Release Notes for the Catalyst 4900M Series Switch and the Catalyst 4948E Ethernet Switch, Cisco IOS Release 12.2(54)SGx and 12.2(53)SGx

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

Previous Release
12.2(54)SG1, 12.2(54)SG, 12.2(54)XO, 12.2(53)SG9, 12.2(53)SG8, 12.2(53)SG7, 12.2(53)SG6, 12.2(53)SG5, 12.2(53)SG4, 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)SG5, 12.2(50)SG4, 12.2(50)SG3, 12.2(50)SG2, 12.2(50)SG1, 12.2(50)SG, 12.2(46)SG, 12.2(40)XO

These release notes describe the features, modifications, and caveats for Cisco IOS software on the Catalyst 4900M switch and the Catalyst 4948E Ethernet Switch. The most current software release is Cisco IOS Release 12.2(54)SG.

Cisco Catalyst 4900M Series is a premium extension to the widely deployed Catalyst 4948 Series top of rack Ethernet switches for data center server racks. Optimized for ultimate deployment flexibility, the Catalyst 4900M Series can be deployed for 10/100/1000 server access with 1:1 uplink to downlink oversubscription, mix of 10/100/1000 and 10 GbE servers or all 10GbE servers in the same rack. The Catalyst 4900M is a 320Gbps, 250Mpps, 2RU fixed configuration switch with
8 fixed wire speed X2 ports on the base unit and 2 optional half card slots for deployment flexibility and investment protection. Low latency, scalable buffer memory and high availability with 1+1 hot swappable AC or DC power supplies and field replaceable fans optimize the Catalyst 4900M for any size of data center.

With Cisco IOS Release 12.2(54)XO, we Cisco introduced the Catalyst® 4948E Ethernet Switc, which is the first Cisco Catalyst E-Series data center switch built from the start to deliver class-leading, full-featured server-access switching. The switch offers forty-eight 10/100/1000-Gbps RJ45 downlink ports and four 1/10 Gigabit Ethernet uplink ports and is designed to simplify data center architecture and operations by offering service provider-grade hardware and software in a one rack unit (1RU) form factor optimized for full-featured top-of-rack (ToR) data center deployments.

The Cisco Catalyst 4948E Ethernet Switch builds on the advanced technology of the Cisco Catalyst 4948 Switches, the most deployed ToR switch in the industry, with more than 10 million ports deployed worldwide. The Cisco Catalyst E-Series doubles the uplink bandwidth and offers true front-to-back airflow with no side or top venting. Stringent airflow management reduces data center operating costs

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by providing strict hot-aisle and cold-aisle isolation. Exceptional reliability and serviceability are delivered with optional internal AC and DC 1+1 hot-swappable power supplies and a hot-swappable fan tray with redundant fans.

For more information on Catalyst 4900M and Catalyst 4948E Ethernet Switch, visit: http://www.cisco.com/en/US/products/ps6021/index.html.

Note Although this release note and those for Catalyst 4500 Series Switch, the Catalyst 4900 Series Switch, the Catalyst ME 4900 Switch, are unique, they each refer to the same *Software Configuration Guide*, *Command Reference Guide*, and *System Message Guide*.

Contents

This publication consists of these sections:

Cisco IOS Software Packaging

Catalyst 4900M and Catalyst 4948E software features based on Cisco IOS Software 12.2(54)SG will support the IP Base, LAN Base, and Enterprise Services image.

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 Static routes, RIPv1/v2 for IP BASE, and EIGRP-Stub for limited routing on Cisco Catalyst 4900 Series Switches.

The LAN Base image complements the existing IP Base and Enterprise Services images. It is focused on customer access and Layer 2 requirements and therefore many of the IP Base features are not required. The IP upgrade image is available if at a later date you require some of those features.

The Enterprise Services image supports Cisco Catalyst 4948E Ethernet Switch and Cisco Catalyst 4900M Series software features based on Cisco IOS Software 12.2(54)SG, including enhanced routing. BGP capability is included in the Enterprises Services package.

Note The default image for WS-C4948E is LAN Base.

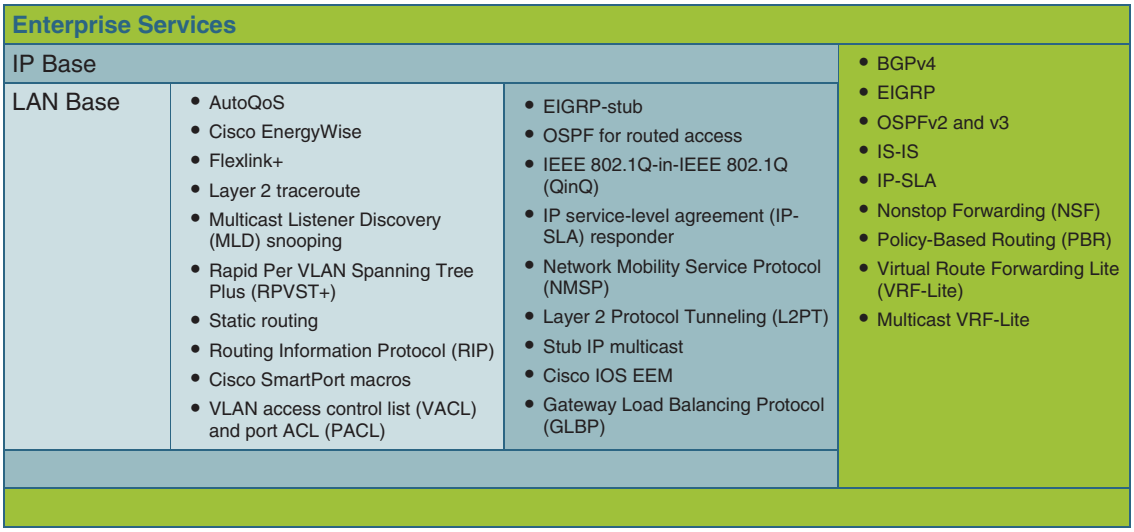
Figure 1 illustrates the three levels of Cisco IOS Software on the Catalyst 4900M Series Switch and the Catalyst 4948E Ethernet Switch.

