output has decreased
  00:33:49: %C4K_CHASSIS-3-MIXINPOWERDETECTED: Power supplies in the
  chassis are of different types (AC/DC) or wattage
  00:33:49: %C4K_CHASSIS-2-INSUFFICIENTPOWERDETECTED: Insufficient power
  available for the current chassis configuration
  00:33:54: %C4K_CHASSIS-2-INSUFFICIENTPOWERSHUTDOWN: Holding module in
  slot 7 in reset, due to insufficient power
  00:33:54: %C4K_CHASSIS-2-INSUFFICIENTPOWERSHUTDOWN: Holding module in
  slot 6 in reset, due to insufficient power
  ```

  Workaround: Enter **power redundancy combined max inputs 2**.

  This command selects any available inputs to provide the power equivalent of 2 inputs (1 power supply unit). Even if one or two inputs fail, the same amount of power will be supplied.

  CSCsr26624

Open Caveats in Cisco IOS Release 12.2(31)SGA10

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA10:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# show policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:
  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)
- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)
- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA10

This section lists the resolved caveats in Release 12.2(31)SGA10:

- When SPAN is enabled and the SPAN source port is receiving malformed packet such as the error packets produced by collision, the port might stop receiving packets or might replay the packets repeatedly to cause flooding to other ports.

  This issue is observed on platforms including WS-C4948 and WS-X4548-GB, and linecards including:

  - WS-X4418-GB (Port 3-18)
  - WS-X4506-GB-T (RJ45 ports)
  - WS-X4424-GB-RJ45
  - WS-X4448-GB-RJ45
  - WS-X4548-GB-RJ45
  - WS-X4524-GB-RJ45V
  - WS-X4548-GB-RJ45V

  Workaround: Enable packet filtering so that the SPAN session passes only good packets using the command:

  ```
  monitor session 1 filter packet-type good rx
  ```

  CSCsv07168

- On a Catalyst 4948-10GE chassis running IOS Cisco Releases 12.21(31)SGA or 12.2(46)SG, the default transmit queue selection based on IP DSCP value is incorrect. For example, both CS1 and CS5 traffics are passing through transmit queue 1, instead of 1 and 3.

  Workaround: Enable and disable global QoS, as follows:

  ```
  switch# conf t
  switch(conf)# qos
  switch(conf)# no qos
  ```

  CSCsv29945

- On a Catalyst 4500, if an isolated private VLAN trunk interface flaps, the ingress and egress per-port per-vlan service policies are no longer applied on the port.

  This impacts Cisco IOS Releases 12.2(31)SGA08, 12.2(37)SG, 12.2(40)SG, 12.2(44)SG, 12.2(46)SG, 12.2(50)SG, and 12.2(50)SG1.

  Workarounds:

  For a Classic Series Supervisor Engine, disable and configure QoS on the port.

For example, to configure Gig 2/1 as an isolated private VLAN trunk port, do the following:

```
Switch# conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)# interface gigabitEthernet 2/1
Switch(config-if)# no qos
Switch(config-if)# qos
Switch(config-if)# end
Switch#
```

You can configure the following EEM script to automate this workaround. QoS will be disabled and re-enabled whenever a port flaps.

```
logging event link-status global

event manager applet linkup-reqos
 event syslog pattern "changed state to up"
 action 1 cli command "enable"
 action 2 cli command "conf t"
 action 3 cli command "interface gigabitEthernet 2/1"
 action 4 cli command "no qos"
 action 5 cli command "qos"
```

On Supervisor Engine 6-E or a Catalyst 4900M switch, remove and reapply the QoS service policy on the impacted VLAN:

```
Switch# conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)# interface gigabitEthernet 2/1
Switch(config-if)# vlan-range 10
Switch(config-if-vlan-range)# no service policy output primVlanOutPolicy
Switch(config-if-vlan-range)# no service policy input secVlanInPolicy
Switch(config-if-vlan-range)# service policy output primVlanOutPolicy
Switch(config-if-vlan-range)# service policy input secVlanInPolicy
Switch(config-if-vlan-range)# end
Switch#
```

CSCsw19087

- Under certain conditions, a Catalyst 4500R chassis with two supervisor engines (Sup II+, Sup IV, or Sup V) may experience a fail over (supervisor switchover) if the keepalive messages from the peer supervisor engine are missing for 162 seconds.

  While the problem is happening, the following messages display:

  ```
  %C4K_REDUNDANCY-4-KEEPALIVE_WARNING: STANDBY:Keepalive messages from peer Supervisor
  are missing for 162 seconds
  %C4K_REDUNDANCY-3-PEER_RELOAD: STANDBY:The peer Supervisor is being reset because
  keepalive message(s) not received.
  ```

  Workaround: None. (CSCsw64001)

- Provided you enable 1000base-SX Auto-negotiation, some ports might not boot correctly after you reload or reconnect an Intel 1000Base fiber NIC.

  The following linecards are affected:

  - WS-X4302-GB
  - WS-X4306-GB
  - WS-X4418-GB
  - WS-X4448-GB-SFP
  - WS-X4506-GB-T

E-series linecards with SFP, TenGigabit ports using HAMM modules, and WS-C4948 SFP uplinks do not exhibit this problem.

Workarounds: Do one of the following:

- Enter the **shut** then **no shut** commands.
- Re-connect the cable.

CSCsx74970

- Cisco IOS Software with support for Network Time Protocol (NTP) version (v4) contains a vulnerability processing specific NTP packets that will result in a reload of the device. This results in a remote denial of service (DoS) condition on the affected device.

  Cisco has released free software updates that address this vulnerability.

  Workarounds that mitigate this vulnerability are available and are documented in the workarounds section of the posted advisory.

  CSCsq24002

Open Caveats in Cisco IOS Release 12.2(31)SGA9

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA9:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  – Use a different copy protocol.

  – Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  – A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  – This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  – Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.

  – Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA9

This section lists the resolved caveats in Release 12.2(31)SGA9:

- A spoke router crashes when you shut down a connected remote interface.

  Workaround: Terminate traffic before you shut down a remote interface. (CSCsj73451)

- When a Catalyst 4948 switch running Cisco IOS Release 12.2(46)SG reloads, connected hosts observe a link-up lasting roughly 8 seconds.

  Workaround: Shut down the interfaces prior to reloading the switch. (CSCsr42135)

- The message C4K_HWPORTMAN-4-BLOCKEDTXQUEUE can appear on a WS-C4948 when a port receives pause frames from the peer.

  Workaround: None.

  This message is not a problem; it reflects the current state of a port. The port should recover and the message will not appear when the pause frames from the peer are stopped. Rarely, the port is stuck permanently and a module reset is required to restore normal operation.

  (CSCsq94908)

- If your switch is running IOS releases in the SGA train prior to 12.2(50)SG and 12.2(31)SGA9 (like 12.2(46)SG or 12.2(31)SGA8), you may observe the following error messages:

  %C4K_REDUNDANCY-4-KEEPALIVE_WARNING: STANDBY:Keepalive messages from peer Supervisor are missing for 27 seconds

  %C4K_ETH-4-MACFATALRXERR: STANDBY:Supervisor EOBC port MAC was reset due to a fatal Rx error

  This issue does not impact your network.

  Workaround: None. (CSCsu10462)

  The KEEPALIVE_WARNING message is documented in the system message guide as informational.

  The MACFATALRXERR message will not appear Cisco IOS Release 12.2(31)SGA9 and 12.2(50)SG onwards.

- When a port is trunking and a native VLAN is defined, LACP PDUs may be tagged in the native VLAN.

  LACP PDUs should always be transmitted untagged.

  Workaround:None. (CSCsv63758)

- A vulnerability in the handling of IP sockets can cause devices to be vulnerable to a denial of service attack when any of several features of Cisco IOS software are enabled. A sequence of specially crafted TCP/IP packets could cause any of the following results:
  - The configured feature may stop accepting new connections or sessions.
  - The memory of the device may be consumed.
  - The device may experience prolonged high CPU utilization.
  - The device may reload. Cisco has released free software updates that address this vulnerability.

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

  CSCsm27071

- Cisco IOS software contains a vulnerability in multiple features that could allow an attacker to cause a denial of service (DoS) condition on the affected device. A sequence of specially crafted TCP packets can cause the vulnerable device to reload.

  Cisco has released free software updates that address this vulnerability.

  Several mitigation strategies are outlined in the workarounds section of this advisory.

  CSCsr29468

- Symptoms: Several features within Cisco IOS software are affected by a crafted UDP packet vulnerability. If any of the affected features are enabled, a successful attack will result in a blocked input queue on the inbound interface. Only crafted UDP packets destined for the device could result in the interface being blocked, transit traffic will not block the interface.

  Cisco has released free software updates that address this vulnerability.

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

  CSCsk64158

- Symptoms: SSLVPN service stops accepting any new SSLVPN connections.

  Conditions: A device configured for SSLVPN may stop accepting any new SSLVPN connections, due to a vulnerability in the processing of new TCP connections for SSLVPN services. If “debug ip tcp transactions” is enabled and this vulnerability is triggered, debug messages with connection queue limit reached will be observed. This vulnerability is documented in two separate Cisco bug IDs, both of which are required for a full fix: CSCso04657 and CSCsg00102.

  CSCso04657

- Multiple Cisco products are affected by denial of service (DoS) vulnerabilities that manipulate the state of Transmission Control Protocol (TCP) connections. By manipulating the state of a TCP connection, an attacker could force the TCP connection to remain in a long-lived state, possibly indefinitely. If enough TCP connections are forced into a long-lived or indefinite state, resources on a system under attack may be consumed, preventing new TCP connections from being accepted. In some cases, a system reboot may be necessary to recover normal system operation. To exploit these vulnerabilities, an attacker must be able to complete a TCP three-way handshake with a vulnerable system.

  In addition to these vulnerabilities, Cisco Nexus 5000 devices contain a TCP DoS vulnerability that may result in a system crash. This additional vulnerability was found as a result of testing the TCP state manipulation vulnerabilities.

  Cisco has released free software updates for download from the Cisco website that address these vulnerabilities. Workarounds that mitigate these vulnerabilities are available.

  CSCsv04836

Open Caveats in Cisco IOS Release 12.2(31)SGA8

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA8:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1
```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA8

This section lists the resolved caveats in Release 12.2(31)SGA8:

- A switch directly connected to the uplink ports on a Catalyst 4500 supervisor engine does not see link down when the engine reloads through the **reload** command. So, if UDLD is enabled on the neighbor switch, a link partner will enter the err-disable state.

  Workaround: Shut down supervisor uplink ports prior to reload. (CSCsl34390)

- The cpscEvent OID is defined incorrectly in the CISCO-PORT-STORM-CONTROL-MIB.

  RFC2578 indicates that the next to last sub-identifier must be zero, however, cpscEvent OID is wrongly defined as: 1.3.6.1.4.1.9.9.362.0.1.1 Because the next to last sub-identifier is 1 and not 0, cpscEventRev1 is defined as: 1.3.6.1.4.1.9.9.362.0.2 and replaces the wrong cpscEvent OID.

  Workaround: None (CSCsm23134)

- When you use 802.1X with port security and guest VLANs when migrating from Cisco IOS Release 12.2(31)SGA4 to a fixed version (a version in the *integrated-in* field), IOS installs the invalid MAC address 0042.0100.0000 in the port-security table.

  Releases 12.2(37)SG, 12.2(40)SG, and 12.2(31)SGA3 (and earlier) are not affected.

  Workarounds:

  - Avoid use of guest VLAN.
  - Either upgrade or downgrade to an non-affected version.

  (CSCsm38960)

- A switch crashes unexpectedly during repeated transitions of the route switch.

  Workaround: None. (CSCek25021)

- If a Catalyst 4500 switch is running MST, a brief (roughly 50 msec) Layer 2 loop can occur upon reload of the active root switch.

  Workaround: None. (CSCsm19901)

- A Host still receives traffic when an IGMP Leave has been sent.

  Workarounds:

  – Disable Host Tracking with the **no ip igmp snooping vlan 27 explicit-tracking** command.

  – Revert to IGMP v2 on the receiver.

  (CSCsm71323)

- Devices running Cisco IOS versions 12.0S, 12.2, 12.3 or 12.4 and configured for Multiprotocol Label Switching (MPLS) Virtual Private Networks (VPNs) or VPN Routing and Forwarding Lite (VRF Lite) and using Border Gateway Protocol (BGP) between Customer Edge (CE) and Provider Edge (PE) devices may permit information to propagate between VPNs.

  Workarounds are available to help mitigate this vulnerability.

  This issue is triggered by a logic error when processing extended communities on the PE device.

  This issue cannot be deterministically exploited by an attacker.

  Cisco has released free software updates that address these vulnerabilities. Workarounds that mitigate these vulnerabilities are available.

  (CSCec12299)

Open Caveats in Cisco IOS Release 12.2(31)SGA7

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA7:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  – Use a different copy protocol.

  – Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  – A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  – This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  – Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.

  - Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA7

This section lists the resolved caveats in Release 12.2(31)SGA7:

- A switch may experience a reload if you perform two or more “write memory's via CLI on the switch.

  This occurs with Cisco IOS Releases 12.2(25)EWA13 and earlier releases, 12.2(31)SGA6 and earlier releases, and 12.2(4x)SG releases.

  Workaround: Restrict *vty access* to one session to avoid concurrent access, writing, and reading to memory. Upgrade to Cisco IOS Release 12.2(25)EWA14 or 12.2(31)SGA7. (CSCso86459)

- On a supervisor engine running Cisco IOS Releases 12.2(25)EWA13, or 12.2(31)SGA4 through 12.2(31)SGA6, you might receive the message "NVRAM Verification Failed" and the running config might not be saved to the NVRAM.

  Workaround: Upgrade to Cisco IOS Release 12.2(25)EWA14 or 12.2(31)SGA7. (CSCsq27434)

Open Caveats in Cisco IOS Release 12.2(31)SGA6

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA6:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  – Use a different copy protocol.

  – Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  – A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.

  – This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  – Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.

  – Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA6

This section lists the resolved caveats in Release 12.2(31)SGA6:

- Data traffic may get dropped when Dynamic Buffer Leaking (DBL) is enabled on Catalyst 4500 switches. This problem may manifest as performance issues with TCP-based applications.

  This problem is seen either when DBL is enabled via Auto-Qos or by attaching Qos policy with DBL action. For example,

  ```
  !
  policy-map p1
       class c1
          dbl
  !
  interface Gig 3/2
     service-policy output p1
  !
  ```

  While the problem is occurring, dropped traffic is displayed under the *Dbl-Drop-Queue* counter of the **show interface counter detail** command.

  Workaround: Disable DBL globally with the **no qos dbl** command.

- Data traffic may be dropped when DBL is enabled on Catalyst 4500 switches, causing performance issues with TCP-based applications.

  While the problem occurs, drops are displayed under the *Dbl-Drop-Queue* counter output of the **show interface counter detail** command.

  Workaround: Disable DBL globally with the **no qos dbl** command. (CSCsk07525)

  Catalyst 4500 Supervisor Engine V-10GE (WS-X4516-10GE) running a Cisco IOS release earlier than 12.2(25)EWA13 may encounter a system reset due to NFL fatal error. When it fails, you may see the following log message:

  ```
  %C4K_SWITCHINGENGINEMAN-4-FATALERRORINTERRUPTSEEN: Fatal NFL Error !additional
  characters related to failure will be reported!
  ```

  And in the crashdump, you will see vector=600.

  Workaround: None. (CSCsl99781)

- When you run Cisco IOS Release 12.2(31)SGA5 (or earlier) on Supervisor Engine V (or below) in a 4500-E Series chassis, the following message is displayed and the switch reboots:

  ```
  "ERROR! Unsupported chassis type 52, system cannot boot. Rebooting in 10 seconds."
  ```

  This caveat is seen on bootup under either of the following conditions:

  - A 4500-E Series chassis has a Supervisor Engine V (or below) and is powered on.
  - A Supervisor Engine V (or below) is plugged into a 4500-E Series chassis that is already powered on.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SGA6, 12.2(37)SG or later versions of software. (CSCsm82435)

- 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.

(CSCsj85065)

Open Caveats in Cisco IOS Release 12.2(31)SGA5

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA5:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet

QueueID	Old QueueName	New QueueName
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA5

This section lists the resolved caveats in Release 12.2(31)SGA5:

- Once auto-QoS is enabled on a switch, data traffic may be dropped when Dynamic Buffer Leaking (DBL) is enabled.

  While this problem occurs, traffic drops are displayed under the Dbl-Drop-Queue counter on the output of the **show interface <mod/port> counter detail** command.

  Workaround: Disable DBL globally by configuring the **no qos dbl** command. (CSCsk07525)

- When MSDP and OSPF are configured and you issue the **no ip routing** command, the switch reloads because of memory corruption in one of the pointers used by MSDP.

  To observe the problem, the MSDP timer must be set to 1.