This is not a detailed list. Please visit Feature Navigator for full package details: http://tools.cisco.com/ITDIT/CFN/

For information on MiBs support, pls refer to this URL:

http://ftp.cisco.com/pub/mibs/supportlists/cat4000/cat4000-supportlist.html

Figure 1 Feature Support by Packages



Orderable Product Numbers:

- S49LB-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900M Series Switch and Cisco Catalyst 4948E Ethernet Switch (LAN Base image)
- S49LBK9-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900M Series Switch and Cisco Catalyst 4948E Ethernet Switch (LAN Base image with Triple Data Encryption)
- S49IPB-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900M Series Switch and Cisco Catalyst 4948E Ethernet Switch (IP Base image)
- S49IPBK9-12254SG(=)—Cisco IOS Software for Cisco Catalyst 4900M Series Switch and Cisco Catalyst 4948E Ethernet Switch (IP Base image with Triple Data Encryption)
- S49ES-12254SG(=)— Cisco IOS Software for Cisco Catalyst 4900M Series Switch and Cisco Catalyst 4948E Ethernet Switch (Enterprise Services image with BGP support)
- S49ESK9-12254SG(=)—Cisco IOS Software forCisco Catalyst 4900M Series Switch and Cisco Catalyst 4948E Ethernet Switch (Enterprise Services image with 3DES and BGP support)
- S49LB-12254XO(=)—Cisco IOS Software for Cisco Catalyst 4948E Ethernet Switch (LAN Base image)

- S49LBK9-12254XO(=)—Cisco IOS Software for Cisco Catalyst 4948E Ethernet Switch (LAN Base image with Triple Data Encryption)S49IPB-12254XO(=)—Cisco IOS Software for Cisco Catalyst 4948E Series Switches (IP Base image)
- S49IPBK9-12254XO(=)—Cisco IOS Software for Cisco Catalyst 4948E Ethernet Switch (IP Base image with Triple Data Encryption)
- S49ES-12254XO(=)— Cisco IOS Software for Cisco Catalyst 4948E Ethernet Switch (Enterprise Services image with BGP support)
- S49ESK9-12254XO(=)—Cisco IOS Software for Cisco Catalyst 4948E Ethernet Switch (Enterprise Services image with 3DES and BGP support)
- WS-C4900-SW-LIC—Catalyst 4948 Ethernet Switch IP Base Upgrade License for LAN Base IOS
- S49MES-12253SG - Cisco IOS Software for Cisco Catalyst 4900M Switches (Enterprise Services image with BGP support)
- S49MESK9-12253SG - Cisco IOS Software for Cisco Catalyst 4900M Switches (Enterprise Services image with 3DES and BGP support)
- S49MIPB-12253SG - Cisco IOS Software for Cisco Catalyst 4900M Switches (IP Base image)
- S49MIPBK9-12253SG - Cisco IOS Software for Cisco Catalyst 4900M Switches (IP Base image with 3DES)
- S45EIPB-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (IP Base Image)
- S45IPBK9-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (IP Base Image with 3DES) (cat4500-ipbasek9-mz)
- S45EES-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (Enterprise Services image) (cat4500-ipbasek9-mz)
- S45EESK9-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (Enterprise Services image) (cat4500-ipbasek9-mz)
- S45EIPB-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (IP Base Image)
- S45IPBK9-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (IP Base Image with 3DES) (cat4500-ipbasek9-mz)
- S45EES-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (Enterprise Services image) (cat4500-ipbasek9-mz)
- S45EESK9-12250SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (Enterprise Services image) (cat4500-ipbasek9-mz)
- S45EIPB-12246SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (IP Base Image)
- S45IPBK9-12246SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (IP Base Image with 3DES) (cat4500-ipbasek9-mz)
- S45EES-12246SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (Enterprise Services image) (cat4500-ipbasek9-mz)
- S45EESK9-12246SG—Cisco IOS software for the Catalyst 4500 Series Supervisor Engine 6-E (Enterprise Services image) (cat4500-ipbasek9-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)
- 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)

Cisco IOS Release Strategy

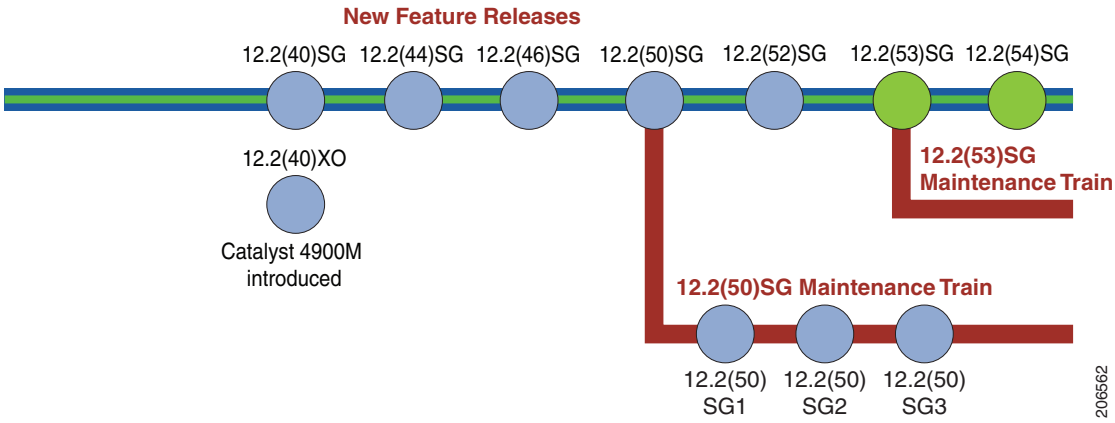
Customers with Catalyst 4948E Ethernet Switch and Catalyst 4900M series switches who need the latest hardware support and software features should migrate to Cisco IOS Release 12.2(54)SG.

Cisco IOS Software Migration

Figure 2 displays the two active, 12.2(31)SGA and 12.2(50)SG, and newly introduced 12.2(53)SG extended maintenance trains.

Support for the Catalyst 4900M platform was introduced in 12.2(40)XO. Moving forward, the Cisco Catalyst 4900M platform has two maintenance trains. The Cisco IOS Release 12.2(53)SG is the latest maintenance train and includes the most recent features including support for OSPF for routed Access

Figure 2 Software Release Strategy for the Catalyst 4900M Series Switch



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 on the Catalyst 4900M Switch and Catalyst 4948E Ethernet Switch

Table 1 lists the hardware supported on the Catalyst 4900M series switch and the Catalyst 4948E Ethernet Switch.

For Catalyst 4900 and 4948E 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 1 Supported Hardware

Product Number (append with "=" for spares)	**Product Description**
WS-C4900M	Catalyst 4900M 8-port base system
WS-X4908-10G-RJ45	8-Port Wire-Speed 10 Gigabit Ethernet (RJ-45) **Note** This linecard is not supported on the Catalyst 4948E Ethernet Switch.
WS-X4920-GB-RJ45 (=)	Catalyst 4900M 20-port 10/100/1000 RJ-45 half card
WS-X4904-10GE (=)	Catalyst 4900M 4 port 10GbE half card with X2 interfaces
WS-X4908-10GE (=)	Catalyst 4900M 8 port 10GbE half card with X2 interfaces
WS-X4908-10G-RJ45	8 port 10 Gigabit linecard with 2 to 1 oversubscription
WS-C4948E	Catalyst 4948E Ethernet Switch
WS-C4948E-S	Catalyst 4948E Ethernet Switch with IP Base Software and AC Power
WS-C4948E-E	Catalyst 4948E Ethernet Switch with Enterprise Software and AC Power
WS-C4948E-L	Catalyst 4948E Ethernet Switch with LAN Base Software and AC Power
WS-X4994	Blank PS Cover
WS-X4994=	Blank PS Cover Spare
WS-X4993=	Spare Fantray
PWR-C49M-1000AC(=)	Catalyst 4900M AC Power Supply
PWR-C49M-1000AC/2	Catalyst 4900M AC Power Supply Redundant
PWR-C49M-1000DC(=)	Catalyst 4900M DC Power Supply
PWR-C49M-1000DC/2	Catalyst 4900M DC Power Supply Redundant
PWR-C49E-300AC-R	AC Power Supply
PWR-C49E-300AC-R/2	AC Power Supply Redundant
PWR-C49E-300AC-R=	AC Power Supply Spare
PWR-C49-300DC	DC Power Supply
PWR-C49-300DC/2	DC Power Supply Redundant
PWR-C49-300DC	DC Power Supply Spare

Table 1 Supported Hardware

Product Number (append with "=" for spares)	**Product Description**
WS-X4992=	Catalyst 4900M Spare Fan Tray
CVR-X2-SFP=	TwinGig module

Supported Features

Note The default image for the Catalyst 4900M series switch is Cisco IOS Release 12.2(53)SG2.

Table 2 lists the Cisco IOS software features for the Catalyst 4948E Ethernet Switch and Catalyst 4900M series switches.

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

Layer 2 Switching Features
Storm control
Storm Control: Per-Port Multicast Suppression
Multicast storm control
IP Source Guard
IP Source Guard for Static Hosts
PVRST+
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 Control Policing (Not supported on Supervisor Engine 6-E)
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

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

Port security on Voice VLAN
Port security MAC Aging
Trunk Port Security
Unicast MAC Filtering
802.1X Multiple Domain Authentication and Multiple Authorization
802.1X with ACL Assignment and Redirect URLs
802.1X with per-user ACL and Filter-ID ACL
RADIUS-Provided Session Timeouts
RADIUS CoA
MAC Move and Replace
802.1X with Guest VLANs
802.1X with MAC Authentication Bypass
802.1X with Web-Based Authentication
802.1X with Inaccessible Authentication Bypass
802.1X with User Distribution
802.1X with Unidirectional Controlled Port
802.1X with VLAN User Distribution
802.1X with Authentication Failed VLAN Assignment
802.1X with Voice VLAN Ports
802.1X with VLAN Assignment
802.1X with Fallback Authentication
802.1X with Periodic Reauthentication
802.1X with Multiple Hosts
802.1X Supplicant and Authenticator Switches with Network Edge Access Topology
802.1X with Port Security
Cisco TrustSec SGT Exchange Protocol (SXP) IPv4
Private VLANs
Private VLAN DHCP snooping
Private VLAN trunks
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)
SNMP V3 support for Bridge-MIB with VLAN indexing

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

Ethernet CFM
Ethernet OAM Protocol
Supported Protocols
DTP[4]
RIPv1[5] and RIPv2, Static Routing
EIGRP[6]
EIGRP Stub Routing
EIGRP Service Advertisement Framework[7]
OSPF[8]
BGP4[9]
BGP route-map Continue
BGP Neighbor Policy
MBGP[10]
MSDP[11]
ICMP[12] Router Discovery Protocol
Static routes
Classless interdomain routing (CIDR)
DVMRP[13]
NTP[14]
NTP master command
STP - Portfast BPDU Guard
STP- BPDU Filtering
STP - Root Guard
SCP[15]
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
IEEE 802.1Q on all EtherChannels
Bundling of up to eight Ethernet ports
Trunk Port Security over EtherChannel
Link State Tracking
Additional Protocols and Features
Secure Copy Protocol (SCP)
Link Layer Discovery Protocol (LLDP)
Link Layer Discovery Protocol Media Endpoint Discovery (LLDP-MED)
PoEP via LLDP