  Workaround: Because this s problem does not occur if the MSDP timer is bigger, increase the timer to 5. (CSCsj61328)

- A Cisco network access server (NAS) may enter an infinite loop, produce CPUHOG error messages similar to the following, and then reload:

  ```
  %SYS-3-CPUHOG: Task is running for (112000)msecs, more than (2000)msecs
  (1/0),process = RADIUS
  ```

  If “radius-server retry method reorder” is not configured, the router may neglect to transmit RADIUS packets to servers after the “server-private” server if the “server-private” server does not respond. In addition, the reference count of a server, as shown by the output of the <CmdBold>debug aaa server-ref-count<noCmdBold> EXEC command, may improperly drop to zero. This results in no packets being transmitted to the server unless it is unconfigured and reconfigured.

  Workaround: None. (CSCin45879)

- Let us say that you have the following topology with private trunk links configure:

  Multicast Source---4500------Private VLAN Trunk----Switch-----STB

  When you change channels on the set top box, the IGMP leaves are not acknowledged and the traffic accumulates across the link (the link utilization increases by 4mb).

  Workaround: Remove the trunk configuration and configure the link as an access port. (CSCsl09521)

- A switch running RIP on a Cisco IOS Release after 12.3(14.8) that has **ip summary-address rip 0.0.0.0 0.0.0.0** configured on an interface, will send out the default with a metric of 16.

  Workaround: Instead of using **ip summary-address rip 0.0.0.0 0.0.0.0** to only send out the default, configure a distribute-list under the rip process. (CSCsd68016)

Open Caveats in Cisco IOS Release 12.2(31)SGA4

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA4:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# show policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:
  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)
- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)
- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA4

This section lists the resolved caveats in Release 12.2(31)SGA4:

- For Cisco IOS Releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

- When trunk ports configured with VLANs associated with SVIs that are participating in a link state routing protocol come up after either a **no shutdown** or a supervisor engine switchover, log messages similar to the following may appear:

  ```
  Nov 19 05:11:02 MET: %IPC-5-WATERMARK: 1801 messages pending in rcv for
  the port CF : Standby(2020000.11) seat 2020000
  ```

  Such messages indicate that there are pending messages for active and standby supervisor engine inter-process communication. This condition does not impact switching traffic.

  Workaround: None. (CSCsg83090)

- For Cisco IOS Release 12.2(31)SG and later releases, RADIUS attribute 32 is not sent to the RADIUS server.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10. (CSCsi22041)

- An inconsistancy exists between the default signalling DSCP value used by the Catalyst 4500 series switch and CallManager 4.x, which uses DSCP 24 (by default) for the Cisco IP phone and softphone signalling. However, Auto-QoS operating on a switch requires DSCP 26. This inconsistancy causes Cisco IP phone packets to egress the switch with an incorrect DSCP. This also prevents Softphone/IP Communicator packets from obtaining the appropriate QoS.

  ```
  Switch# show qos map cos dscp
  CoS-DSCP Mapping Table
  CoS: 0 1 2 3 4 5 6 7
  --------------------------------
  DSCP: 0 8 16 26 32 46 48 56
  ```

Workaround: None. (CSCsi52529)

- If multiple interfaces in the OSPF area have the same IP address (duplicate IP addresses are present in the network) and the IP address is used as a link-state ID of the network LSA, this network LSA might occur in the OSPF database with a high Age:

```
               Net Link States (Area 100)

Link ID         ADV Router      Age         Seq#       Checksum
192.168.22.2     192.168.22.6     3391732      0x80000CCE 0x0053CD
```

  Additionally, CPU load for OSPF process might increase.

  Workaround: Avoid conflicting IP addresses. Remove duplicate IP address or shutdown the interface. (CSCsi11438)

- Lock & Key on a Catalyst 4948 switch running Cisco IOS Release 12.2(31)SGA1 does not work properly. When you open up the ACL with the **access-enable host** command, the ACL is correctly updated with an entry for the host. You can verify this with the **show access-list** command. However, the entry is not taking affect and the ACL is not permitting traffic from that IP address.

  Workaround: After entering the **access-enable host** command, remove, then reapply the ACL to the interface. (CSCsi20981)

- When a port on a Catalyst 4500 series switch is configured as a Private VLAN trunk port carrying normal and secondary VLANs, any ingress QoS policy applied to normal VLANs on that port in the ingress direction does not get programmed in the hardware. So, ingress traffic on normal VLANs cannot be policed using per-port per-VLAN input policers.

  Ingress service policies applied to secondary VLANs on that port work properly and are not affected.

  Workaround: None. (CSCsi48332)

Open Caveats in Cisco IOS Release 12.2(31)SGA3

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA3:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:
  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)
- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)
- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)
- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)
- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)
- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)
- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).
- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)
- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA3

This section lists the resolved caveats in Release 12.2(31)SGA3:

- Cisco IOS Software has been enhanced with the introduction of additional software checks to signal improper use of data structures.

  This feature has been introduced in select Cisco IOS Software releases published after April 5, 2007.

  The %DATACORRUPTION-1-DATAINCONSISTENCY error message is preceded by a timestamp:

  ```
  May 17 10:01:27.815 UTC: %DATACORRUPTION-1-DATAINCONSISTENCY: copy error
  ```

  The error message is then followed by a traceback.

  Workaround: Gather the output from the **show tech-support** command and open a service request with the Technical Assistance Center (TAC) or designated support organization. (CSCsj44081)

- The Cisco Next Hop Resolution Protocol (NHRP) feature in Cisco IOS contains a vulnerability that can result in a restart of the device or possible remote code execution.

  NHRP is a primary component of the Dynamic Multipoint Virtual Private Network (DMVPN) feature.

  NHRP can operate in three ways: at the link layer (Layer 2), over Generic Routing Encapsulation (GRE) and multipoint GRE (mGRE) tunnels and directly on IP (IP protocol number 54). This vulnerability affects all three methods of operation.

  NHRP is not enabled by default for Cisco IOS.

  This vulnerability is addressed by Cisco bug IDs CSCin95836 for non-12.2 mainline releases and CSCsi23231 for 12.2 mainline releases.

  (CSCin95836)

Open Caveats in Cisco IOS Release 12.2(31)SGA2

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA2:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# show policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:
  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- When a transceiver is removed rapidly from one port and placed in another on the same chassis, occasionally a duplicate seeprom message is displayed and the port is not able to handle traffic.

  Workaround: Remove the transceiver from the new port and place it in the old port. Once the SFP is recognized in the old port, remove it slowly and insert it in the new port. (CSCse34693).

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

Workaround: None.

This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA2

This section lists the resolved caveats in Release 12.2(31)SGA2:

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- If two next-hop router interfaces are configured on a PBR route map, CPU utilization may be high if the first next-hop router interface is reachable via interface Null0:

  ```
  route-map PBR permit 10
    match ip address <ACL>
    set ip next-hop <NEXT-HOP 1> <NEXT-HOP 2>
  ```

  Workaround: Ensure that the next-hops *do not fall* under a route pointing to Null0. Such routes may have been entered either statically or by a routing protocol configured for summarization. (CSCsd88586)

- After a PC configured for 802.1X disconnects from an IP phone port through a Catalyst 4500 series switch, the port transitions to the guest VLAN. When a PC reconnects, the switch successfully authenticates the user but the user remains on the guest VLAN. Through the **show dot1x interface gigx/y detail** command, the state machine indicates that the port is authenticated and authorized on the guest VLAN.

  Workarounds:

  1) Disable the 802.1X guest-vlan supplicant. The port will not remain in the guest VLAN state; It will transition out of the unauthorized state.

  2) Use dynamic VLAN assignment through the ACS to assign the correct VLAN to the port.

  (CSCsh47641)

- The Catalyst 4500 switch does not set the router alert bit in multicast group-specific queries.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SGA2. (CSCsi74467)

- Windows XP PCs configured for machine authentication and PEAP may not receive an updated IP address from the DHCP server based on user credentials if the PC has been machine authenticated and can ping its previously assigned default gateway.

  Workaround: Upgrade to Cisco IOS Release 12.2(25)EWA10 or 12.2(31)SGA2. (CSCsi34572)

- The server side of the Secure Copy (SCP) implementation in Cisco IOS contains a vulnerability that allows any valid user, regardless of privilege level, to transfer files to and from an IOS device that is configured to be a Secure Copy server. This vulnerability could allow valid users to retrieve or write to any file on the device's filesystem, including the device's saved configuration. This configuration file may include passwords or other sensitive information.

  The Cisco IOS Secure Copy Server is an optional service that is disabled by default. Devices that are not specifically configured to enable the Cisco IOS Secure Copy Server service are not affected by this vulnerability.

  This vulnerability does not apply to the Cisco IOS Secure Copy Client feature.

  (CSCsc19259)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20080326-IPv4IPv6
  (CSCse56501)

- A vulnerability in the Cisco implementation of Multicast Virtual Private Network (MVPN) is subject to exploitation that can allow a malicious user to create extra multicast states on the core routers or receive multicast traffic from other Multiprotocol Label Switching (MPLS) based Virtual Private Networks (VPN) by sending specially crafted messages.

  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/en/US/products/csa/cisco-sa-20080326-mvpn.html

  (CSCsi01470)

- 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.

  (CSCsd95616)

Open Caveats in Cisco IOS Release 12.2(31)SGA1

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2
```

```
Service-policy output: p1

  Class-map: c1 (match-all)
    0 packets<--------It stays at '0' despite of traffic being received
    Match: access-group name fnacl21
    police: Per-interface
      Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- An IP redirect may not be sent out if the outgoing interface on a Catalyst 4500 series switch is an IP unnumbered port.

  This could occur for these reasons:

  - A packet requires an IP redirect to an IP unnumbered outgoing port within 3 minutes of booting the Catalyst 4500 series switch.
  - This is also seen if the switch administrator issues the **shutdown** and **no shutdown** commands on an outgoing interface that has IP unnumbered enabled. The switch receives packets that require redirection and the destination MAC address is already in ARP table.

  Workarounds:

  - Do not inject packets that require IP redirect sent out to an IP unnumbered port within 3 minutes of booting the Catalyst 4500 series switch.
  - Configure the correct default gateway on the host side. (CSCse75660)

- Gigabit IP phones cannot process IEEE 802.1Q tagged CDP packets when 802.1X is configured on a voice VLAN. This causes the phone to continually register and de-register with Call Manager. 100 Mbps IP phones are not affected.

  Workaround: Remove the IEEE 802.1X configuration from the switch port. (CSCsg10135)

- When the same MAC addresses are learned and aged out on different VLANs, the Cat4k Mgmt LoPri process will cause CPU utilization to increase. This does not impact local data switching performance because the LoPri process is of low priority with limited access to the CPU.

  Workaround: None. (CSCsg76868)

- When policing IEEE 802.1Q tagged non-IP traffic and calculating traffic conformance, the policer excludes the four bytes that constitute the 802.1Q tag even when you configure **qos account layer2 encapsulation**.

  Workaround: None. (CSCsg58526)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- If the ACL of an SVI interface is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SG or later and resize the TCAM with the **access-list hardware region balance** command to support the ACL Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA1

This section lists the resolved caveats in Release 12.2(31)SGA1:

- The Catalyst 4900 switch running 12.2(31)SG and configured for 802.1X may reset after displaying the following console messages while switching EAP packets:

```
Jul 27 08:14:36: %SYS-2-FREEFREE: Attempted to free unassigned memory at 1A35ACA8,
alloc 10355D60, dealloc 103594B4
-Traceback= 10FAC5A8 1035A150 1035A30C 105A7A7C 1059F3A8
Jul 27 08:14:36: %SYS-6-MTRACE: mallocfree: addr, pc
 1A35ACA8,1035A14C 195FECAC,103592E8 1A1A97D4,60000010 1A1A9780,10359134
 1A084698,10249D60 1A16F008,10355724 1A0FBE24,10359098 127B42B8,600000F8
Jul 27 08:14:36: %SYS-6-MTRACE: mallocfree: addr, pc
 127B3E80,103594C4 1A35AF4C,600000F2 1A35ACA8,103594B4 1A1F9F6C,1083D310
 127B16CC,6000005E 127B11A8,50000208 127B15E0,1083D300 1A17258C,1083D2E4
Jul 27 08:14:36: %SYS-6-BLKINFO: Attempt to free a block that is in use blk 1A35AC80,
 words 580, alloc 10355D60, Free, dealloc 103594B4, rfcnt 0
-Traceback= 10F96808 10FAC5B8 1035A150 1035A30C 105A7A7C 1059F3A8
Jul 27 08:14:36: %SYS-6-MEMDUMP: 0x1A35AC80: 0xAB1234CD 0x390000 0x1983C854 0x11F30330
Jul 27 08:14:36: %SYS-6-MEMDUMP: 0x1A35AC90: 0x10355D60 0x1A35B130 0x1A35AC38 0x244
```

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SGA1 or later. (CSCsf09339)

- If you configure ISIS/IPv6 with the **passive-interface default** and **no passive-interface <interface>** commands, ISIS IIH advertisements will be sent from such interfaces without the local IPv6 address, preventing the formation of adjacencies.

  Workaround: Remove **passive-interface** commands from the **router isis** configuration. (CSCei21664)

- GARP-based protocol packets leak through an STP block, potentially leading to a GARP storm in a redundant topology.

  Workaround: Use Hardware Control Plane Policing (CoPP) to police GARP packets. (CSCsg08775)

- Configuring an ACL on a port configured with the **switchport access vlan dynamic** command will restart the Catalyst 4900 series switch.

  This issue impacts Catalyst 4900 series switches running IOS releases including and earlier than 12.2(31)SGA and 12.2(25)EWA6.

  Workaround: None. (CSCsg03745)

- The HSRP Active-Router does not respond to ARP requests for the virtual IP (VIP) address. Issuing **clear arp** on the HSRP standby router does not resolve the problem. This problem may occur when the same HSRP VIP address exists on different HSRP groups on different routers.

  Workaround: Issue the **no standby redirects** command. (CSCsd80754)

- When you remove the **radius-server source-ports 1645-1646** default command, the switch sends the RADIUS requests with the wrong source port, causing failed authentication attempts.

  Reloading the switch will solve the problem. Upon boot-up, **radius-server source-ports 1645-1646** will be in the running-config and communication with the RADIUS server will resume

  Workaround: Ensure the **radius-server source-ports 1645-1646** command is configured. (CSCsh22161)

- Spurious memory accesses may occur when OSPF routing is configured and UDP traffic is flooded.

Workaround: None. (CSCsd11631)

- When a switch port is disabled and enabled, the adjacent switch port may drop up to 20 packets.

  Workaround: None. (CSCsg02099)

- QoS markings are not retained when using per-port per-VLAN QoS and IP Source Guard.

  Workaround: Disable and enable QoS. (CSCsg75348)

- The switch may reset after a PVLAN trunk port receives a high number of IGMP report messages.

  Workaround: Disable the PVLAN trunk port. (CSCsg46891)

- A switch configured in Rapid PVST spanning tree mode will not automatically recover an interface that was placed into ROOT_Inc state by ROOT guard.

  Workaround: Bounce any interface on the 4900 switch causing a spanning tree topology change. (CSCsc95631)

- A tftp client that attempts to transfer a file from an IOS device configured as a tftp server, and which is denied by an ACL, receives a result that depends on whether the file is being offered for download. This may allow a third party to enumerate which files are available for download.

  Workaround: Apply one of the following:

  1. Interface ACL - Configure and attach an access list to every active router interface configured for IP packet processing. Once enabled, the tftp server in IOS listens by default on all interfaces enabled for IP processing. So, the access list needs to deny traffic to every IP address assigned to an active router interface.

  2. Control Plane Policing - Configure and apply a CoPP policy.

Note CoPP is only available on certain platforms and IOS release trains.

3. Infrastructure ACLs (iACL) - Although it is often difficult to block traffic transiting your network, it is possible to identify traffic that should never be allowed to target your infrastructure devices and to block that traffic at the border of your network. Infrastructure ACLs are considered a network security best practice and should be considered as a long-term addition to good network security as well as a workaround for this specific vulnerability. The white paper entitled "Protecting Your Core: Infrastructure Protection Access Control Lists" presents guidelines and recommended deployment techniques for iACLs (http://www.cisco.com/en/US/tech/tk648/tk361/technologies_white_paper09186a00801a1a55.shtml).

4. Receive Access Lists (rACLs) - The rACLs protect a device from harmful traffic before the traffic can impact the route processor. rACLs are considered a network security best practice, and should be considered as a long-term addition to good network security, as well as a workaround for this specific vulnerability. The CPU load is distributed to the line card processors and helps mitigate load on the main route processor. The white paper entitled "GSR: Receive Access Control Lists" will help identify and allow legitimate traffic to your device and deny all unwanted packets (http://www.cisco.com/en/US/tech/tk648/tk361/technologies_white_paper09186a00801a0a5e.shtml). (CSCse04560)

Note The suggested workarounds are an "all or nothing" solution. While the tftp-server feature in IOS allows per-file ACLs to be attached to every file being offered for download, the suggested workarounds are global. They will either prevent or allow access to all files that are being shared. You should apply a workaround in addition to the existing per-file ACLs, instead of replacing them.

- Test and debug commands are not available in cryptographic images.

  Workaround: None. (CSCse61081)

- If port security is enabled on a PVLAN isolated trunk port, Layer 3 connectivity to hosts connected via that port may be unreachable.

  Workaround: None. (CSCsg11229)

- A Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA6 might drop an ARP request. The switch cannot resolve the MAC address of connected devices.

  This problem is not seen with Cisco IOS Releases 12.2(25)EWA4 and 12.2(25)EWA5.