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

DSCP/CoS via LLDP
Routed Jumbo Frame support
SPAN CPU port mirroring
SPAN packet-type filtering
SPAN destination in-packets option
SPAN ACL filtering
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
Sticky port security
Voice VLAN Sticky Port Security
Cisco Group Management Protocol (CGMP) server support
HSRP[16] over Ethernet, EtherChannels - 10/100/1000Mbps, 10 Gbps
GLBP
VRRP
IGMP[17] snooping version1, version 2, and version 3 (Full Support)
IGMP filtering
IGMP Querier
Multicast VRF-lite
VRF-aware IP services
VRF-aware TACACS+
Configurable IGMP Leave Timer
Multicast Source Discovery Protocol (MSDP)
SmartPort macros
Auto SmartPort macros
Port Aggregation Protocol (PagP)
802.3ad LACP
SSH version 1 and version 2[18]

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

show interface capabilities command
IfIndex persistence
Enhanced SNMP MIB support
SNMP[19] version 1, version 2, and version 3
SNMP version 3 (with encryption)
DHCP server and relay-agent
DHCP Snooping Statistics and SYSLOG
DHCP client autoconfiguration
DHCP Option 82 data Insertion
DHCP Option 82 Pass Through
DHCP Relay Agent for IPv6
DHCP Option 82 - Configurable Remote ID and Circuit ID
Port flood blocking
Router standard and extended ACLs [20]on all ports with no performance penalty
Downloadable ACL
VLAN ACL
PACL[21]
VACL
RACL
Unicast RPF
Local Proxy ARP
Dynamic ARP Inspection on PVLANs
Dynamic ARP Inspection
Per-VLAN CTI
ARP QoS
MQC
Ingress/Egress Policing
Ingress Rate Limiting
Egress Bandwidth Limiting/port shaping
Per VLAN Policy & Per Port Policer
802.1p Priority
Strict Priority Scheduling
Ingress/Egress Strict Priority Queuing (Expedite)
Shaped Round Robin (SRR)
Egress Shaped Queues
Ingress/egress Shared Queues
DSCP Mapping

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

DSCP Filtering
AutoQoS - VoIP
PBR[22]
Auto QoS 1.5
Trust Boundary Configuration
Dynamic Buffer Limiting (DBL)
Per-VLAN Control Traffic Intercept
Table Map Based Classification
Interface Index Persistence
UDI - Unique Device Identifier
Per-port QoS[23] rate-limiting and shaping
QoS for IPv6
Per-port Per-VLAN QoS
Energy Wise
Two-Rate Three-Color Policing
Dynamic Multi-Protocol Ternary Content Addressable Memory
SmartPort macros
802.1s standards compliance
Flexible Authentication Sequencing
Multi-Authentication
Open Authentication
Web Authentication
Local Web Authentication (EPM syslog and Common session ID)
PPPoE Intermediate Agent
Identity ACL Policy Enforcement[24]
Identity 4.1 Network Edge Access Topology
IPv6 routing - unicast routing "RIPng"
IPv6 Neighbor Discovery Throttingly
IPv6 MLDv1 & v2 SNooping
IPv6 Host support (- IPv6 support: Addressing; IPv6: Option processing, Fragmentation, ICMPv6,
TCP/UDP over IPv6; Applications: Ping/Traceroute/VTY/SSH/TFTP, SNMP for IPv6 objects)
IPv6 ACLs
IPv6 Management Services (CDP over IPv6, SSHv2 over IPv6)
IPv6: MLDv1/v2
IPv6:CEFv6
IPv6:MLD Snooping
IPv6 PACL

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

IPv6 RA Guard
IPv6 Interface Statistics
Non-stop Forwarding Awareness
Non-stop Forwarding Awareness for EIGRP-stub in IP base for all supervisor engines
BGP MIB
OSPF Fast Convergence[25]
AutoRP
Service-Aware Resource Allocation
TwinGig Converter Module
FAT File System
EEM 3.2[26]
VSS client with PagP+
Ethernet Management Port
Enhanced Object Tracking subfeatures: • HSRP with EOT • VRRP with EOT • GLBP with EOT • IP SLA with EOT • Reliable Backup Static Routing with EOT
ANCP Client
Bidiectional PIM
OSPF and EIGRP Fast Convergence
Inactivity Timer
boot config command
Crashdump enhancement
Unicast MAC filtering
Energy Wise
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
Layer 2 Tunneling Protocol
Online Diagnostics
PIM Accept Register - Rogue Multicast Server Protection[27]
Configuration Rollback
IP Multicast Load Splitting (Equal Cost Multipath (ECMP) using S, G and Next-hop)

Table 2 Cisco IOS Software Feature Set for the Catalyst 4948E Ethernet Switch and Catalyst 4900M Series Switches

OSPF for Routed Access
Archiving crashfiles
Cisco Network Assistant (CNA)
Per-VLAN Learning
XML Programmatic Interface
VLAN Mapping (VLAN Translation)
GOLD Online Diagnostics (Sup 6-E and 6L-E only)
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. DTP = Dynamic Trunking Protocol
5. RIP = Routing Information Protocol
6. EIGRP = Enhanced Interior Gateway Routing Protocol
7. Refer to the URL:http://www.cisco.com/en/US/docs/ios/saf/configuration/guide/saf_cg.html
8. OSPF = Open Shortest Path First
9. BGP4 = Border Gateway Protocol 4
10. MBGP = Multicast Border Gateway Protocol
11. MSDP = Multicast Source Discovery Protocol
12. ICMP = Internet Control Message Protocol
13. DVMRP = Distance Vector Multicast Routing Protocol
14. NTP = Network Time Protocol
15. SCP = Secure Copy Protocol
16. HSRP = Hot Standby Router Protocol
17. IGMP = Internet Group Management Protocol
18. SSH = Secure Shell Protocol
19. SNMP = Simple Network Management Protocol
20. ACLs = Access Control Lists
21. PACL = Port Access Control List
22. Policy-based Routing
23. QoS = Quality of Service
24. filter-ID and per-user ACL
25. The Catalyst 4500 series switch supports Fast Hellos, ISPF, and LSA Throttling.
26. EEM = Embedded Event Manager: Rdefer to the URL: http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_eem_3.2.html
27. The route-map keyword is not supported.