  Workaround: None. (CSCsf16422)

- When your DHCP address lease time is not updated on a switch configured with IP Source Guard, you cannot renew your DHCP IP addresses. Your non-DHCP traffic is dropped and the following error message is logged:

  ```
  %IP_SOURCE_GUARD-4-IP_SOURCE_GUARD_DENY_PACKET: IP Source Guard detects and drops
  illegal traffic
  ```

  Workaround: Disable and enable the affected switch ports. (CSCsd65833)

- When you configure a switch with an IEEE 802.1X Failed Authentication VLAN and IEEE 802.1X supplicants use tunneled EAP methods such as PEAP and EAP-TLS for authentication, the switch attempts to send an EAP Success message on the third consecutive failed authentication attempt rather than an EAP Failure message. This results in erratic supplicant and network behavior.

  Workaround: Either do not use tunneled EAP methods or disable the authentication failed VLAN. (CSCse71105)

- When the VTP configuration revision is higher than 0x7FFFFFFF (2147483647), the configuration revision displays in the output of the **show vtp status** command as a negative number.

  Workaround: Reset the VTP domain name for all switches in the domain. (CSCse40078)

- Cisco Catalyst 6000, 6500 series and Cisco 7600 series that have a Network Analysis Module installed are vulnerable to an attack, which could allow an attacker to gain complete control of the system. Only Cisco Catalyst systems that have a NAM on them are affected. This vulnerability affects systems that run Cisco IOS or Catalyst Operating System (CatOS).

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

  (CSCsd75273)

- Cisco Catalyst 6000, 6500 series and Cisco 7600 series that have a Network Analysis Module installed are vulnerable to an attack, which could allow an attacker to gain complete control of the system. Only Cisco Catalyst systems that have a NAM on them are affected. This vulnerability affects systems that run Cisco IOS or Catalyst Operating System (CatOS).

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

  (CSCse52951)

- 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.

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 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-SSL

(CSCsd85587)

Open Caveats in Cisco IOS Release 12.2(31)SGA

This section lists the open caveats in Cisco IOS Release 12.2(31)SGA:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(31)SGA

This section lists the resolved caveats in Release 12.2(31)SGA:

- A Catalyst 4900 series switch clears the mac-add-table notif counters when the feature is disabled.

  Workaround: Re-connect. (CSCsc31540)

- When running Cisco IOS Release 12.2(25)EWA6 on a Catalyst 4948 series switch, or the Catalyst 4013+TS supervisor engine and the 4306-GB-T linecard, the following problems may be seen on RJ45 ports only:

  - When sending packets of size greater than 6656 bytes, the ports cannot sustain the linerate when operating at 1Gbps. However, they can sustain the linerate for packet sizes less than or equal to 6656 bytes when operating at 1Gbps.
  - Occasionally, the TxQueue's associated with the RJ45 ports may get stuck when packets greater than 6656 bytes and the port is operating in either 10Mbps or 100Mbps or 1Gbps. You would see messages like the following:

```
Aug  1 04:46:01 CDT: %C4K_HWPORTMAN-4-BLOCKEDTXQUEUE: Blocked transmit queue
HwTxQId1 on Switch Phyport Gi1/35, count=1784
Aug  1 04:46:12 CDT: Current Freelist count 5629. Fell below threshold 601 times
consecutively
Aug  1 04:46:42 CDT: Current Freelist count 5629. Fell below threshold 1202 times
consecutively
```

Workaround: Use packets sizes less than or equal to 6656 bytes or use Cisco IOS Release 12.2(25)EWA5 until the fix is available in Cisco IOS Release 12.2(25)EWA8. (CSCse29295)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  (CSCek26492)

- 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.

  (CSCek37177)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-IOS-IPv6

  (CSCsd58381)

- A Cisco router may drop a TCP connection to a remote router.

When an active TCP connection is established and when data is sent by the Cisco router to the remote router at a much faster rate than the remote router can handle, the router might advertise a zero window. So, when the router reads the data, the window is re-opened and the new window is advertised. When this situation occurs, and when the Cisco router has saved data to TCP in order to be send to the remote router, the Cisco router may drop the TCP connection.

Workaround: Increase the window size on both ends. On the Cisco router, enter the **ip tcp window-size** command. When you use a Telnet connection, reduce the **screen-length** argument in the **terminal length** command to 20 or 30 lines. (CSCsc39357)

Open Caveats in Cisco IOS Release 12.2(31)SG2

This section lists the open caveats in Cisco IOS Release 12.2(31)SG2:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- A Catalyst 4900 series switch clears the mac-add-table notif counters when the feature is disabled.

  Workaround: Re-connect. (CSCsc31540)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- 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://tools.cisco.com/security/center/content/CiscoSecurityResponse/cisco-sr-20060913-vtp

  (CCSCsd34759)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(31)SG3

This section lists the resolved caveats in Release 12.2(31)SG3:

- Cisco IOS Software has been enhanced with the introduction of additional software checks to signal improper use of data structures.

  This feature has been introduced in select Cisco IOS Software releases published after April 5, 2007.

  The %DATACORRUPTION-1-DATAINCONSISTENCY error message is preceded by a timestamp:

  ```
  May 17 10:01:27.815 UTC: %DATACORRUPTION-1-DATAINCONSISTENCY: copy error
  ```

  The error message is then followed by a traceback.

  Workaround: Gather the output from the **show tech-support** command and open a service request with the Technical Assistance Center (TAC) or designated support organization. (CSCsj44081)

- 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.

  (CSCsd95616)

Open Caveats in Cisco IOS Release 12.2(31)SG2

This section lists the open caveats in Cisco IOS Release 12.2(31)SG2:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# show policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- A Catalyst 4900 series switch clears the mac-add-table notif counters when the feature is disabled.

  Workaround: Re-connect. (CSCsc31540)
- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)
- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:
  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- 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://tools.cisco.com/security/center/content/CiscoSecurityResponse/cisco-sr-20060913-vtp

  (CCSCsd34759)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(31)SG2

This section lists the resolved caveats in Release 12.2(31)SG2:

- The Cisco Next Hop Resolution Protocol (NHRP) feature in Cisco IOS contains a vulnerability that can result in a restart of the device or possible remote code execution.

  NHRP is a primary component of the Dynamic Multipoint Virtual Private Network (DMVPN) feature.

  NHRP can operate in three ways: at the link layer (Layer 2), over Generic Routing Encapsulation (GRE) and multipoint GRE (mGRE) tunnels and directly on IP (IP protocol number 54). This vulnerability affects all three methods of operation.

  NHRP is not enabled by default for Cisco IOS.

  This vulnerability is addressed by Cisco bug IDs CSCin95836 for non-12.2 mainline releases and CSCsi23231 for 12.2 mainline releases.

  (CSCin95836)

- A vulnerability in the Cisco implementation of Multicast Virtual Private Network (MVPN) is subject to exploitation that can allow a malicious user to create extra multicast states on the core routers or receive multicast traffic from other Multiprotocol Label Switching (MPLS) based Virtual Private Networks (VPN) by sending specially crafted messages.

  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/en/US/products/csa/cisco-sa-20080326-mvpn.html

(CSCsi01470)

Open Caveats in Cisco IOS Release 12.2(31)SG1

This section lists the open caveats in Cisco IOS Release 12.2(31)SG1:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- A Catalyst 4900 series switch clears the mac-add-table notif counters when the feature is disabled.

  Workaround: Re-connect. (CSCsc31540)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

(CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  - Use a different copy protocol.
  - Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- 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
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  Cisco's statement and further information are available on the Cisco public website at http://tools.cisco.com/security/center/content/CiscoSecurityResponse/cisco-sr-20060913-vtp

  (CCSCsd34759)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(31)SG1

This section lists the resolved caveats in Release 12.2(31)SG1:

- Specifically crafted CDP packets can cause a router to allocate and keep extra memory. Exploitation of this behaviour by sending multiple specifically crafted CDP packets could cause memory allocation problems on the router.

  Because CDP is a layer-2 protocol, this issue can only be triggered by systems that are residing on the same network segment.

  Workaround: Disable on interfaces where CDP is not necessary. (CSCse85200)

- Some (or all) CDP neighbors are invisible.

  It only happens on releases that include the fix for CSCse85200.

  When turning on "debug cdp even," the following message appears:

  ```
  CDP-EV: Received item (type : 9) with invalid length 4
  ```

  Workaround: None. (CSCsf07847)

Open Caveats in Cisco IOS Release 12.2(31)SG

This section lists the open caveats in Cisco IOS Release 12.2(31)SG:

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

  ```
  Switch# show policy-map int
    FastEthernet3/2

     Service-policy output: p1

       Class-map: c1 (match-all)
         0 packets<--------It stays at '0' despite of traffic being received
         Match: access-group name fnacl21
         police: Per-interface
           Conform: 9426560 bytes Exceed: 16573440 bytes
  ```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

Workaround: Re-connect. (CSCsb11964)

- A Catalyst 4900 series switch clears the mac-add-table notif counters when the feature is disabled.

  Workaround: Re-connect. (CSCsc31540)

- After upgrading to Cisco IOS 12.2(31)SG and later releases, some CPU queues configured as SPAN sources and saved in the startup configuration file do not function as they did in the older software release.

  This only impacts a switch that has any of the following queues are configured as SPAN source in releases prior to 12.2(31)SG and saved to startup-config. The SPAN destination would not get the same traffic after upgrading to 12.2(31)SG and later releases.

QueueID	Old QueueName	New QueueName
5	control-packet	control-packet
6	rpf-failure	control-packet
7	adj-same-if	control-packet
8	<unused queue>	control-packet
11	<unused queue>	adj-same-if
13	acl input log	rfp-failure
14	acl input forward	acl input log

  Workaround: After upgrading to 12.2(31)SG and later releases, remove the old SPAN source configuration and reconfigure with the new queue names/IDs. For example:

```
Switch(config)# no monitor session n source cpu queue all rx
Switch(config)# monitor session n source cpu queue <new_Queue_Name>
```

  (CSCsc94802)

- If you initiate a scp copy from the console and it is delayed long enough to cause a timeout, the console is disconnected.

  Workarounds:

  – Use a different copy protocol.

  – Set a longer ssh timout.

  (CSCsc94317)

- To enable IP CEF if it is disabled by hardware exhaustion, use the **ip cef distributed** command.

  Workaround: None. (CSCsc11726)

- 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
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  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

  (CCSCsd34759)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(31)SG

This section lists the resolved caveats in Release 12.2(31)SG:

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- When Fast Hellos is configured on an interface thru the command **ip ospf dead-interval minimal hello-multiplier**, the dead-interval can be changed to exceed 1 second with the **ip ospf dead-interval** keyword. However, the running configuration still displays the **ip ospf dead-interval minimal hello-multiplier** command instead of the **ip ospf dead-interval** command.

  Workaround: To change the dead-interval when Fast Hellos is enabled, first disable Fast Hellos and then configure the new dead-interval. (CSCsa86676)

Open Caveats in Cisco IOS Release 12.2(25)SG4

This section lists the open caveats in Cisco IOS Release 12.2(25)SG4:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- When Fast Hellos is configured on an interface thru the command **ip ospf dead-interval minimal hello-multiplier**, the dead-interval can be changed to exceed 1 second with the **ip ospf dead-interval** keyword. However, the running configuration still displays the **ip ospf dead-interval minimal hello-multiplier** command instead of the **ip ospf dead-interval** command.

  Workaround: To change the dead-interval when Fast Hellos is enabled, first disable Fast Hellos and then configure the new dead-interval. (CSCsa86676)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(25)SG4

This section lists the resolved caveats in Release 12.2(25)SG4:

- In Cisco IOS Release 12.2(33)SXH or 12.2(18)SXF10, the output of the **show pagp neighbor** command may truncate the neighbor device name and port name fields by 1 character. This is a display issue and has no functional impact on the PAGP protocol.

  Workaround: None. If you want to determine a partner's correct information, use the **show cdp neighbor** command.

  (CSCsj81502)

Open Caveats in Cisco IOS Release 12.2(25)SG3

This section lists the open caveats in Cisco IOS Release 12.2(25)SG3:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- When Fast Hellos is configured on an interface thru the command **ip ospf dead-interval minimal hello-multiplier**, the dead-interval can be changed to exceed 1 second with the **ip ospf dead-interval** keyword. However, the running configuration still displays the **ip ospf dead-interval minimal hello-multiplier** command instead of the **ip ospf dead-interval** command.

  Workaround: To change the dead-interval when Fast Hellos is enabled, first disable Fast Hellos and then configure the new dead-interval. (CSCsa86676)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(25)SG3

This section lists the resolved caveats in Release 12.2(25)SG3:

- Cisco IOS Software has been enhanced with the introduction of additional software checks to signal improper use of data structures.

  This feature has been introduced in select Cisco IOS Software releases published after April 5, 2007.

  The %DATACORRUPTION-1-DATAINCONSISTENCY error message is preceded by a timestamp:

  ```
  May 17 10:01:27.815 UTC: %DATACORRUPTION-1-DATAINCONSISTENCY: copy error
  ```

  The error message is then followed by a traceback.

  Workaround: Gather the output from the **show tech-support** command and open a service request with the Technical Assistance Center (TAC) or designated support organization. (CSCsj44081)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20080326-IPv4IPv6 (CSCse56501)

Open Caveats in Cisco IOS Release 12.2(25)SG2

This section lists the open caveats in Cisco IOS Release 12.2(25)SG2:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- When Fast Hellos is configured on an interface thru the command **ip ospf dead-interval minimal hello-multiplier**, the dead-interval can be changed to exceed 1 second with the **ip ospf dead-interval** keyword. However, the running configuration still displays the **ip ospf dead-interval minimal hello-multiplier** command instead of the **ip ospf dead-interval** command.

Workaround: To change the dead-interval when Fast Hellos is enabled, first disable Fast Hellos and then configure the new dead-interval. (CSCsa86676)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.
  - If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.
  - If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)
- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(25)SG2

This section lists the resolved caveats in Release 12.2(25)SG2:

- Cisco IOS Software has been enhanced with the introduction of additional software checks to signal improper use of data structures.

  This feature has been introduced in select Cisco IOS Software releases published after April 5, 2007.

  The %DATACORRUPTION-1-DATAINCONSISTENCY error message is preceded by a timestamp:

  ```
  May 17 10:01:27.815 UTC: %DATACORRUPTION-1-DATAINCONSISTENCY: copy error
  ```

  The error message is then followed by a traceback.

  Workaround: Gather the output from the **show tech-support** command and open a service request with the Technical Assistance Center (TAC) or designated support organization. (CSCsj44081)
- 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.

  (CSCef77013)
- The Cisco Next Hop Resolution Protocol (NHRP) feature in Cisco IOS contains a vulnerability that can result in a restart of the device or possible remote code execution.

  NHRP is a primary component of the Dynamic Multipoint Virtual Private Network (DMVPN) feature.

NHRP can operate in three ways: at the link layer (Layer 2), over Generic Routing Encapsulation (GRE) and multipoint GRE (mGRE) tunnels and directly on IP (IP protocol number 54). This vulnerability affects all three methods of operation.

NHRP is not enabled by default for Cisco IOS.

This vulnerability is addressed by Cisco bug IDs CSCin95836 for non-12.2 mainline releases and CSCsi23231 for 12.2 mainline releases.

(CSCin95836)

- CSCsi01470

  A vulnerability in the Cisco implementation of Multicast Virtual Private Network (MVPN) is subject to exploitation that can allow a malicious user to create extra multicast states on the core routers or receive multicast traffic from other Multiprotocol Label Switching (MPLS) based Virtual Private Networks (VPN) by sending specially crafted messages.

  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/en/US/products/csa/cisco-sa-20080326-mvpn.html

Open Caveats in Cisco IOS Release 12.2(25)SG1

This section lists the open caveats in Cisco IOS Release 12.2(25)SG1:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- When Fast Hellos is configured on an interface thru the command **ip ospf dead-interval minimal hello-multiplier**, the dead-interval can be changed to exceed 1 second with the **ip ospf dead-interval** keyword. However, the running configuration still displays the **ip ospf dead-interval minimal hello-multiplier** command instead of the **ip ospf dead-interval** command.

  Workaround: To change the dead-interval when Fast Hellos is enabled, first disable Fast Hellos and then configure the new dead-interval. (CSCsa86676)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(25)SG1

This section lists the resolved caveats in Release 12.2(25)SG1:

- Specifically crafted CDP packets can cause a router to allocate and keep extra memory. Exploitation of this behaviour by sending multiple specifically crafted CDP packets could cause memory allocation problems on the router.

  Because CDP is a layer-2 protocol, this issue can only be triggered by systems that are residing on the same network segment.

  Workaround: Disable on interfaces where CDP is not necessary. (CSCse85200)

- Some (or all) CDP neighbors are invisible.

  It only happens on releases that include the fix for CSCse85200.

  When turning on "debug cdp even," the following message appears:

  ```
  CDP-EV: Received item (type : 9) with invalid length 4
  ```

Workaround: None. (CSCsf07847)

- Cisco Catalyst 6000, 6500 series and Cisco 7600 series that have a Network Analysis Module installed are vulnerable to an attack, which could allow an attacker to gain complete control of the system. Only Cisco Catalyst systems that have a NAM on them are affected. This vulnerability affects systems that run Cisco IOS or Catalyst Operating System (CatOS).