Unsupported Features

These features are not supported in Cisco IOS Release 12.2(54)SG for the Cisco Catalyst 4948E Ethernet Switch and the Catalyst 4900M series switch:

- MAC notification MIB support
- RPR

- NSF with SSO
- ISSU
- The following ACL types:
  - Standard Xerox Network System (XNS) access list
  - Extended XNS access list
  - DECnet access list
  - Protocol type-code access list
- ADSL and Dial access for IPv6
- AppleTalk EIGRP (use native AppleTalk routing instead)
- Bridge groups
- CEF Accounting
- Cisco IOS software IPX ACLs:
  - <1200-1299> IPX summary address access list
- 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
- LLDP HA
- Lock and key
- NAT-PT for IPv6
- Reflexive ACLs
- Routing IPv6 over an MPLS network
- Two-way community VLANs in private VLANs
- WCCP v1 and v2
- PIM Stub in IP Base
- UniDirectional Link Routing (UDLR)
- NAC L2 IP - Inaccessible authentication bypass
- Packet Based Storm Control
- AutoQoS - VoIP
- Global QoS (enable QoS)
- CER for E-911 Support
- Auto RP
- Cisco-Port-QoS-MIB
- Real Time DiagNosis (GOLD-Lite)
- Time Domain Reflectometry

- HTTP Software Upgrade
- MAC Address Notification
- CFM CoS

New and Changed Information

These sections describe the new and changed information for the Catalyst 4948E Ethernet Switch and the Catalyst 4900M series switch running Cisco IOS software:

New Hardware Features in Release 12.2(54)SG

Supports hardware introduced in Release 12.2(54)XO and prior releases as well as the following new hardware for the Catalyst 4900M Series Switch and the Catalyst 4948E Ethernet Switch:

- SFP-10G-LR
- SFP-10G-LRM

New Software Features in Release 12.2(54)SG

Supports software introduced in Release 12.2(54)XO and prior releases.

New Hardware Features in Release 12.2(54)XO

Release 12.2(54)XO provides the following new hardware for the Catalyst 4948E Ethernet Switch.

- WS-C4948E
- WS-C4948E-S
- WS-C4948E-E
- WS-C4948E-BDL
- PWR-C49E-300AC-R=
- PWR-C49E-300AC-R/2
- PWR-C49-300DC(=)
- PWR-C49-300DC/2
- SFP-10G-LR
- SFP-10G-LRM
- SFP-H10GB-CU1M
- SFP-H10GB-CU3M
- SFP-H10GB-CU5M

New Software Features in Release 12.2(54)XO

Release 12.2(54)XO provides the following Cisco IOS software features for the Catalyst 4948E Ethernet 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 (Refer to IOS library)

For details refer to the URL:

http://www.cisco.com/en/US/docs/switches/lan/energywise/phase2/ios/configuration/guide/ew_v2.html

- GOLD Online Diagnostics ("Performing Diagnostics" chapter)
- 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)
- IPv6 PACL ("Configuring Network Security with ACLs" chapter)
- IPv6 RA Guard ("Configuring Network Security with ACLs" chapter)
- IPv6 Interface Statistics ("Configuring Layer 3 Interfaces" chapter)
- IS-IS for IPv4 ad IPv6 (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)
- VLAN Translation ("Configuring 802.1Q Tunneling, VLAN Mapping, and Layer 2 Protocol Tunneling" 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 4900M series switch:

Note This set of optics is not supported on Cisco IOS Release 12.2(54)SG, Cisco IOS XE Release 3.1.0 SG, and the Catalyst 4948E Series Switch.

- 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 4900M series switch.

New Hardware Features in Release 12.2(53)SG

Release 12.2(53)SG provides no new hardware for the Catalyst 4900M switch.

New Software Features in Release 12.2(53)SG

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

- IP Multicast Load Splitting (Equal Cost Multipath (ECMP) using S, G and Next-hop)
- Cisco Network Assistant (CNA)
- OSPF for Routed Access

  OSPF for Routed Access is designed specifically to enable customers to extend Layer 3 routing capabilities to the access or Wiring Closet.

Note OSPF for Routed Access supports only one OSPFv2 and one OSPFv3 instance with a maximum number of 200 dynamically learned routes.

With the typical topology (hub and spoke) in a campus environment, where the wiring closets (spokes) are connected to the distribution switch (hub) forwarding all nonlocal traffic to the distribution layer, the wiring closet switch need not hold a complete routing table. A best practice design, where the distribution switch sends a default route to the wiring closet switch to reach inter-area and external routes (OSPF stub or totally stub area configuration) should be used when OSPF for Routed Access is used in the wiring closet.

Refer to the following link for more details:

http://www.cisco.com/en/US/docs/solutions/Enterprise/Campus/routed-ex.html

With Cisco IOS Release 12.2(53)SG, the IP Base image supports OSPF for routed access. The Enterprise Services image is required if you need multiple OSPFv2 and OSPFv3 instances without route restrictions. Additionally, Enterprise Services is required to enable the VRF-lite feature.

New Hardware Features in Release 12.2(52)SG

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

- DHCPv6 Relay Enhancements
  - DHCPv6 Relay Ethernet Remote ID option
  - DHCPv6 Relay - Persistent Interface ID option
  - DHCPv6 Relay Agent notification for Prefix Delegation
- EnergyWise
- HSRPv2 for IPv6
- 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
- VRF lite NSF support with routing protocols OSPF/EIGRP/BGP
- NTP master command

New Hardware Features in Release 12.2(50)SG5

Release 12.2(50)SG5 provides no new hardware for the Catalyst 4900M series switch.

New Software Features in Release 12.2(50)SG5

Release 12.2(50)SG5 provides no new software for the Catalyst 4900M series switch.

New Hardware Features in Release 12.2(50)SG4

Release 12.2(50)SG4 provides no new hardware for the Catalyst 4900M series switch.

New Software Features in Release 12.2(50)SG4

Release 12.2(50)SG4 provides no new software for the Catalyst 4900M series switch.

New Hardware Features in Release 12.2(50)SG3

Release 12.2(50)SG3 provides the following hardware for the Catalyst 4500 series switch:

- CVR-X2-SFP10G

  Hot-swappable input/output (I/O) converter module that fits into a 10-Gigabit Ethernet X2 slot on a switch or line card module. Hosts one 10-Gigabit Ethernet SFP+ transceiver module.

- SFP-10G-SR

  Cisco 10GBASE-SR SFP+ Module for MMF

New Software Features in Release 12.2(50)SG3

Release 12.2(50)SG3 provides no new features for the Catalyst 4500 series switch.

New Hardware Features in Release 12.2(50)SG2

Release 12.2(50)SG2 provides no new hardware for the Catalyst 4900M series switch.

New Software Features in Release 12.2(50)SG2

Release 12.2(50)SG2 provides no new software for the Catalyst 4900M series switch.

New Hardware Features in Release 12.2(50)SG1

Release 12.2(50)SG1 provides no new hardware for the Catalyst 4900M series switch.

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 4900M 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 4900M series switch:

- 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 4900M series switch:

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

- Multicast VRF-lite (“Configuring VRF-Lite” chapter)
- IGMP Querier (“Configuring IGMP Snooping” chapter)
- Bidirectional PIM (“Configuring IP Multicast” chapter)
- Private VLAN trunks (“Configuring Private VLANs” chapter)
- DHCP Relay Agent for IPv6 (refer to Cisco IOS Release 12.2 mainline documentation)
- 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 (“Configuring ANCP Client” chapter)
- PPPoE Intermediate Agent (“PPPoE Circuit-Id Tag Processing” chapter)
- VTP version 3 (“Configuring VLANs, VTP, and VMPS” chapter)
- VRF-aware IP services (“Configuring VRF-Lite” chapter)
- Control Plane Policing (“Configuring CPP” chapter)
- **boot config** command (Refer to the Cisco IOS Release 12.4 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/ios-xml/ios/sec_usr_cts/configuration/15-2mt/cts-sxp-ipv4.html
- QoS for IPv6 (refer to the Cisco IOS Release 12.4T documentation)

New Hardware Features in Release 12.2(46)SG

Release 12.2(46)SG provides no new hardware for the Catalyst 4900M series switch.

New Software Features in Release 12.2(46)SG

Note All features supported in Release 12.2(44)SG on Supervisor Engine 6-E (except for SSO) apply to this chassis.

Release 12.2(46)SG provides the following Cisco IOS software features for the Catalyst 4500 series switch:

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

- 802.1X Catchup (Refer to the “Configuring 802.1X” chapter)
  - 802.1X Guest VLAN
  - 802.1X Critical Authentication
  - Wake on LAN
  - Radius Accounting

  - Radius Supplied Timeout
- ARP QoS (Refer to the “Configuring QoS” chapter)
- Per-VLAN CTI (Refer to the “Configuring QoS” chapter)
- Flash support for Layer 3 features
- FlexLink and FlexLink+ with MAC Address-Table Move Update (Refer to the “Configuring FlexLink” chapter)
- Ethernet Management Port (Refer to the “Configuring Interfaces” 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
- RSPAN (Refer to the “Configuring SPAN and RSPAN” chapter)
- 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)
- Embedded management (Refer to the Cisco IOS Release 12.4 documentation)
- MAC notify MIB (Refer to the Cisco IOS Release 12.4 documentation)
- BGP (Refer to the Cisco IOS Release 12.4 documentation)
- 802.1X Dynamic VLAN Assignment (Refer to the “Configuring 802.1X” chapter)
- 802.1X MAC Authentication Bypass (Refer to the “Configuring 802.1X” chapter)
- 802.1X with VVID/PVID (Refer to the “Configuring 802.1X” chapter)
- Eight configurable queues per port (Refer to the “Configuring QoS” 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 802.1ab LLDP-MED (Refer to the “Configuring LLDP and LLDP-MED” chapter)
- X2 Link Debounce Timer (Refer to the “Configuring Interfaces” chapter)
- Resilient Ethernet Protocol (REP) (Refer to the “Configuring REP” chapter)

Minimum and Recommended ROMMON Release

Table 3 lists the minimum and recommended ROMMON releases for Catalyst 4900M switch and Catalyst 4948E Ethernet Switch.

Table 3 Minimum and Recommended ROMMON Release for Catalyst 4900M and Catalyst 4948E

	Minimum ROMMON Release	Recommended ROMMON Release
Catalyst 4900M Switch	12.2(40r)XO	12.2(44r)SG5
Catalyst 4948E Ethernet Switch	12.2(44r)SG8	12.2(44r)SG8

Note ROMMON Release 12.2(44r)SG5 is the minimum required to run Cisco IOS Release 12.2(54)SG and is recommended for other releases.

Limitations and Restrictions

Following limitations and restrictions apply to the Cisco Catalyst 4948E Ethernet Switch and the Catalyst 4900M series switch:

- The WS-X4920-GB-RJ45 card performs at wire speed until it operates at 99.6% utilization. Beyond this rate, the card will lose some packets.
- Compact Flash is not supported on a Cisco Catalyst 4900M switch running Cisco IOS Release 12.2(40)XO. Attempting to use Compact Flash may corrupt your data.
- 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.
- 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 226 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.
- You can run only .1q-in-.1q packet pass-through with the Catalyst 4948E Ethernet Switch and Catalyst 4900M series switch.
- For PVST, on Catalyst 4948E Ethernet Switch and Catalyst 4948E series switch VLANs, Cisco IOS Release 12.2(t54)SG supports a maximum of 3000 spanning tree port instances. If you want to use more than this number of instances, you should use MST rather than PVST.
- Because the Catalyst 4948E Ethernet Switch and the Catalyst 4900M series switch supports the FAT filesystem, the following restrictions apply:

  - The **verify** and **squeeze** commands are not supported.
  - The **rename** command is supported in FAT file system.