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

  (CSCsd75273)

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

  (CSCse52951)

Open Caveats in Cisco IOS Release 12.2(25)SG

This section lists the open caveats in Cisco IOS Release 12.2(25)SG:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- When Fast Hellos is configured on an interface thru the command **ip ospf dead-interval minimal hello-multiplier**, the dead-interval can be changed to exceed 1 second with the **ip ospf dead-interval** keyword. However, the running configuration still displays the **ip ospf dead-interval minimal hello-multiplier** command instead of the **ip ospf dead-interval** command.

  Workaround: To change the dead-interval when Fast Hellos is enabled, first disable Fast Hellos and then configure the new dead-interval. (CSCsa86676)

- When you issue the **ip http secure-server** command (or if the system reads it from the startup configuration), the device will check for the existence of a persistent self-signed certificate during boot up.

  – If such a certificate does not exist and the device's hostname and default_domain have been set, then a persistent self-signed certificate will be generated.

  – If such a certificate exists, the FQDN in the certificate is compared with the current device's hostname and default_domain. If either of these differs from the FQDN in the certificate, then the existing persistent self-signed certificate is replaced with a new one with the updated FQDN. Be aware that the existing keypair is used in the new certificate.

  On a switch that support redundancy, the generation of the self-signed certificate is performed independently on the active and the standby supervisor engines. So, the certificates differ. After switchover, the HTTP client that holds the old certificate can not connect to the HTTPS server.

  Workaround: Re-connect. (CSCsb11964)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

  Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

Resolved Caveats in Cisco IOS Release 12.2(25)SG

This section lists the resolved caveats in Release 12.2(25)SG:

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsa44632)

- Issuing the **no ip flow ingress** command will not turn off the collection of switched IP flows.

  Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command. (CSCsa67042)

- Modifying a policer may not work if you configure more than 800 policers.

  Workaround: Remove, reconfigure and reinstall policers, or, use less than 800 policers. (CSCsa66422)

Open Caveats in Cisco IOS Release 12.2(25)EWA14

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA14:

- While configuring Smartport macros via HTTP interactively, a switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser *command* area as if you were entering the commands through the CLI. (CSCei76082)

- A switch upgrading to Cisco IOS Releases 12.2(25)EWA or 12.2(31)SG might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

  This caveat is cosmetic only; it does not impact the operation of the switch.

  Workaround: Power-cycle the switch. (CSCsg00796)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA14

This section lists the resolved caveat in Cisco IOS Release 12.2(25)EWA14:

- A switch may experience a reload if you perform two or more “write memory's via CLI on the switch.

  This occurs with Cisco IOS Releases 12.2(25)EWA13 and earlier releases, 12.2(31)SGA6 and earlier releases, and 12.2(4x)SG releases.

  Workaround: Restrict *vty access* to one session to avoid concurrent access, writing, and reading to memory. Upgrade to Cisco IOS Release 12.2(25)EWA14 or 12.2(31)SGA7. (CSCso86459)

- On a supervisor engine running Cisco IOS Releases 12.2(25)EWA13, or 12.2(31)SGA4 through 12.2(31)SGA6, you might receive the message "NVRAM Verification Failed" and the running config might not be saved to the NVRAM.

  Workaround: Upgrade to Cisco IOS Release 12.2(25)EWA14 or 12.2(31)SGA7. (CSCsq27434)

Open Caveats in Cisco IOS Release 12.2(25)EWA13

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA13:

- While configuring Smartport macros via HTTP interactively, a switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser *command* area as if you were entering the commands through the CLI. (CSCei76082)

- A switch upgrading to Cisco IOS Releases 12.2(25)EWA or 12.2(31)SG might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

  This caveat is cosmetic only; it does not impact the operation of the switch.

  Workaround: Power-cycle the switch. (CSCsg00796)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA13

This section lists the resolved caveat in Cisco IOS Release 12.2(25)EWA13:

- Once auto-QoS is enabled on a switch, data traffic may be dropped when Dynamic Buffer Leaking (DBL) is enabled.

  While this problem occurs, traffic drops are displayed under the Dbl-Drop-Queue counter on the output of the **show interface <mod/port> counter detail** command.

  Workaround: Disable DBL globally by configuring the **no qos dbl** command. (CSCsk07525)

- When MSDP and OSPF are configured, the MSDP timer is set to 1, and you issue the **no ip routing** command, the switch reloads because of memory corruption in one of the pointerrs used by MSDP.

  The caveat does not occur if the MSDP timer is greater than 1.

  Workaround: Increase the MSDP timer to 5. (CSCsj61328)

Open Caveats in Cisco IOS Release 12.2(25)EWA12

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA12:

- While configuring Smartport macros via HTTP interactively, a Catalyst 4500 series switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- A Catalyst 4500 series switch upgrading to IOS versions 12.2(25)EWA or 12.2(31)SG might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

  This does not impact the operation of the Catalyst 4500 series switch, appearing to be strictly cosmetic.

  Workaround: Power-cycle the switch. (CSCsg00796)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA12

This section lists the resolved caveat in Cisco IOS Release 12.2(25)EWA12:

- If a switch has a redundant supervisor, under rare conditions you will observe the following situation: You first observe the *keepalive missing* warning messages. Then, after the keepalive protocol times out, a switchover to the standby supervisor engine occurs. **4500 only**

  This happens because the active and standby supervisor engines refer to the same seed metric for calculating the EOBC collision back off timer. Consequently, the EOBC channel might get locked in infinite collisions.

  Workaround: Upgrade the software to either:

  - Cisco IOS Release 12.2(31)SGA2 and higher, or
  - Cisco IOS Release 12.2(37)SG and higher

  (CSCsh44170)

- When connecting an end device installed with Intel 82471 to a 10/100/1000BaseTX port on a Catalyst 4948 switch with both sides (the switch port and the end device) set to auto, the speed downshifts from 1000 to 100 in autonegotiate mode when the switch side reloads and the end device is *still alive* (powered on and functional).

  The problem is not observed if the third party device reloads while the switch is *still alive*.

  Workaround: Enter the **shutdown** command followed by a **no shutdow**n command on the switch port. (CSCsk54053)

- On a Cisco router that functions as an ISR configured for OSPF, shortly after OSPF adjacencies come up, the router crashes because of a bus error.

  Workaround: Either enter the **area 0** command in the OSPF VRF process or enter the **no capability transit** command in the OSPF VRF process. (CSCsi84089).

- On a Catalyst 4948 switch running Cisco IOS Release 12.2(31)SGA, after removing and reinserting the fiber cable into the SFP, the link may not come up immediately.

  Workaround: Either remove and reinsert the SFP or issue a **shutdown** command followed by the **no shutdown** command on the affected Catalyst 4948 interface. CSCsj67573

- When you add the **ip ssh ver 2** command to the configuration of the primary supervisor engine and you *fail over* to the secondary supervisor engine, the command is present in the configuration of the secondary supervisor engine. However, when you *fail back* to the primary supervisor engine, the command disappears from the configuration of the primary supervisor engine, affecting your SSH sessions.

  Workaround: None. (CSCsj51666)

Open Caveats in Cisco IOS Release 12.2(25)EWA11

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA11:

- While configuring Smartport macros via HTTP interactively, a switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- If you upgrade a switch to Cisco IOS Releases 12.2(25)EWA or 12.2(31)SG, it might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

This does not impact the operation of the switch, appearing to be strictly cosmetic.

Workaround: Power-cycle the switch. (CSCsg00796)

- A switch running Cisco IOS Release 12.(25)EWA8 and beyond will send in dot1q tagged cdp packets when dot1x is enabled on a voice VLAN port. This might cause gigabit IP phones to send in packets that are untagged, moving the phone into the data VLAN.

  Workaround: Do either of the following:

  – Remove dot1x from the port.

  – Upgrade the IOS image to Cisco IOS 12.2(31)SGA or later.

  (CSCsg10135)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- A switch might experience high CPU utilization due to the Cat4k Mgmt LoPri process and the K2CpuMan and K2L2 Address Table reviews (using the **show platform health** command.

  High CPU utilization does not impact the traffic switched in hardware.

  The problem is seen when a large MAC address table exists and when the switch is frequently relearning MAC addresses on multiple VLANs. Enabling the **service internal** command followed by the **debug platform log feature k2l2addresstable** command will display output similar to the following:

Note Do not enable these commands on a production switch unless instructed by Cisco TAC.

```
*Nov 13 12:56:32.066 CLT-1: K2L2AddressTableMan::newEntry index 61956 vlan 1020
address 00:D0:02:2D:38:1A
*Nov 13 12:56:34.030 CLT-1: K2L2AddressTableMan::deleteEntry index 55620 vlan 1010
address 00:D0:02:2D:38:1A
*Nov 13 12:56:34.046 CLT-1: K2L2AddressTableMan::newEntry index 55620 vlan 1010
address 00:D0:02:2D:38:1A
*Nov 13 12:56:34.062 CLT-1: K2L2AddressTableMan::deleteEntry index 61956 vlan 1020
address 00:D0:02:2D:38:1A
```

Workaround: None. (CSCsg76868)

- When the console port of a Catalyst 4948 is connected to a serial port on a Cisco 3845 router NM-32A or NM-16A module, the ASYNC LED of a NM module is off. The Catalyst 4948-10GE chassis is not affected.

  Workaround: None. (CSCsj43019)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA11

This section lists the resolved caveat in Cisco IOS Release 12.2(25)EWA11:

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

Open Caveats in Cisco IOS Release 12.2(25)EWA10

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA10:

- While configuring Smartport macros via HTTP interactively, a switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- If you upgrade a switch to Cisco IOS Releases 12.2(25)EWA or 12.2(31)SG, it might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

  This does not impact the operation of the switch, appearing to be strictly cosmetic.

  Workaround: Power-cycle the switch. (CSCsg00796)

- A switch running Cisco IOS Release 12.(25)EWA8 and beyond will send in dot1q tagged cdp packets when dot1x is enabled on a voice VLAN port. This might cause gigabit IP phones to send in packets that are untagged, moving the phone into the data VLAN.

  Workaround: Do either of the following:

  - Remove dot1x from the port.
  - Upgrade the IOS image to Cisco IOS 12.2(31)SGA or later.

  (CSCsg10135)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- A switch might experience high CPU utilization due to the Cat4k Mgmt LoPri process and the K2CpuMan and K2L2 Address Table reviews (using the **show platform health** command.

  High CPU utilization does not impact the traffic switched in hardware.

The problem is seen when a large MAC address table exists and when the switch is frequently relearning MAC addresses on multiple VLANs. Enabling the **service internal** command followed by the **debug platform log feature k2l2addresstable** command will display output similar to the following:

Note Do not enable these commands on a production switch unless instructed by Cisco TAC.

```
*Nov 13 12:56:32.066 CLT-1: K2L2AddressTableMan::newEntry index 61956 vlan 1020
address 00:D0:02:2D:38:1A
*Nov 13 12:56:34.030 CLT-1: K2L2AddressTableMan::deleteEntry index 55620 vlan 1010
address 00:D0:02:2D:38:1A
*Nov 13 12:56:34.046 CLT-1: K2L2AddressTableMan::newEntry index 55620 vlan 1010
address 00:D0:02:2D:38:1A
*Nov 13 12:56:34.062 CLT-1: K2L2AddressTableMan::deleteEntry index 61956 vlan 1020
address 00:D0:02:2D:38:1A
```

Workaround: None. (CSCsg76868)

- When the console port of a Catalyst 4948 is connected to a serial port on a Cisco 3845 router NM-32A or NM-16A module, the ASYNC LED of a NM module is off. The Catalyst 4948-10GE chassis is not affected.

  Workaround: None. (CSCsj43019)

- In software releases 12.2(25)EWA10, 12.2(31)SGA2 and 12.2(31)SGA3, PoE Health Monitoring Diagnostic software introduced via CSCsf26804 *incorrectly* reports PoE errors for module WS-X4548-GB-RJ45V, hardware revision 4.0. (Use the **show module** command to see the hardware revision of module.) The software reloads the PoE module continuously, and the module will not operate.

  WS-X4548-GB-RJ45V with hardware revision 4.0 is NOT impacted by the problem reported in CSCsf26804 hence PoE health Monitor checks are not applicable to the module.

  Workaround: None.

  This caveat is fixed in 12.2(25)EWA11 and 12.2(31)SGA4 software releases.

  Release 12.2(37)SG is other recommended software release. 12.2(37)SG does not have the fix for CSCsf26804 and hence does not run into CSCsk85158.

  A linecard replacement is *not* needed. *Do not* RMA the module. (CSCsk85158)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA10

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA10:

- If IGMP snooping and multicast routing are configured on a switch, and the switch is acting as a group querier and receives an IGMP group-specific query, the switch clears the entry from its IGMP group membership table after two seconds.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SGA2 or 12.2(25)EWA10. (CSCsh65870)

- Windows XP PCs configured for machine authentication and PEAP may not receive an updated IP address from the DHCP server based on user credentials if the PC has been machine authenticated and can ping its previously assigned default gateway.

  Workaround: Upgrade to Cisco IOS Release 12.2(25)EWA10 or 12.2(31)SGA2. (CSCsi34572)

- The RADIUS attribute 32 is not being sent to the RADIUS server for Cisco IOS Release 12.2(31)SG and beyond.

Workaround: Downgrade to Cisco IOS Release 12.2(25)EWA10, if feasible. (CSCsi22041)

- For switches running IOS software prior to Release 12.2(25)EWA10, DHCP snooping syslog statistics may not be sufficient for some debugging scenarios.

  Workaround: Upgrade to Cisco IOS Release 12.2(25)EWA10. (CSCsg91116)

- On PoE line cards connected to IP phones or other PoE networking devices, you might see a S2W console warning message indicating that the POE devices are either not responding to polling from the supervisor or the devices are in an error state. When this situation exists, PoE service may not work correctly. For instance, phones will not have power or power will be removed intermittently from some ports.

  This might happen for the following reasons:

  – There is a marginal and/or failing component(s) on the line card (requires RMA and EFA).

  – The hardware and software states are not synchronized due to a power *glitch* or to a reset of the -48V PoE.

  This situation occurs on Cisco IOS Release 12.2(31)SGA1 or lower (except for Cisco IOS Release 12.2(25)EWA10).

Note This situation does not exist on the WS-X4148-RJ45V.

Workaround: Download an image that supports PoE Health Monitoring such as Cisco IOS Release 12.2(37)SG, 12.2(31)SGA2, or 12.2(25)EWA10. These software images have code that will monitor, detect, and attempt to correct random S2W errors. Although this code does not prevent the problem, it will positively identify the issue and reduce recovery time.

If you experience three HealthCheck warning messages within a week, RMA the line card immediately, and request an Engineer Failure Analysis (EFA) report. Perform the following debugging steps if your IP phone or PoE device fails:

Step 1 Determine if the IP phone works using other ports on the same line card.

Step 2 Determine if the same IP phone works using another line card(s) within the switch.

Step 3 Capture **show tech-support** and **show platform chassis module** *module*.

Step 4 Reset the linecard by issuing **hw-module module** *module* **reset** or by removing and reinserting the line card. Determine if the IP phone receives power from the switch.

Step 5 Capture **show tech-support** and **show platform chassis module** *module*.

Step 6 RMA the line card if the problem persists with RMA. Ask the TAC engineer to create an EFA.

(CSCsf26804)

- 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.

  (CSCef77013)

- The Cisco Next Hop Resolution Protocol (NHRP) feature in Cisco IOS contains a vulnerability that can result in a restart of the device or possible remote code execution.

  NHRP is a primary component of the Dynamic Multipoint Virtual Private Network (DMVPN) feature.

  NHRP can operate in three ways: at the link layer (Layer 2), over Generic Routing Encapsulation (GRE) and multipoint GRE (mGRE) tunnels and directly on IP (IP protocol number 54). This vulnerability affects all three methods of operation.

  NHRP is not enabled by default for Cisco IOS.

  This vulnerability is addressed by Cisco bug IDs CSCin95836 for non-12.2 mainline releases and CSCsi23231 for 12.2 mainline releases.

  (CSCin95836)

- The server side of the Secure Copy (SCP) implementation in Cisco IOS contains a vulnerability that allows any valid user, regardless of privilege level, to transfer files to and from an IOS device that is configured to be a Secure Copy server. This vulnerability could allow valid users to retrieve or write to any file on the device's filesystem, including the device's saved configuration. This configuration file may include passwords or other sensitive information.

  The Cisco IOS Secure Copy Server is an optional service that is disabled by default. Devices that are not specifically configured to enable the Cisco IOS Secure Copy Server service are not affected by this vulnerability.

  This vulnerability does not apply to the Cisco IOS Secure Copy Client feature.

  (CSCsc19259)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20080326-IPv4IPv6
  (CSCse56501)

- A vulnerability in the Cisco implementation of Multicast Virtual Private Network (MVPN) is subject to exploitation that can allow a malicious user to create extra multicast states on the core routers or receive multicast traffic from other Multiprotocol Label Switching (MPLS) based Virtual Private Networks (VPN) by sending specially crafted messages.