    For the Catalyst 4948E Ethernet Switch and the Catalyst 4900M series switch, the **rename** command has been added for bootflash and slot0. For all other supervisor engines, the **rename** command is supported for nvram devices only.
  - the **fsck** command is supported for slot0 device. It is not supported in the file systems on supervisor engines other than 6-E.
  - In the FAT file system, the IOS **format bootflash:** command erases user files only. It does not erase system configuration.
  - The FAT file system supports a maximum of 63 characters for file/directory name. The maximum for path length is 127 characters.
  - The FAT file system does not support the following characters in file/directory names:{}#%^ and space characters.
  - The FAT file system honors the Microsoft Windows file attribute of "read-only" and "read-write", but it does not support the Windows file "hidden" attribute.
  - Supervisor Engine 6-E uses the FAT file system for compact flash (slot0). If a compact flash is not formatted in FAT file system (such as compact flash on a supervisor engine other than 6-E), the switch does not recognize it.
- The Fast Ethernet port (10/100) 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.
- 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.
- If a Catalyst 4948E Ethernet Switch or a Catalyst 4900M 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.
- 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.

- 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.

- Class-map match statements using **match ip prec | dscp** match only IPv4 packets whereas matches performed with **match prec | dscp** match both IPv4 and IPv6 packets.
- IPv6 QoS hardware switching is disabled if the policy-map contains IPv6 ACL and match cos in the same class-map with the ipv6 access-list has any mask range between /81 and /127. It results in forwarding packets to software which efficiently disable the QoS.
- 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 behavior 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.

- Upstream ports on the Catalyst 4900M and Catalyst 4948E Ethernet Switch support flow control auto negotiation in 1G mode only, and flow control is forced in 10G mode. If the interface is configured to auto-negotiate the flow control, and the interface is operating in 10G mode, the system forces flow control to ON and does not auto-negotiate.
- 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.
  - The Catalyst 4948E Ethernet Switch and the Catalyst 4900 Ethernet switch support fast UDLD on a maximum of 32 ports.
- 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 4900M 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.
- With Cisco IOS Release 12.2(53)SG3 (and 12.2(54)SG), we changed the default behavior such that your single supervisor, RPR, or fixed configuration switch does not reload automatically. To configure automatic reload, you must enter the **diagnostic fpga soft-error recover aggressive** command. (CSCth16953)
- 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.x

Open Caveats in Cisco IOS Release 12.2(54)SG1

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

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes. CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- In Cisco IOS Release 12.2(54)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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 on the Catalyst 4900M switch, 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

- 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

- 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

- 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
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  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

- On a Catalyst 4900M switch, 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

```
ethernet oam link-monitor frame-seconds window
ethernet oam link-monitor frame-seconds threshold low
```

Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds. CSCsy37181

- 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 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 you configure **switchport block multicast** on a switch running Cisco IOS Release 12.2(53)SG1 and later or 12.2(50)SG6 and later, 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 CX1 or SFP+ are plugged into a OneX converter (CVR-X2-SFP10G) in a WS-X4908-10GE, the switch requires 1 minute to boot the link.

  Workaround: None. CSCtc46340

- If *time* is not specified in the **link debounce** command, the default value depends on the supervisor engine. The default is 10 mS for 4948E, C4900M, Supervisor Engine 6-E, and Supervisor Engine 6L-E. The default is 100 mS for all other supervisor engines.

  Workaround: None. CSCte51948

- Fast UDLD in aggressive mode may incorrectly errdisable a link in the following scenarios:
  - Fast UDLD peer switch performs SSO.
  - Fast UDLD peer switch is reloaded.
  - One or more interfaces on a fast UDLD peer switch are shut down (or the port mode changes from switchport to routed, and vice versa).

Note To reduce the likelihood of this event, connect at least two physical interfaces between fast UDLD peer switches. You must configure the interfaces with the same neighbor fast hello interval.

Workarounds:

- Reset the error disabled links with the **udld reset** command.
- Configure error disable recovery with the commands **errdisable recovery cause udld** and **errdisable recovery interval** *value (*between 30 and 86400 sec).
- Manually clear errdisable on the local interface with a **shutdown** then a **no shutdown**.

CSCtc99007xxx

- 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. CSCtg07677xxxx

- 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

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

  Workaround: Reconfigure VLAN load balancing with a different configuration, by performing the following task:

  a. Reconfigure the VLAN load balancing configuration on the desired REP ports.
  b. Use the **shut** command on any one REP port in the segment to cause a failure in that segment.
  c. Use the **no-shut** on the same 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

- When you remove an SFP+ from a OneX converter in a X2 slot, it takes approximately 45 seconds for the system to recognize this action. During this time, all commands indicate that the SFP+ is still present. Reinserting the SFP+ in another port or inserting another SFP+ in the same port can cause a “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

- Before large PACLs are fully loaded in hardware, you might observe a false completion messages like the following:

```
Dec  1 18:44:59.926: %C4K_COMMONHWACLMAN-4-HWPROGSUCCESS: Input Security: pacl - now
fully loaded in hardware *Dec  1 18:44:59.926: %C4K_COMMONHWACLMAN-4-ALLACLINHW: All
configured ACLs now fully loaded in hardware - hardware switching / QoS restored.
```

Workaround: No functional impact.

You must wait for the ACLs to be programmed before performing other TCAM related changes. CSCtd57063

- RA Guard counters are not incremented in the output of the **show ipv6 first-hop counters interface** command when Router Advertisement and Router Redirect packets with Destination address FF02::x are dropped.

  Workaround: None. CSCtf69108

- ND/NS packets are dropped when an IPv6 ACL is attached to an Layer 3 interface.

  Workaround: Add the following permit ACEs to the ACL:

  ```
  permit icmp any any nd-ns
   permit icmp any any nd-na
  ```

  CSCtg77035

- Switch crashes when attaching a service-policy to a target, provided the service-policy contains more than 56 classes each with an explicit marking action, such as :

```
policy-map pm
 class c0
   set dscp default
   set cos 0
 class c1
   set dscp 1
   set cos 1
 class c2
   set dscp 2
   set cos 2
... ...
 class c56
   set dscp cs7
   set cos 0
```

Workaround: Use tablemap-based marking, if possible. CSC99836

- 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

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with hardware control plane policing.