  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/en/US/products/csa/cisco-sa-20080326-mvpn.html

  (CSCsi01470)

- 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.

  (CSCsd95616)

Open Caveats in Cisco IOS Release 12.2(25)EWA9

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA9:

- While configuring Smartport macros via HTTP interactively, a Catalyst 4900 series switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- A Catalyst 4900 series switch upgrading to IOS versions 12.2(25)EWA or 12.2(31)SG might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

  This does not impact the operation of the Catalyst 4900 series switch, appearing to be strictly cosmetic.

  Workaround: Power-cycle the switch. (CSCsg00796)

- A Catalyst 4900 series switch running Cisco IOS Release 12.(25)EWA8 will send in dot1q tagged cdp packets when dot1x is enabled on a voice VLAN port. This might cause gigabit IP phones to send in packets that are untagged, moving the phone into the data VLAN.

  Workaround: Do either of the following:

  - Remove dot1x from the port.
  - Upgrade the IOS image to Cisco IOS 12.2(31)SGA or later.

  (CSCsg10135)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA9

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA9:

- When you telnet to a switch and configure the **autocommand-options nohangup** command on line vty 0 4, it will disappear once you exit. (If you look at the running configuration from the console connection, the command is not present.) This does not impact vty 5 15.

  Workaround: Open 6 telnet sessions. (CSCsg41842)

- When UDP Small Servers is enabled on an HSRP active router and it receives a UDP ECHO to the virtual ip address, the router fails to echo back by LOOPPAK.

  Workaround: None. (CSCsh13542)

- If you resume another Secure Shell (SSH) session after disconnecting an SSH session, the client console or vty will not respond until the server disconnects the session.

  Workaround: None. (CSCsd76601)

- While either initiating a Secure Shell (SSH) session from a router or copying a file to/from the router via SCP, a router may reload due to software forced crash.

  Prior to the crash, the router logs a series of %SYS-3-CPUHOG messages and will eventually crash displaying the %SYS-2-WATCHDOG message:

  ```
  *Mar 29 11:29:35.938: %SYS-3-CPUHOG: Task is running for (128004)msecs, more
  than (2000)msecs
  (1426/5),process = Virtual Exec.
  -Traceback= 0x41DC8E2C 0x41DC9098 0x41BAA6E0 0x41BA6990 0x41B96B4C 0x41BA6768
  0x41BA7490 0x41BA7750
  0x41BAC854 0x41BA120C 0x40C27024 0x40C26760 0x41BA203C 0x40C73E58 0x40C926E8
  0x41834200

  *Mar 29 11:29:35.942: %SYS-2-WATCHDOG: Process aborted on watchdog timeout,
  process = Virtual Exec.
  -Traceback= 0x41A23CC8 0x41BAA3D8 0x41BA6A08 0x41B96B4C 0x41BA6768 0x41BA7490
  0x41BA7750 0x41BAC854
  0x41BA120C 0x40C27024 0x40C26760 0x41BA203C 0x40C73E58 0x40C926E8 0x41834200
  0x418341E4

  %Software-forced reload
  ```

  Workaround: Do not initiate SSH or SCP sessions from the router. (CSCsb54378)

- When you remove the **radius-server source-ports 1645-1646** default command, the switch sends the RADIUS requests with the wrong source port, causing the authentication attempts to fail.

  Workaround: Ensure that the **radius-server source-ports 1645-1646** command is configured and reload the switch. Upon boot-up, the command will be in the running-config and communication with the RADIUS server will resume. (CSCsh22161)

- Memory corruption may occur if a EIGRP stub with static routes is configured on the switch, causing the switch to crash. Symptoms include console messages similar to the following:

  ```
  Aug 23 15:43:45: %SYS-2-BADSHARE: Bad refcount in mem_lock, ptr=43258E68,
  count=FFFF8000

  Traceback= 409201A8 4007AE28 40A1D418 40A2263C 40A24610 40A25600 40C309D4 40C30D74
  40C3CBB0CMD:
  ```

  Workaround: Unconfigure the EIGRP stub with static routes. (CSCef26340)

- A memory leak may occur if a switch is configured as a RADIUS client and receives invalid RADIUS packets. The switch will not have enough packet memory to receive incoming ARP packets destined for the CPU, and ARP entries will be incomplete.

  Workaround: Disable the port that is receiving invalid RADIUS packets. (CSCeh84727)

- If the ACL configured on an SVI is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SGA and resize the TCAM with the **access-list hardware region balance** command to support the ACL. Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-SSL

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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-crypto

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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-crypto

(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.

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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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-crypo

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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070522-crypto

(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
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  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.

  (CSCsd92405)

Open Caveats in Cisco IOS Release 12.2(25)EWA8

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA8:

- While configuring Smartport macros via HTTP interactively, a Catalyst 4900 series switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- A Catalyst 4900 series switch upgrading to IOS versions 12.2(25)EWA or 12.2(31)SG might show unusual uptime in the output of the **show version** command:

```
Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
```

This does not impact the operation of the Catalyst 4900 series switch, appearing to be strictly cosmetic.

Workaround: Power-cycle the switch. (CSCsg00796)

- A Catalyst 4900 series switch running Cisco IOS Release 12.(25)EWA8 will send in dot1q tagged cdp packets when dot1x is enabled on a voice VLAN port. This might cause gigabit IP phones to send in packets that are untagged, moving the phone into the data VLAN.

  Workaround: Do either of the following:

  – Remove dot1x from the port.

  – Upgrade the IOS image to Cisco IOS 12.2(31)SGA or later.

  (CSCsg10135)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- Reconfiguring a heavily-used policy map on a Catalyst 4900 series switch may cause the switch to crash. This issue affects Cisco IOS Releases 12.2(25)EWA3, 12.2(25)EWA4, 12.2(25)EWA5, 12.2(25)EWA6, 12.2(25)SG and 12.2(31)SG.

  Workaround: Remove the policy-map from all interfaces before reconfiguring its contents. (CSCse80948)

- Configuring an ACL and issuing the switchport access vlan dynamic command on a port at the same time will crash Catalyst 4900 series switches.

  This issue impacts Catalyst 4900 series switches running Cisco IOS Release 12.2(31)SGA back to at least Cisco IOS Release 12.2(25)EWA.

  Workaround: None. (CSCsg03745)

- If the ACL configured on an SVI is too large for the TCAM, ARP replies for the associated VLAN may not be processed.

  Workaround: Upgrade to Cisco IOS Release 12.2(31)SGA and resize the TCAM with the **access-list hardware region balance** command to support the ACL. Verify TCAM utilization with the **show platform hardware acl statistics utilization brief** command. (CSCsh50565)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA8

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA8:

In a switch running Cisco IOS Release 12.2(25)EWA8, the following symptoms might be observed.

– ARP does not resolve for directly- connected devices, impacting connectivity and preventing routing protocols from forming an adjacency.

– If UDLD “aggressive” is enabled, ports will err-disable due to UDLD, causing messages like the following to display:

```
%UDLD-4-UDLD_PORT_DISABLED: UDLD disabled interface Gi3/1, unidirectional link
detected
%PM-4-ERR_DISABLE: udld error detected on Gi3/1, putting Gi3/1 in err-disable
state
```

Note Because UDLD is merely a symptom of the problem rather than the cause, disabling UDLD will not solve the problem.

– Slow memory leak, causing messages (with tracebacks) like the following to display:

```
%SYS-2-MALLOCFAIL: Memory allocation of 784 bytes failed from 0xXXXXXX, alignment
8
Pool: Processor  Free: 36  Cause: Not enough free memory Alternate Pool: None
Free: 0  Cause: No
Alternate pool -Process= "<Process_name>", ipl= 0, pid= 49 -Traceback=
0xXXXXXX
```

Messages such as the following would be seen on the console

```
%% Low on memory; try again later
```

If one of the symptoms is observed, capture an output of the **show tech** command along with 4-5 snapshots of the following commands (over a 10 minute interval) and open a TAC Service request:

– **show plat cpu packet driver**

– **show plat cpu pack stat**

– **show platform health**

– **show mem summary**

– **show process memory**

Workaround: “Move” to Cisco IOS Release 12.2(25)EWA6. (CSCsh25687)

- Starting in calendar year 2007, daylight savings summer-time rules may cause Cisco IOS to generate timestamps (such as in syslog messages) that are off by one hour.

  By default, the Cisco IOS configuration command uses United States standards for daylight savings time rules:

  clock summer-time *zone* **recurring**

  The Energy Policy Act of 2005 (H.R.6.ENR), Section 110 changes the start date from the first Sunday of April to the second Sunday of March, and it changes the end date from the last Sunday of October to the first Sunday of November.

  Workaround: Use the **clock summer-time** command to manually configure the proper start and end date for daylight savings time. After the summer-time period for calendar year 2006 ends, you can configure the following for the US/Pacific time zone:

  clock summer-time *PDT* **recurring** *2 Sun Mar 2:00 1 Sun Nov 2:00*

  (CSCsg70355)

Note Using NTP is not a workaround to this problem, because it does not carry any information about timezones or summertime.

Open Caveats in Cisco IOS Release 12.2(25)EWA7

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA7:

- While configuring Smartport macros via HTTP interactively, a Catalyst 4900 series switch might restart unexpectedly.

Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- A Catalyst 4900 series switch upgrading to IOS versions 12.2(25)EWA or 12.2(31)SG might show unusual uptime in the output of the **show version** command:

  ```
  Switch uptime is 113 years, 43 weeks, 4 days, 7 hours, 53 minutes
  ```

  This does not impact the operation of the Catalyst 4900 series switch, appearing to be strictly cosmetic.

  Workaround: Power-cycle the switch. (CSCsg00796)

- A Catalyst 4900 series switch running Cisco IOS Release 12.(25)EWA7 will send in dot1q tagged cdp packets when dot1x is enabled on a voice VLAN port. This might cause gigabit IP phones to send in packets that are untagged, moving the phone into the data VLAN.

  Workaround: Do either of the following:

  - Remove dot1x from the port.
  - Upgrade the IOS image to Cisco IOS 12.2(31)SGA or later.

  (CSCsg10135)

- When hardcoded duplex and speed settings are deleted after an interface shuts down, an "a-" is added to the duplex and speed in the output from the **show interface status** command.

  This does not impact performance.

  Workaround: Issue the **no shutdown** command. (CSCsg27395)

- Reconfiguring a heavily-used policy map on a Catalyst 4900 series switch may cause the switch to crash. This issue affects Cisco IOS Releases 12.2(25)EWA3, 12.2(25)EWA4, 12.2(25)EWA5, 12.2(25)EWA6, 12.2(25)SG and 12.2(31)SG.

  Workaround: Remove the policy-map from all interfaces before reconfiguring its contents. (CSCse80948)

- Configuring an ACL and issuing the switchport access vlan dynamic command on a port at the same time will crash Catalyst 4900 series switches.

  This issue impacts Catalyst 4900 series switches running Cisco IOS Release 12.2(31)SGA back to at least Cisco IOS Release 12.2(25)EWA.

  Workaround: None. (CSCsg03745)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA7

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA7:

- When VRF Packet Leaking is configured on a Catalyst 4900 series switch with a Supervisor Engine IV, a packet loss of 50 per cent occurs when you ping a Catalyst 4900 series switch VRF interface IP address from a device in the global table.

  Packets forwarded by Catalyst 4900 series switch are not impacted.

  Workaround: None. (CSCej36831)

- On a Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA5, after reloading an "ip ftp source-interface <physical port>" configuration, it is impossible to upload the configuration to the FTP Server with the **copy running-config ftp** command.

Workaround: Issue the **ip ftp source-interface <loopback port>** command rather than the **ip ftp source-interface <physical port>** command. (CSCsd22662)

- Reconfiguring a heavily-used policy map on a Catalyst 4900 series switch may cause the switch to crash. This issue affects Cisco IOS Releases 12.2(25)EWA3, 12.2(25)EWA4, 12.2(25)EWA5, 12.2(25)EWA6, 12.2(25)SG and 12.2(31)SG.

  Workaround: Remove the policy-map from all interfaces before reconfiguring its contents. Also ensure that no configuration is made in parallel that might result in concurrent modification of configured interface's state. (CSCse80948)

- Configuring an ACL on a port of a Catalyst 4900 series switch configured with the **switchport access vlan dynamic** command will cause the switch to crash.

  This issue impacts switches running IOS releasse including and prior to 12.2(31)SGA and 12.2(25)EWA6.

  Workaround: None. (CSCsg03745)

- GARP-based protocol packets leak through the STP block. In a redundant topology, this might lead to a GARP storm.

  Workaround: Use Hardware Control Plane Policing (CoPP) to police GARP packets. (CSCsg08775)

- When the **clear arp snmp** command is sent to a Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA4, the switch may reset.

  This issue impacts running IOS releases including and prior to 12.2(31)SG and 12.2(25)EWA6.

  Workaround: None. (CSCse49277)

- When there are a number of non-RPF multicast groups and the incoming rate of multicast traffic is high, the Catalyst 4900 series switch does not trigger a PIM Assert for some multicast groups immediately after receiving multicast packets on non-RPF interface.

  Workaround: None. (CSCse56839)

- While running Cisco IOS Release 12.2(25)EWA6 on the Catalyst 4900 series switch, the 4013+TS supervisor engine, or the 4306-GB-T linecard, you might experience the following problem on RJ45 ports:

  – When sending packets of size greater than 6656, the ports cannot sustain the linerate when operating at 1Gbps. However, they can sustain the linerate when packet sizes are less than 6656 bytes when operating at 1Gbps.

  – In rare situations, the TxQueue's associated with the RJ45 ports may get stuck when the packets of size greater than 6656 bytes are involved and the port is operating in 10Mbps, 100Mbps, or 1Gbps. Messages such as following would be seen:

```
Aug  1 04:46:01 CDT: %C4K_HWPORTMAN-4-BLOCKEDTXQUEUE: Blocked transmit queue
HwTxQId1
on Switch Phyport Gi1/35, count=1784
Aug  1 04:46:12 CDT: Current Freelist count 5629. Fell below threshold 601 times
consecutively
Aug  1 04:46:42 CDT: Current Freelist count 5629. Fell below threshold 1202 times
consecutively
```

  Workaround: Use packets sizes less than or equal to 6656 bytes or use Cisco IOS Release 12.2(25)EWA5 until the fix is available in subsequent releases. The fix will be available in 12.2(25)EWA7 release onwards. (CSCse29295)

- If a Catalyst 4900 series switch running Cisco IOS Release 12.2(31)SG is configured with Port Security and Cisco IP Phones are connected to the switchports, the CPU might be higher than expected. In the output of the **show platform health** command, the process hogging the CPU would be the following:

```
CAT4506#sh platform health | inc K2L2 Address
K2L2 Address Table R   2.00  27.08     12      5  100  500   15  23   19  4871:26
CAT4506##sh platform health | inc K2L2 Address
K2L2 Address Table R   2.00  34.92     12      5  100  500   38  25   19  4871:32
```

  This process should not cause any forwarding issues.

  Workaround: None. (CSCse72353)

- Reading the object dot1dTpLearnedEntryDiscards always returns zero.

  Workaround: None. (CSCse66318)

- Applying an ACL to a Layer 3 interface on a Catalyst 4900 series switch that is too large to fit entirely in the TCAM, might cause valid arp replies to be installed incorrectly.

  Workaround: Determine which portion of the TCAM is becoming saturated and resize it accordingly. This can be done by looking at the output of the **show plat hard acl statistics u brief** command:

```
                          Entries/Total(%)  Masks/Total(%)
                            ----------------  ---------------
Input  Acl(PortAndVlan)     5 / 8112 (  0)     3 / 1014 (  0)
Input  Acl(PortOrVlan)   8105 / 8112 ( 99)  1014 / 1014 (100)
Input  Qos(PortAndVlan)     0 / 8128 (  0)     0 / 1016 (  0)
Input  Qos(PortOrVlan)      0 / 8128 (  0)     0 / 1016 (  0)
Output Acl(PortAndVlan)     0 / 8112 (  0)     0 / 1014 (  0)
Output Acl(PortOrVlan)      5 / 8112 (  0)     3 / 1014 (  0)
Output Qos(PortAndVlan)     0 / 8128 (  0)     0 / 1016 (  0)
Output Qos(PortOrVlan)      0 / 8128 (  0)     0 / 1016 (  0)
```

  With Cisco IOS Release 12.2(31)SG or later you can reize the tcam allocation using the **access-list hardware region** [**feature/qos**] **in balance [***percentage***]** command. (CSCse53198)

- Upon reloading a Catalyst 4900 series switch configured with the **ip ftp source-interface** command and running Cisco IOS Release 12.2(25)EWA5, it is impossible to upload a configuraton to the FTP Server by issuing the **copy running-config ftp** command.

  Workaround: Issue the **ip ftp source-interface** <*loopback port*>, instead of the **ip ftp source-interface** <*physical port*> command. (CSCsd22662)

- A Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA6, drops some ARP request packets in some VLANs.

  Workaround: None. (CSCsf16422)

- Cisco Catalyst 6000, 6500 series and Cisco 7600 series that have a Network Analysis Module installed are vulnerable to an attack, which could allow an attacker to gain complete control of the system. Only Cisco Catalyst systems that have a NAM on them are affected. This vulnerability affects systems that run Cisco IOS or Catalyst Operating System (CatOS).

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

  (CSCsd75273)

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(CSCse52951)

Open Caveats in Cisco IOS Release 12.2(25)EWA6

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA6:

- While configuring Smartport macros via HTTP interactively, a Catalyst 4900 series switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- When VRF Packet Leaking is configured on a Catalyst 4900 series switch with a Supervisor Engine IV, a packet loss of 50 per cent occurs when you ping a Catalyst 4900 series switch VRF interface IP address from a device in the global table.

  Packets forwarded by Catalyst 4900 series switch are not impacted.

  Workaround: None. (CSCej36831)

- While running Cisco IOS Release 12.2(25)EWA5, after reloading an "ip ftp source-interface <physical port>" configuration, it is impossible to upload the configuration to the FTP Server with the **copy running-config ftp** command.

  Workaround: Issue the **ip ftp source-interface <loopback port>** command rather than the **ip ftp source-interface <physical port>** command. (CSCsd22662)

- When a third-party device is connected to a 1000BaseX interface and the link is shutdown/unshutdown, the autonegotiation process takes considerable time to complete and the link needs several minutes to come up again.

  Workaround: Disable autonegotiation or flow-control. (CSCse33607)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA6

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA6:

- Occasionally, when a Catalyst 4900 series switch is in VTP client mode and “switchport trunk prunning vlan none” is configured on the trunk port, the trunk interface fails to send VLAN joins to the VTP server. Some of the VLAN is pruned on the link to the VTP server even when those VLANs are used.

  Workaround: Instead of using the "none" option, provide a specific VLAN when enabling VTP pruning on the trunk interface. (CSCei42957)

- After you initially boot a Catalyst 4900 series switch, if the input interface is in PIM dense mode, “s,g” multicast cast traffic is not forwarded to the intended destination even if that group is represented by a “*,g” on the system.

  Workaround: Issue the **clear ip mroute *** command multiple times. (CSCsb50317)

- When PVLAN features (for example, PVLAN QoS) are applied on a trunk port for a number of VLANs and later removed from some VLANs, the features may be reprogrammed for all other VLANs. While the reprogramming is in progress, you might see some log message indicating that the features could not be programmed for some of the VLANs.

  Workaround: Remove the features and reapply. For PVLAN QoS, issuing a **no qos** and **qos** command will help. (CSCsc61449)

- On Cisco IOS Release 12.2(25)EWA4 and 12.2(25)EWA5, the system may crash during modification of a policy map attached to an interface with the **set ip {dscp|ip|precedence}** command.

  Workaround: Remove the policy-map from the interface and re-configure a new policy-map without this option. (CSCsc97186)

- On a WS-C4948 running Cisco IOS Release 12.2(25)EWA3, you cannot re-set the interface MTU to the default.

  Workaround: Return the value of "Global Ethernet MTU" to the previous default value. (CSCsb81150)

- The following error messages may appear on a Catalyst 4900 series switch after reload, causing it to lose its VLAN configuration and preventing you from recreating them:

  This is observed on a switch whose VTP is in transparent mode, Version 2, after some non-default settings for VLANs 1003 and 1005 (token ring) were learned when the switch was in server mode.

  ```
  %SW_VLAN-4-VTP_INTERNAL_ERROR: VLAN manager received an internal error 14 from vtp
  function vtp_download_info: Bad parent VLAN ID-Traceback=...
  ```

  Workarounds:

  - Return to VTP version 1.
  - Use a 'ring' value in the range for 1 - 1005 for all Token Ring VLANs (CSCsc69560)

- When you configure “logging host X.X.X.X vrf,” on a WS-X4515 chassis that is running Cisco IOS Release 12.2(25)EWA5 or 12.2(25)SG, the chassis does not accept the command line to delete this configuration.

  Workaround: Issue the **erase start** command. (CSCek33573).

- If a physical interface is configured in shutdown mode, then configured with the same configuration including "switchport nonegotiate,” when it is later enabled by the **no shutdown** command, it can not join the bundle and the following error message displays:

  ```
  %EC-5-CANNOT_BUNDLE2: Gi3/16 is not compatible with Po1and will be suspended (trunk
  mode of Gi3/16 is dynamic, Po1 is trunk)
  ```

  The following configuration sequence will prevent interface g3/16 from joining the bundle:

  ```
  int g3/16
  shut
  switchport mode trunk
  switchport nonegotiate
  channel-group 1 mode on

  int po1
  switchport trunk enacp dot1q
  switchport mode trunk
  switchport nonegotiate

  int g3/16
   no shut
  ```

  Workaround: Do NOT configure the channel-port with the same configuration while all physical ports are still in shutdown mode. Instead, issue the **unshutdown** command on the physical ports to carry over the first unshutdown to the channel port. (CSCsd11234)

- When you set up a topology wherein a Catalyst 6000 series switch is connected by multiple links to Port 2, 15-16, 21-47 of a Catalyst 4948 series switch, after 1 minute, the blocking port of Catalyst 4948 starts flapping the STP port status.

Workaround: Shutdown 2 ports to reduce the number of VLAN instances. (CSCsc29392)

- On a Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA2, dhcp snooping does not work on a PVLAN trunk.

  Workaround: None (CSCej06004).

- The first multicast packet is dropped.

  Workaround: None (CSCsc51906).

- The BOOT variable is not cleared with the **no boot system** command.

  Workaround: Check the variable with the **show bootvar** command before issuing the **write memory** command. (CSCeg74620).

- If an interface is set to "not autonegotiate" from SNMP, and an snmp get is done to query the state of the interface, the correct state is returned. However, if the interface is set to "not autonegotiate" from the CLI, then an snmp get will show that it is still in autonegotiate mode, even though it isn't.

  Workaround: If the autonegotiate state is set by SNMP through the ifMauAutoNegAdminStatus value, it is reported by SNMP and CLI correctly. (CSCsc21274).

- When copying files to and from the switch, using ftp, the operation fails for files larger than 18528 bytes when the ftp server is on a remote network.

  A sample operation is:

  ```
  switch# copy running-conf ftp://user:password@n.n.n.n//users/xxx/switch-confg
  ```

  The error is:

  ```
  00:02:06: FTP: 550 /users/xxx/switch-confg: Broken pipe.
  ```

  Workaround: Either use a local ftp server on the same network or use tftp or rcp. (CSCsc48710).

- You might be the continuous error messages like:

  ```
  Dec 19 10:53:36: %C4K_PKTPROCESSING-4-UNKNOWNBRIDGEORROUTE: (Suppressed 52 times)
  Unable to determine whether to route or bridge replicated software-processed pa cket
  with source address 00:04:AC:E4:BC:38 and destination address 00:00:0C:07:AC:23

  Dec 19 11:03:45: %C4K_PKTPROCESSING-4-UNKNOWNBRIDGEORROUTE: (Suppressed 48 times)
  Unable to determine whether to route or bridge replicated software-processed packet
  with source address 00:04:AC:E4:BC:38 and destination address 00:00:0C:07:AC:23

  Dec 19 11:13:52: %C4K_PKTPROCESSING-4-UNKNOWNBRIDGEORROUTE: (Suppressed 37 times)
  Unable to determine whether to route or bridge replicated software-processed pa cket
  with source address 00:04:AC:E4:BC:38 and destination address 00:00:0C:07:AC:23
  ```

  Workaround: None (CSCsc87365).

- 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://tools.cisco.com/security/center/content/CiscoSecurityResponse/cisco-sr-20060913-vtp

  (CCSCsd34759)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  (CSCek26492)

- 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.

  (CSCek37177)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-IOS-IPv6

  (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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-IOS-IPv6

(CSCsd58381)

Open Caveats in Cisco IOS Release 12.2(25)EWA5

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA5:

- A QoS policing fails if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers. (CSCsa57218)

- On a Supervisor Engine V10-GE, when there are lot of flows in the system, an error message is logged to SYSLOG indicating that the netflow hardware table is full. The error message is misleading; the message states "flow table full" instead of "flow collisions."

  Workaround: None. (CSCeh97868)

- Occasionally, when a Catalyst 4900 series switch is in VTP client mode and “switchport trunk prunning vlan none” is configured on the trunk port, the trunk interface fails to send VLAN joins to the VTP server. Some of the VLAN is pruned on the link to the VTP server even when those VLANs are used.

  Workaround: Instead of using the "none" option, provide a specific VLAN when enabling VTP pruning on the trunk interface. (CSCei42957)

- While configuring Smartport macros via HTTP interactively, a Catalyst 4900 series switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsc05612)

- When VRF Packet Leaking is configured on a Catalyst 4900 series switch with a Supervisor Engine IV, a packet loss of 50 per cent occurs when you ping a Catalyst 4900 series switch VRF interface IP address from a device in the global table.

  Packets forwarded by Catalyst 4900 series switch are not impacted.

  Workaround: None. (CSCej36831)

- After you initially boot a Catalyst 4900 series switch, if the input interface is in PIM dense mode, “s,g” multicast cast traffic is not forwarded to the intended destination even if that group is represented by a “*,g” on the system.

  Workaround: Issue the **clear ip mroute *** command multiple times. (CSCsb50317)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA5

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA5:

- On the WS-4948G (RJ45 and SFP ports), WS-4948G-10GE (RJ45 ports only), WS-X4506-GB-T (RJ45 ports only), and WS-X4013+TS (RJ45 ports only), one or more ports may exhibit complete loss of traffic in both the transmit and receive directions. The problem can be seen on a port when its link flaps (up/down) multiple times in a short period of time.

  This problem impacts all IOS releases starting from Cisco IOS Release 12.2(25)EWA2 or later, including 12.2(25)SG. Entering the **shut** and **no shut** commands will not recover from this problem.

  Please verify the following problem conditions to confirm the occurrence of this problem:

  - Issue the **show interface** *module/port* **status** command; it displays the Connected state
  - Issue the **show platform hardware interface GigabitEthernet** *module/port* **all**; it indicates that the MAC state is "Down" and that the rxInReset flag is set to "True"

  Workaround: Reload the switch. (CSCsc10017)

- A WS-4948G, WS-4948G-10GE, WS-X4506-GB-T, and WS-X4013+TS might display the following message while running the Cisco IOS Release 12.2(20)EWA and later:

  ```
  %C4K_HWPORTMAN-4-BLOCKEDTXQUEUE: Blocked transmit queue HwTxQId1 on Switch Phyport
  18,count=342141
  ```

  Ports with a duplex mis-match and the switch port operating in half duplex will exhibit this problem and no traffic will flow through those ports.

  Such a mis-match can occur when the switch port is configured for auto-negotiation but the far-end device is operating in forced mode. This mis-match can also occur when both ends of the link are operating in forced mode with the same speed but different duplex settings.

  Workarounds:

  - Issue shut /no shut to recover the port. (Prior to Cisco IOS Release 12.2(25)EWA2, a reload may be required.)
  - Repair the duplex mis-match. Ensure that both the switch and the far-end device are both auto-negotiating or forced to operate at same speed and duplex. (CSCsb62330)

- A Catalyst 4900 series switch does not forward an 802.1X request with NULL credentials.

  Workaround: None. (CSCej03858)

- A port enabled for Loop Guard that participates in spanning tree (and is in BLK state) goes into a loop inconsistent state when it stops receiving BPDUs from its neighbor. When the neighbor resumes sending BPDUs (instead of STP BPDUs), STP ordinarily recovers from this state. For this caveat, STP does not recover and the port remains stuck.

  Workarounds:

  - Enter the **shut** and **no shut** commands on the port.
  - Disable Loop Guard on the port and then re-enable it. (CSCsc04047)

- A Catalyst 4900 series switch with Supervisor Engine IV running Cisco IOS Release 12.2(25)EWA3 will send an ARP packet (from an STP blocking port) that can cause a broadcast storm when you either reload a Catalyst 4900 series switch with a blocking port or enter **shut** and **no shut** commands on any port of the switch.

  Workaround: None. (CSCsb84685)

- If UDLD is enabled on a trunk port with native VLAN tagging enabled, the UDLD protocol packets are sent out untagged. This may cause UDLD interoperability issues with other Cisco switches that expect to always see tagged packets on trunk ports.

  Workaround: None. (CSCsb34771)

Open Caveats in Cisco IOS Release 12.2(25)EWA4

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA4:

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature shows only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands are accepted, even after you enter the **macro apply** command. (CSCsa44632)

- QoS policing fails if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers. (CSCsa57218)

- After you initially boot a Catalyst 4900 series switch, if the input interface is in PIM dense mode, “s,g” multicast cast traffic is not forwarded to the intended destination even if that group is represented by a “*,g” on the system.

  Workaround: Issue the **clear ip mroute *** command multiple times. (CSCsb50317)

- On a Supervisor Engine V10-GE, when there are lot of flows in the system, an error message is logged to SYSLOG indicating that the netflow hardware table is full. The error message is misleading; the message states "flow table full" instead of "flow collisions."

  Workaround: None. (CSCeh97868)

- Occasionally, when a Catalyst 4900 series switch is in VTP client mode and “switchport trunk prunning vlan none” is configured on the trunk port, the trunk interface fails to send VLAN joins to the VTP server. Some of the VLAN is pruned on the link to the VTP server even when those VLANs are used.

  Workaround: Instead of using the "none" option, you must provide a specific VLAN when enabling VTP pruning on the trunk interface. (CSCei42957)

- If UDLD is enabled on a trunk port with native VLAN tagging enabled, the UDLD protocol packets are sent out untagged. This may cause UDLD interoperability issues with other Cisco switches that expect to always see tagged packets on trunk ports.

  Workaround: None. (CSCsb34771)

- While configuring Smartport macros via HTTP interactively, a Catalyst 4900 series switch might restart unexpectedly.

  Workaround: Provide the entire command sequence in the browser "command" area as if you were entering the commands through the CLI. (CSCei76082)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA4

This section lists the resolved caveats in Cisco IOS Release 12.2(25)EWA4:

- Issuing the **no ip flow ingress** command does not turn off the collection of switched IP flows.

Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command.

(CSCsa67042)

- Modifying a policer may not work if you configure more than 800 policers.

  Workaround: Remove, reconfigure and reinstall policers, or, use less than 800 policers. (CSCsa66422)

- The **dot1x default** command does not restore the defaults for the **dot1x max-reauth-req** and **dot1x timeout reauth server** commands.

  Workaround: Restore these default values manually. (CSCeh97513)

- After vty is set to "never," it cannot be released with the **clear line XX** command.

  Workaround: Reload the system. (CSCei26830)

Note Always exit the global configuration mode *before* a switchover.

- After changing the SNMP engine ID on a Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA, none of the existing community strings work. You must re-establish the relationship between any community strings and the new engine ID.

  Upon issuing the **snmp mib community-map** command, you will observe additional SNMP configuration entries that reflect the mismatched SNMP engine ID.

  Workaround: Remove the community-map with the **no snmp mib community-map** command. (CSCei29841)

- With IP multicast routing and IGMP snooping enabled, a Catalyst 4900 series switch does not send ARP requests to a partner switch if the trunk port on the Catalyst 4900 switch is the only interface carrying private VLANs.

  Workaround: Configure any other port on the Catalyst 4900 switch (not necessarily one connected to the partner switch) as a regular trunk interface. Ensure that the interface is "link up" and carries both primary and isolated VLANs. (CSCsb06924)

- If an 802.1X supplicant logs off, the AAA Accounting Stop record displays "port-error" as the Acct-Terminate-Cause[49] reason instead of "user-req."

  Workaround: None.(CSCsb36480)

- A Catalyst 4900 series switch running the Cisco IOS Release 12.2(25)EWA2 does not send LinkUp traps (IF-MIB).

  Workaround: Issue the **snmp trap link-status permit duplicates** command on the interfaces. (CSCsb38308)

- Executing the **show** command in trustpoint-ca configuration mode might cause the switch to fail by corrupting the stack.

  Workaround: Do not issue the **show** command in trust-ca configuration mode. (CSCsb42958)

- When 802.1X accounting is enabled, the Framed-IP-Address[8] attribute is not included in accounting messages generated on ports with IP DHCP snooping trust enabled.

  Workaround: None. (CSCsb46019)

- If storm control is configured and you manually toggle the link (up/down), the ARP table no longer updates its database.

  Workaround: Allow storm control to disable and enable the interface. (CSCsb49409)

- Cisco IOS may permit arbitrary code execution after exploitation of a heap-based buffer overflow vulnerability. Cisco has included additional integrity checks in its software, as further described below, that are intended to reduce the likelihood of arbitrary code execution.

  Cisco has made free software available that includes the additional integrity checks for affected customers.

  (CSCei61732)

Open Caveats in Cisco IOS Release 12.2(25)EWA3

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA3:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsa44632)

- Under certain rare scenarios, the packet match counter in **show policy-map interface fa6/1** does not show the packets being matched, as in the following configuration:

```
Switch# show policy-map int
 FastEthernet6/2

  Service-policy output: p4
```

```
Class-map: ipc2 (match-all)
  0 packets<---------- It shouldn't stay at '0'.
  Match: access-group name ipacl_2
  police: Per-interface
    Conform: 22937970 bytes Exceed: 977688712 bytes <--- traffic going thru


Class-map: class-default (match-any)
  410 packets
  Match: any
    410 packets
```

Workaround: Either enter a shutdown/no shutdown on the port or detach and reapply the service policy. (CSCef30883)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- Issuing the **no ip flow ingress** command will not turn off the collection of switched IP flows.

  Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command.

  (CSCsa67042)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers.(CSCsa57218)

- Modifying a policer may not work if you configure more than 800 policers.

  Workaround: Remove, reconfigure and reinstall policers, or, use less than 800 policers. (CSCsa66422)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA3

This section lists the resolved caveats in Release 12.2(25)EWA3:

- Through normal software maintenance processes, Cisco is removing deprecated functionality from the OS boot routine. These changes have no impact on system operation or feature availability. (CSCei76358)

Open Caveats in Cisco IOS Release 12.2(25)EWA2

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA2:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsa44632)

- Under certain rare scenarios, the packet match counter in **show policy-map interface fa6/1** does not show the packets being matched, as in the following configuration:

```
Switch# show policy-map int
 FastEthernet6/2

  Service-policy output: p4

    Class-map: ipc2 (match-all)
      0 packets<---------- It shouldn't stay at '0'.
      Match: access-group name ipacl_2
      police: Per-interface
        Conform: 22937970 bytes Exceed: 977688712 bytes <--- traffic going thru


    Class-map: class-default (match-any)
      410 packets
      Match: any
        410 packets
```

  Workaround: Either enter a shutdown/no shutdown on the port or detach and reapply the service policy. (CSCef30883)

- Issuing the **no ip flow ingress** command will not turn off the collection of switched IP flows.

  Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command.

  (CSCsa67042)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

Workaround: Use less than 1000 policers.(CSCsa57218)

- Modifying a policer may not work if you configure more than 800 policers.

  Workaround: Remove, reconfigure and reinstall policers, or, use less than 800 policers. (CSCsa66422)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA2

This section lists the resolved caveats in Release 12.2(25)EWA2:

- If the switch receives an unlearned source MAC address after a security violation, memory is consumed in creating a security violation-related SNMP trap for each source MAC address. If the switch receives several unlearned source MAC addresses at a very high rate, considerable memory is consumed to ensure that the SNMP traps are generated and sent out correctly.

  Workaround: Configure the trap-rate to limit very small number of traps every second. The following configuration sets a trap-rate of 1/2 trap per second (CSCeg41478):

  ```
  Switch(config)#snmp-ser enable traps port-se trap-rate 1
  Switch(config)#snmp-ser enable traps port-se trap-rate 2
  ```

- If you configure a SPAN session and then apply a SPAN ACL filter to the session, the packets that should be dropped according to the ACL definition are still sent out the SPAN destination port.

  For example, the intent of the following command sequence is to drop packets with source or destination IP address 20.4.1.2 on the SPAN destination port Gigabit Ethernet 6/5:

  ```
  Switch(config)# access-list 1 deny 20.4.1.2
  Switch(config)# monitor session 1 source interface gi6/5
  Switch(config)# monitor session 1 destination interface gi6/7
  Switch(config)# monitor session 1 filter ip access-group 1
  ```

  However, if this is the first time you are applying the ACL filter to the SPAN session, the packets with IP address 20.4.1.2 are still copied to the SPAN destination port.

  If this sample configuration is contained in the startup-config, then the ACL filter would work properly after the Catalyst 4900 series switch boots.

  This caveat only impacts Cisco IOS Release 12.2(25)EWA.

  Workaround: Remove the ACL filter and then re-apply it using the following command sequence:

  ```
  Switch(config)# no monitor session 1 filter ip access-group 1
  Switch(config)# monitor session 1 filter ip access-group 1
  ```

  (CSCsa64231)

- Issuing the **no ip flow ingress** command will not turn off the collection of switched IP flows.

  Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command.

  (CSCsa67042)

- When you use the **vlan** command in interface range configuration mode to configure a range of VLANs on Layer 3 ports, the VLANs might not be created, as in the following example. Additional VLANs will not be created on the Catalyst 4900 series switch until the switch has been reloaded.

  ```
  Switch(config)# int range gi3/3 - 28
  Switch(config-if-range)# sw
  Switch(config-if-range)# no sw
  Switch(config-if-range)# vlan 1000-4094
  % Command failed on interface GigabitEthernet3/4. Aborting
  ```

```
Switch(config)#
```

Workaround: Create the VLANs in global or interface command mode. CSCsa54831)

- Under load conditions, the CPU utilization reported on a Catalyst 4900 series switch running Cisco IOS Release 12.2(25)EWA2 is approximately 5 per cent higher than that reported on previous releases of IOS.

  Workaround: In previous releases of Cisco IOS, CPU utilization was computed incorrectly. This defect has been fixed in Cisco IOS Release 12.2(25)EWA2 resulting in slightly higher CPU utilization being reported under similar load conditions as compared to previous releases. (CSCsb19391)

  This is not a problem and a workaround is unnecessary.

- A QoS service-policy cannot be attached to a port or VLAN if routing is not configured on the system.

  Workaround: Enable IP routing on the system, but do not configure any SVIs and or physical routed ports. The routing operation is performed only when a SVI and or physical routed port is configured with a valid IP address. (CSCsa54215)

- When you configure numerous per-port per-VLAN QoS (like 800 input policers), and then modify them, per-port per-VLAN QoS will stop working.

  Workaround: Disable and or re-enable QoS. (CSCsa66422)

- Occasionally, when IPX ACL is configured with a tunnel interface to carry IPX traffic, the Catalyst 4900 series switch reloads once you delete the interface.

  This caveat does not occur in earlier releases.

  Workaround: None. (CSCsa68817)

Open Caveats in Cisco IOS Release 12.2(25)EWA1

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA1:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1
```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsa44632)

- If the switch receives an unlearned source MAC address after a security violation, memory is consumed in creating a security violation-related SNMP trap for each source MAC address. If the switch receives several unlearned source MAC addresses at a very high rate, considerable memory is consumed to ensure that the SNMP traps are generated and sent out correctly.

  Workaround: Configure the trap-rate to limit very small number of traps every second. The following configuration sets a trap-rate of 1/2 trap per second (CSCeg41478):

```
Switch(config)#snmp-ser enable traps port-se trap-rate 1
Switch(config)#snmp-ser enable traps port-se trap-rate 2
```

- Under certain rare scenarios, the packet match counter in **show policy-map interface fa6/1** does not show the packets being matched, as in the following configuration:

```
Switch# show policy-map int
 FastEthernet6/2

  Service-policy output: p4

    Class-map: ipc2 (match-all)
      0 packets<---------- It shouldn't stay at '0'.
      Match: access-group name ipacl_2
      police: Per-interface
        Conform: 22937970 bytes Exceed: 977688712 bytes <--- traffic going thru


    Class-map: class-default (match-any)
      410 packets
      Match: any
        410 packets
```

  Workaround: Either enter a shutdown/no shutdown on the port or detach and reapply the service policy. (CSCef30883)

- When a switchport configured with port security is converted from an access to a promiscuous port, the port security configuration is lost. The **show interface** command will show that port security is no longer configured.

  Workaround: After converting a switchport with port security to a promiscuous port, apply the port security interface command again. (CSCeg41424)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- If you configure a SPAN session and then apply a SPAN ACL filter to the session, the packets that should be dropped according to the ACL definition are still sent out the SPAN destination port.

  For example, the intent of the following command sequence is to drop packets with source or destination IP address 20.4.1.2 on the SPAN destination port Gigabit Ethernet 6/5:

  ```
  Switch(config)# access-list 1 deny 20.4.1.2
  Switch(config)# monitor session 1 source interface gi6/5
  Switch(config)# monitor session 1 destination interface gi6/7
  Switch(config)# monitor session 1 filter ip access-group 1
  ```

  However, if this is the first time you are applying the ACL filter to the SPAN session, the packets with IP address 20.4.1.2 are still copied to the SPAN destination port.

  If this sample configuration is contained in the startup-config, then the ACL filter would work properly after the Catalyst 4900 series switch boots.

  This caveat only impacts Cisco IOS Release 12.2(25)EWA.

  Workaround: Remove the ACL filter and then re-apply it using the following command sequence:

  ```
  Switch(config)# no monitor session 1 filter ip access-group 1
  Switch(config)# monitor session 1 filter ip access-group 1
  ```

  (CSCsa64231)

- Issuing the **no ip flow ingress** command will not turn off the collection of switched IP flows.

  Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command.

  (CSCsa67042)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers. (CSCsa57218)

- Modifying a policer may not work if you configure more than 800 policers.

  Workaround: Remove, reconfigure and reinstall policers, or, use less than 800 policers. (CSCsa66422)

- When you use the **vlan** command in interface range configuration mode to configure a range of VLANs on Layer 3 ports, the VLANs might not be created, as in the following example. Additional VLANs will not be created on the Catalyst 4900 series switch until the switch has been reloaded.

  ```
  Switch(config)# int range gi3/3 - 28
  Switch(config-if-range)# sw
  Switch(config-if-range)# no sw
  Switch(config-if-range)# vlan 1000-4094
  % Command failed on interface GigabitEthernet3/4. Aborting
  Switch(config)#
  ```

  Workaround: Create the VLANs in global or interface command mode. CSCsa54831)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA1

This section lists the resolved caveats in Release 12.2(25)EWA1:

- NetFlow Feature Acceleration has been deprecated and removed from Cisco IOS. The global command **ip flow-cache feature-accelerate** will no longer be recognized in any IOS configuration.

If your router configuration does not currently contain the command **ip flow-cache feature-accelerate**, this change does not affect you.

The removal of NetFlow Feature Acceleration does not affect any other aspects of Netflow operation, for example Access-list processing. The features are separate and distinct.

Cisco Express Forwarding (CEF) supercedes the deprecated NetFlow Feature Acceleration.

Additionally, the following MIB objects and OIDs have been deprecated and removed from the netflow mib (CISCO-NETFLOW-MIB):

```
cnfFeatureAcceleration        1.3.6.1.4.1.9.9.99999.1.3
cnfFeatureAccelerationEnable  1.3.6.1.4.1.9.9.99999.1.3.1
cnfFeatureAvailableSlot       1.3.6.1.4.1.9.9.99999.1.3.2
cnfFeatureActiveSlot          1.3.6.1.4.1.9.9.99999.1.3.3
cnfFeatureTable               1.3.6.1.4.1.9.9.99999.1.3.4
cnfFeatureEntry               1.3.6.1.4.1.9.9.99999.1.3.4.1
cnfFeatureType                1.3.6.1.4.1.9.9.99999.1.3.4.1.1
cnfFeatureSlot                1.3.6.1.4.1.9.9.99999.1.3.4.1.2
cnfFeatureActive              1.3.6.1.4.1.9.9.99999.1.3.4.1.3
cnfFeatureAttaches            1.3.6.1.4.1.9.9.99999.1.3.4.1.4
cnfFeatureDetaches            1.3.6.1.4.1.9.9.99999.1.3.4.1.5
cnfFeatureConfigChanges       1.3.6.1.4.1.9.9.99999.1.3.4.1.6
```

(CSCsa81379)

- Cisco Internetwork Operating System (IOS®) Software is vulnerable to a Denial of Service (DoS) and potentially an arbitrary code execution attack from a specifically crafted IPv6 packet. The packet must be sent from a local network segment. Only devices that have been explicitly configured to process IPv6 traffic are affected. Upon successful exploitation, the device may reload or be open to further exploitation.

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

Open Caveats in Cisco IOS Release 12.2(25)EWA

This section lists the open caveats in Cisco IOS Release 12.2(25)EWA:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then re-enable QoS with the **qos global** command. (CSCee52449)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1
```

```
Class-map: c1 (match-all)
  0 packets<--------It stays at '0' despite of traffic being received
  Match: access-group name fnacl21
  police: Per-interface
    Conform: 9426560 bytes Exceed: 16573440 bytes
```

Workaround: Verify that the MAC addresses being transmitted through the system are learned.

(CSCef01798)

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsa44632)

- If the switch receives an unlearned source MAC address after a security violation, memory is consumed in creating a security violation-related SNMP trap for each source MAC address. If the switch receives several unlearned source MAC addresses at a very high rate, considerable memory is consumed to ensure that the SNMP traps are generated and sent out correctly.

  Workaround: Configure the trap-rate to limit very small number of traps every second. The following configuration sets a trap-rate of 1/2 trap per second (CSCeg41478):

```
Switch(config)#snmp-ser enable traps port-se trap-rate 1
Switch(config)#snmp-ser enable traps port-se trap-rate 2
```

- Under certain rare scenarios, the packet match counter in **show policy-map interface fa6/1** does not show the packets being matched, as in the following configuration:

```
Switch# show policy-map int
 FastEthernet6/2

  Service-policy output: p4

    Class-map: ipc2 (match-all)
      0 packets<---------- It shouldn't stay at '0'.
      Match: access-group name ipacl_2
      police: Per-interface
        Conform: 22937970 bytes Exceed: 977688712 bytes <--- traffic going thru


    Class-map: class-default (match-any)
      410 packets
      Match: any
        410 packets
```

  Workaround: Either enter a shutdown/no shutdown on the port or detach and reapply the service policy. (CSCef30883)

- When a switchport configured with port security is converted from an access to a promiscuous port, the port security configuration is lost. The **show interface** command will show that port security is no longer configured.

  Workaround: After converting a switchport with port security to a promiscuous port, apply the port security interface command again. (CSCeg41424)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

- If you configure a SPAN session and then apply a SPAN ACL filter to the session, the packets that should be dropped according to the ACL definition are still sent out the SPAN destination port.

  For example, the intent of the following command sequence is to drop packets with source or destination IP address 20.4.1.2 on the SPAN destination port Gigabit Ethernet 6/5:

```
Switch(config)# access-list 1 deny 20.4.1.2
Switch(config)# monitor session 1 source interface gi6/5
Switch(config)# monitor session 1 destination interface gi6/7
Switch(config)# monitor session 1 filter ip access-group 1
```

  However, if this is the first time you are applying the ACL filter to the SPAN session, the packets with IP address 20.4.1.2 are still copied to the SPAN destination port.

  If this sample configuration is contained in the startup-config, then the ACL filter would work properly after the Catalyst 4900 series switch boots.

  This caveat only impacts Cisco IOS Release 12.2(25)EWA.

  Workaround: Remove the ACL filter and then re-apply it using the following command sequence:

```
Switch(config)# no monitor session 1 filter ip access-group 1
Switch(config)# monitor session 1 filter ip access-group 1
```

  (CSCsa64231)

- Issuing the **no ip flow ingress** command will not turn off the collection of switched IP flows.

  Workaround: Use the **no ip flow ingress** command in conjunction with the **no ip flow ingress layer2-switched** command.

  (CSCsa67042)

- QoS policing will fail if you configure more than 1000 policers on a trunk port and you remove some of the VLANs from the trunk port.

  Workaround: Use less than 1000 policers. (CSCsa57218)

- Modifying a policer may not work if you configure more than 800 policers.

  Workaround: Remove, reconfigure and reinstall policers, or, use less than 800 policers. (CSCsa66422)

- When you use the **vlan** command in interface range configuration mode to configure a range of VLANs on Layer 3 ports, the VLANs might not be created, as in the following example. Additional VLANs will not be created on the Catalyst 4900 series switch until the switch has been reloaded.

```
Switch(config)# int range gi3/3 - 28
Switch(config-if-range)# sw
Switch(config-if-range)# no sw
Switch(config-if-range)# vlan 1000-4094
% Command failed on interface GigabitEthernet3/4. Aborting
Switch(config)#
```

  Workaround: Create the VLANs in global or interface command mode. CSCsa54831)

Resolved Caveats in Cisco IOS Release 12.2(25)EWA

This section lists the resolved caveats in Release 12.2(25)EWA:

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

- When the access VLAN of an access port is converted into an RSPAN VLAN, the **show interface** and **show interface inactive** commands indicate that the interface is up and connected. This problem is strictly cosmetic; the interface is no longer forwarding traffic.

  Workaround: None. (CSCsa44090)

- When a Catalyst 4900 series switch exhausts the packet buffers and can no longer receive packets, the Rx-No_pkt_Buff field in the output of the **show platform interface all** command may not get updated.

  Workaround: None. (CSCef72691)

- Per-flow Border Gateway Protocol (BGP) AS information is not collected. As a result, BGP AS information will not be available in any of the aggregation caches.

  Workaround: None. (CSCin85662)

- Multicast over Generic Routing Encapsulation (GRE) does not work.

  Workaround: None (CSCin85525)

Open Caveats in Cisco IOS Release 12.2(25)EW

This section lists the open caveats in Cisco IOS Release 12.2(25)EW.

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then reenable QoS with the **qos global** command. (CSCee52449)

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

- When the access VLAN of an access port is converted into an RSPAN VLAN, the **show interface** and **show interface inactive** commands indicate that the interface is up and connected. This problem is strictly cosmetic; the interface is no longer forwarding traffic.

  Workaround: None. (CSCsa44090)

- When a Catalyst 4900 series switch exhausts the packet buffers and can no longer receive packets, the Rx-No_pkt_Buff field in the output of the **show platform interface all** command may not get updated.

  Workaround: None. (CSCef72691)

- In a hierarchical policer configuration with parent as the aggregate policer and child as the microflow policer, child microflow policer-matched packets report only the packets that are in the profile (they match the policing rate). Packets that exceed the policing rate are not reported in the class-map packet match statistics.

  Workaround: None. (CSCef88634)

- Per-flow Border Gateway Protocol (BGP) AS information is not collected. As a result, BGP AS information will not be available in any of the aggregation caches.

  Workaround: None. (CSCin85662)

- In rare instances, when you are using MAC ACL-based policers, the packet match counters in **show policy-map interface fa6/1** do not show the packets being matched:

```
Switch# show policy-map int
  FastEthernet3/2

   Service-policy output: p1

     Class-map: c1 (match-all)
       0 packets<--------It stays at '0' despite of traffic being received
       Match: access-group name fnacl21
       police: Per-interface
         Conform: 9426560 bytes Exceed: 16573440 bytes
```

  Workaround: Verify that the MAC addresses being transmitted through the system are learned.

  (CSCef01798)

- Multicast over Generic Routing Encapsulation (GRE) does not work.

  Workaround: None (CSCin85525)

- If you enter the **default interface** command at the interface level, then at the interface configuration level, any command you enter after a **macro apply** command is not accepted. The Help(?) feature will show only two options: exit and help.

  Workaround: Exit, then re-enter interface configuration mode. All commands will be accepted, even after you enter the **macro apply** command. (CSCsa44632)

- If the switch receives an unlearned source MAC address after a security violation, memory is consumed in creating a security violation-related SNMP trap for each source MAC address. If the switch receives several unlearned source MAC addresses at a very high rate, considerable memory is consumed to ensure that the SNMP traps are generated and sent out correctly.

  Workaround: Configure the trap-rate to limit very small number of traps every second. The following configuration sets a trap-rate of 1/2 trap per second (CSCeg41478):

```
Switch(config)#snmp-ser enable traps port-se trap-rate 1
Switch(config)#snmp-ser enable traps port-se trap-rate 2
```

- Under certain rare scenarios, the packet match counter in **show policy-map interface fa6/1** does not show the packets being matched, as in the following configuration:

```
Switch# show policy-map int
 FastEthernet6/2

  Service-policy output: p4

    Class-map: ipc2 (match-all)
      0 packets<---------- It shouldn't stay at '0'.
      Match: access-group name ipacl_2
      police: Per-interface
        Conform: 22937970 bytes Exceed: 977688712 bytes <--- traffic going thru


    Class-map: class-default (match-any)
      410 packets
      Match: any
        410 packets
```

  Workaround: Either enter a shutdown/no shutdown on the port or detach and reapply the service policy. (CSCef30883)

- When a switchport configured with port security is converted from an access to a promiscuous port, the port security configuration is lost. The **show interface** command will show that port security is no longer configured.

  Workaround: After converting a switchport with port security to a promiscuous port, apply the port security interface command again. (CSCeg41424)

- When changing the access VLAN ID on a sticky port configured with IPSG and voice VLAN, the secure MAC address counter on this port might become negative. This does not impact the system.

  Workaround: Avoid enabling IPSG on sticky ports that are configured with VVID. (CSCeg31712)

Resolved Caveats in Cisco IOS Release 12.2(25)EW

This section lists the resolved caveats in Release 12.2(25)EW:

- Under conditions where switch communication with the RADIUS server is broken or delayed, 802.1X may either cause the switch to crash or generate memory corruption tracebacks. This issue impacts Release 12.2(20)EWA.

  Workaround: None. (CSCef46146)

- Cisco Internetwork Operating System (IOS®) Software is vulnerable to a Denial of Service (DoS) and potentially an arbitrary code execution attack from a specifically crafted IPv6 packet. The packet must be sent from a local network segment. Only devices that have been explicitly configured to process IPv6 traffic are affected. Upon successful exploitation, the device may reload or be open to further exploitation.

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

Open Caveats in Cisco IOS Release 12.2(20)EWA4

This section lists the open caveats in Cisco IOS Release 12.2(20)EWA4:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then reenable QoS with the **qos global** command. (CSCee52449)

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

Resolved Caveats in Cisco IOS Release 12.2(20)EWA4

This section lists the resolved caveats in Release 12.2(20)EWA4:

- Some (or all) CDP neighbors are invisible.

  It only happens on releases that include the fix for CSCse85200.

  When turning on "debug cdp even," the following message appears:

  ```
  CDP-EV: Received item (type : 9) with invalid length 4
  ```

  Workaround: None. (CSCsf07847)

- 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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  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://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  (CSCek26492)

- Cisco routers and switches running Cisco IOS or Cisco IOS XR software may be vulnerable to a remotely exploitable crafted IP option Denial of Service (DoS) attack. Exploitation of the vulnerability may potentially allow for arbitrary code execution. The vulnerability may be exploited after processing an Internet Control Message Protocol (ICMP) packet, Protocol Independent Multicast version 2 (PIMv2) packet, Pragmatic General Multicast (PGM) packet, or URL Rendezvous Directory (URD) packet containing a specific crafted IP option in the packet's IP header. No other IP protocols are affected by this issue.

  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 vulnerability was discovered during internal testing. This advisory is available at

  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20070124-crafted-ip-option

  (CSCec71950)

Open Caveats in Cisco IOS Release 12.2(20)EWA3

This section lists the open caveats in Cisco IOS Release 12.2(20)EWA3:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

Workaround: Disable QoS with the **no qos** command, and then reenable QoS with the **qos global** command. (CSCee52449)

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

Resolved Caveats in Cisco IOS Release 12.2(20)EWA3

This section lists the resolved caveats in Release 12.2(20)EWA3:

- Through normal software maintenance processes, Cisco is removing deprecated functionality from the OS boot routine. These changes have no impact on system operation or feature availability. (CSCei76358)

Open Caveats in Cisco IOS Release 12.2(20)EWA2

This section lists the open caveats in Cisco IOS Release 12.2(20)EWA2:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then reenable QoS with the **qos global** command. (CSCee52449)

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

Resolved Caveats in Cisco IOS Release 12.2(20)EWA2

This section lists the resolved caveats in Release 12.2(20)EWA2:

- Cisco Internetwork Operating System (IOS®) Software is vulnerable to a Denial of Service (DoS) and potentially an arbitrary code execution attack from a specifically crafted IPv6 packet. The packet must be sent from a local network segment. Only devices that have been explicitly configured to process IPv6 traffic are affected. Upon successful exploitation, the device may reload or be open to further exploitation.

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

  More details can be found in the security advisory that is posted at http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20050729-ipv6. (CSCef68324)

Open Caveats in Cisco IOS Release 12.2(20)EWA1

This section lists the open caveats in Cisco IOS Release 12.2(20)EWA1:

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then reenable QoS with the **qos global** command. (CSCee52449)

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

Resolved Caveats in Cisco IOS Release 12.2(20)EWA1

This section lists the resolved caveats in Release 12.2(20)EWA1:

- NetFlow Feature Acceleration has been deprecated and removed from Cisco IOS. The global command **ip flow-cache feature-accelerate** will no longer be recognized in any IOS configuration.

  If your router configuration does not currently contain the command **ip flow-cache feature-accelerate**, this change does not affect you.

  The removal of NetFlow Feature Acceleration does not affect any other aspects of Netflow operation, for example Access-list processing. The features are separate and distinct.

  Cisco Express Forwarding (CEF) supercedes the deprecated NetFlow Feature Acceleration.

  Additionally, the following MIB objects and OIDs have been deprecated and removed from the netflow mib (CISCO-NETFLOW-MIB):

```
cnfFeatureAcceleration        1.3.6.1.4.1.9.9.99999.1.3
cnfFeatureAccelerationEnable  1.3.6.1.4.1.9.9.99999.1.3.1
cnfFeatureAvailableSlot       1.3.6.1.4.1.9.9.99999.1.3.2
cnfFeatureActiveSlot          1.3.6.1.4.1.9.9.99999.1.3.3
cnfFeatureTable               1.3.6.1.4.1.9.9.99999.1.3.4
cnfFeatureEntry               1.3.6.1.4.1.9.9.99999.1.3.4.1
cnfFeatureType                1.3.6.1.4.1.9.9.99999.1.3.4.1.1
cnfFeatureSlot                1.3.6.1.4.1.9.9.99999.1.3.4.1.2
cnfFeatureActive              1.3.6.1.4.1.9.9.99999.1.3.4.1.3
cnfFeatureAttaches            1.3.6.1.4.1.9.9.99999.1.3.4.1.4
cnfFeatureDetaches            1.3.6.1.4.1.9.9.99999.1.3.4.1.5
cnfFeatureConfigChanges       1.3.6.1.4.1.9.9.99999.1.3.4.1.6
```

  (CSCsa81379)

Open Caveats in Cisco IOS Release 12.2(20)EWA

This section lists the open caveats in Cisco IOS Release 12.2(20)EWA.

- Changes to console speed are not updated in ROMMON. If a system is reloaded, you will not see a prompt until Cisco IOS software re-starts.

  Workaround: None. (CSCee65294)

- On a system reload, some of the QoS policies that had previously loaded into the hardware may fail to load due to limited space.

  Workaround: Disable QoS with the **no qos** command, and then reenable QoS with the **qos global** command. (CSCee52449)

- A spurious error message appears when an SSH connection disconnects after an idle timeout.

  Workaround: Disable idle timeouts. (CSCec30214)

Resolved Caveats in Cisco IOS Release 12.2(20)EWA

This section lists the resolved caveats in Release 12.2(20)EWA:

- The DHCP snooping database agent has a maximum of 8192 entries. If the number of DHCP bindings learned by the system exceeds this number, the entries in the database agent will be cleared out, the entries in hardware will be retained, and switching will continue. However, upon reload, bindings and connectivity will be lost.

  Workaround: None. (CSCee34375)

- If IP source guard and QoS policies with large ACLs are configured on an interface, deleting the QoS policy will not clear the policers from the hardware.

  Workaround: Either remove the IP source guard configuration using the **no ip verify source vlan dhcp-snooping port-security** command and reconfigure using the **ip verify source vlan dhcp-snooping port-security** command or shut down the interface (after removing the policy) using the **shutdown** command, and reactivate it using the **no shutdown** command. (CSCee44402)

- When you use private VLANs on the Catalyst 4900 series switch, old ARP entries will not timeout of the ARP cache without manually clearing the ARP entry. This has no effect on production.

  Workaround: Issue the **clear arp** command on the supervisor engine. (CSCee73094)

Troubleshooting

These sections provide troubleshooting guidelines for the Catalyst 4900 family running IOS supervisor engines:

- Netbooting from the ROMMON, page 352
- Troubleshooting at the System Level, page 353
- Troubleshooting Modules, page 353
- Troubleshooting MIBs, page 353

Netbooting from the ROMMON

Netbooting using a boot loader image is not supported. Instead, use one of the following options to boot an image:

1. Boot from a CompactFlash card by entering the following command:

   ```
   rommon 1> boot slot0:<bootable_image>
   ```

2. Use ROMMON TFTP boot.

   The ROMMON TFTP boot is very similar to the BOOTLDR TFTP boot, except that:

   - the BOOTLDR variable should *not* be set
   - the TFTP server must be accessible from the Ethernet management port on the supervisor engine.

To boot from ROMMON, perform the following tasks while in ROMMON mode:

a. Ensure that the Ethernet management port is physically connected to the network.

b. Verify that bootloader environment is not set by entering the **unset bootldr** command.

c. Set IP address of the Ethernet management port on the supervisor engine by entering the following command: **set interface fa1** *ip_address*> <*ip_mask*

   For example, to set the supervisor engine Ethernet port with an IP address 172.16.1.5 and IP mask 255.255.255.0, enter the following command:

   ```
   rommon 2> set interface fa1 172.16.1.5 255.255.255.0
   ```

d. Set default gateway for the Ethernet management port on the supervisor engine by entering the following command: **set ip route default** *gateway_ip_address*. The default gateway should be directly connected to the supervisor engine Ethernet management port subnet.

e. Ping the TFTP server to ensure that there is connectivity to the server from the Ethernet management port on the supervisor engine by entering the following command: **ping** <*tftp_server_ip_address*>.

f. Once the ping is successful, boot the image from the TFTP server by entering the following command: **boot tftp://***tftp_server_ip_address*>**/**<*image_path_and_file_name*

   For example, to boot the image name **cat4500-is-mz** located on the TFTP server 172.16.1.8, enter the following command:

   ```
   rommon 3> boot tftp://172.16.1.8/tftpboot/cat4500-is-mz
   ```

Troubleshooting at the System Level

This section contains troubleshooting guidelines for system-level problems:

- When the system is booting and running power-on diagnostics, do not reset the switch.
- Ensure that you do not mix the serial and Ethernet cables. The Ethernet Management port is inoperative in all Cisco IOS releases (Cisco IOS Release 12.2(20)EWA through Cisco IOS Release 12.2(31)SGA). An Ethernet cable plugged into the Ethernet port is active only in ROMMON mode.

Troubleshooting Modules

This section contains troubleshooting guidelines for the Catalyst 4900 series switch:

- Whenever you connect an interface that has duplex set to autonegotiate to an end station or another networking device, ensure that the other device is configured for autonegotiation as well. If the other device is not set to autonegotiate, the port set to autonegotiate will remain in half-duplex mode, which can cause a duplex mismatch resulting in packet loss, late collisions, and line errors on the link.

Troubleshooting MIBs

For general information on MIBs, RMON groups, and traps, refer to the Cisco public MIB directory (http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml). For information on the specific MIBs supported by the Catalyst 4900 series switches, refer to the Catalyst 4000 MIB Support List located at ftp://ftp.cisco.com/pub/mibs/supportlists/cat4000/cat4000-supportlist.html.

Related Documentation

Although their Release Notes are unique, the 4 platforms (Catalyst 4500, Catalyst 4900, Catalyst ME 4900, and Catalyst 4900M) use the same *Software Configuration Guide*, *Command Reference Guide*, and *System Message Guide*. Refer to the following home pages for additional information:

- Catalyst 4500 Series Switch Documentation Home

  http://www.cisco.com/go/cat4500/docs
- Catalyst 4900 Series Switch Documentation Home

  http://www.cisco.com/go/cat4900/docs
- Cisco ME 4900 Series Ethernet Switches Documentation Home

  http://www.cisco.com/en/US/products/ps7009/tsd_products_support_series_home.html

Hardware Documents

Installation guides and notes including specifications and relevant safety information are available at the following URLs:

- *Catalyst 4500 Series Switches Installation Guide*

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/installation/guide/78-14409-08/4500inst.html
- *Catalyst 4500 E-series Switches Installation Guide*

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/catalyst4500e/installation/guide/Eseries.html
- For information about individual switching modules and supervisors, refer to the *Catalyst 4500 Series Module Installation Guide* at:

  http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_installation_guides_list.html
- *Regulatory Compliance and Safety Information for the Catalyst 4500 Series Switches*

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/regulatory/compliance/78_13233.html
- Installation notes for specific supervisor engines or for accessory hardware are available at:

  http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_installation_guides_list.html
- Catalyst 4900 and 4900M hardware installation information is available at:

  http://www.cisco.com/en/US/products/ps6021/prod_installation_guides_list.html
- Cisco ME 4900 Series Ethernet Switches installation information is available at:

  http://www.cisco.com/en/US/products/ps7009/prod_installation_guides_list.html

Software Documentation

Software release notes, configuration guides, command references, and system message guides are available at the following URLs:

- Catalyst 4500 release notes are available at:

  http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_release_notes_list.html

- Catalyst 4900 release notes are available at:

  http://www.cisco.com/en/US/products/ps6021/prod_release_notes_list.html

- Cisco ME4900 4900 Series Ethernet Switch release notes are available at:

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/release/note/OL_11511.html

Software documents for the Catalyst 4500 Classic, Catalyst 4500 E-Series, Catalyst 4900, and Cisco ME 4900 Series Ethernet Switches are available at the following URLs:

- *Catalyst 4500 Series Software Configuration Guide*

  http://www.cisco.com/en/US/products/hw/switches/ps4324/products_installation_and_configuration_guides_list.html

- *Catalyst 4500 Series Software Command Reference*

  http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_command_reference_list.html

- *Catalyst 4500 Series Software System Message Guide*

  http://www.cisco.com/en/US/products/hw/switches/ps4324/products_system_message_guides_list.html

Cisco IOS Documentation

Platform-independent Cisco IOS documentation may also apply to the Catalyst 4500 and 4900 switches. These documents are available at the following URLs:

- Cisco IOS configuration guides, Release 12.x

  http://www.cisco.com/en/US/products/ps6350/products_installation_and_configuration_guides_list.html

- Cisco IOS command references, Release 12.x

  http://www.cisco.com/en/US/products/ps6350/prod_command_reference_list.html

  You can also use the Command Lookup Tool at:

  http://tools.cisco.com/Support/CLILookup/cltSearchAction.do

- Cisco IOS system messages, version 12.x

  http://www.cisco.com/en/US/products/ps6350/products_system_message_guides_list.html

  You can also use the Error Message Decoder tool at:

  http://www.cisco.com/pcgi-bin/Support/Errordecoder/index.cgi

- For information about MIBs, refer to:

  http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

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Release Notes for the Catalyst 4900 Series Switch, Cisco IOS Release 12.2(54)SG