  Workaround: None. CSCso93282

- 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

- If a port channel is created on a Catalyst 4948E Ethernet Switch 1 Gigabit Ethernet SFP upstream interface and one of the interface links goes down, the average convergence time is roughly 3 sec.

  This behaviour is not observed on 10 Gigabit Ethernet SFP+ uplink interfaces.

Workaround: None. CSCth51469

- 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
- When a 4948E uplink or 4712-SFP+E card is used with an SFP and connected to a peer that does not have auto negotiate, the link will not come up with **speed nonegotiate** configured.

  Workaround: Use auto negotiation. CSCtj90069...4900M+4948E Note only?; appears so
- 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
- The cpu utilization of a system exceeds 80 percent in the following situations:
  - A switchover activity was performed and cpu utilization approximates 80 percent on the new active supervisor engine.
  - Numerous PoE linecards exist on WS-X4548-GB-RJ45V or WS-X4548-RJ45V+.

  Workaround: None. CSCti08570

- A Supervisor Engine 6-E or Supervisor Engine 6L-E running cat4500e-ipbasek9-mz.122-53.SG1 might experience a reload because of interface flapping.

  Workaround: None. CSCtf49878

- A Catalyst 4900M or Catalyst 4948E switch running cat4500e-ipbasek9-mz.122-53.SG1 might experience a reload because of interface flapping.

  Workaround: None. CSCtf49878

- When software reads the hardware status of a linecard before it fully initializes, a supervisor engine experiences a software-initiated crash.

  Workaround: None. CSCtf82009

- The Spanning Tree process disables VLAN on a trunk interface if it was configured for VLAN Mapping Translation.

  Workaround: Configure **spanning-tree bpdufilter enable** in configuration interface mode.

  CSCtj21636

- When at least one 1:1 translation is configured, same to same VLAN mapping is disallowed. This impacts customers who want to switch packets on certain VLANs without VLAN Translation.

  Workaround: None

  CSCti22918

- Pinging to SVI fails when VLAN mapping is configured (1 to 1 same VLAN and different VLAN mapping).

  If you randomly add or remove VLANs in a VLAN database, SVI traffic stops on some VLANs.

  Workaround: None. CSCtk03191

- 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

- A switch can crash with a Watchdog NMI Vector 000 and CRC error as follows:

  ```
  "%C4K_SUPERVISOR-2-FPGASOFTERROR: Memory inconsistency detected" have
  appeared on the switch followed by link flaps, transceiver (HAMM module, X2,
  sfp) insertion/removal on uplinks (base board ports on 4900M)
  ```

  Workarounds:

  - Reload the switch when the error message displays.
  - Upgrade to Cisco Catalyst Release 12.2(54)SG1, Cisco Catalyst Release 12.2(53)SG4 (and later), when available.

  CSCtk75675

  .....This applies to Sup6-E, 4900M, Sup6L-E, 4948-E...

Open Caveats in Cisco IOS Release 12.2(54)SG

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

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes. CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- In Cisco IOS Release 12.2(54)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

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  Workaround: Unconfigure, then reconfigure the IFM on the port.

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  - After a reload, copy the startup-config to the running-config.
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  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

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```
Dec  1 18:44:59.926: %C4K_COMMONHWACLMAN-4-HWPROGSUCCESS: Input Security: pacl - now
fully loaded in hardware *Dec  1 18:44:59.926: %C4K_COMMONHWACLMAN-4-ALLACLINHW: All
configured ACLs now fully loaded in hardware - hardware switching / QoS restored.
```

Workaround: No functional impact.

You must wait for the ACLs to be programmed before performing other TCAM related changes. CSCtd57063

- RA Guard counters are not incremented in the output of the **show ipv6 first-hop counters interface** command when Router Advertisement and Router Redirect packets with Destination address FF02::x are dropped.

Workaround: None. CSCtf69108

- ND/NS packets are dropped when an IPv6 ACL is attached to an Layer 3 interface.

Workaround: Add the following permit ACEs to the ACL:

```
   permit icmp any any nd-ns
    permit icmp any any nd-na
```

CSCtg77035

- Switch crashes when attaching a service-policy to a target, provided the service-policy contains more than 56 classes each with an explicit marking action, such as :

```
policy-map pm
 class c0
   set dscp default
   set cos 0
 class c1
   set dscp 1
   set cos 1
 class c2
   set dscp 2
   set cos 2
... ...
 class c56
   set dscp cs7
   set cos 0
```

Workaround: Use tablemap-based marking, if possible. CSC99836

- 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

- With CFM enabled globally as well as on an ingress interface, CFM packets received on the interface are not policed with hardware control plane policing.

  Workaround: None. CSCso93282

- 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

- If a port channel is created on a Catalyst 4948E Ethernet Switch 1 Gigabit Ethernet SFP upstream interface and one of the interface links goes down, the average convergence time is roughly 3 sec.

  This behaviour is not observed on 10 Gigabit Ethernet SFP+ uplink interfaces.

  Workaround: None. CSCth51469

- 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

- 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

- 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 .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

- A 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

- On a switch running 12.2(54)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

- On the Catalyst 4900M, 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

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

```
config-if# auto qos voip cisco-phone
config# default interface interface-name
```

Workaround: Replace the **default interface** command with the following:

```
config# interface interface-number
config-if# switchport
```

CSCsq47116

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. CSCsq75342

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family. CSCsq84796

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. CSCsq84853

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. CSCsl39767

- Software QoS does not match a .1Q packet properly for applying the desired QoS actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. CSCsk66449

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. CSCsk62457

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395

- Software QoS does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. CSCsk66449

- On a switch running 12.2(54)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

- 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

- For the SFP+ optical modules SFP-10G-LRM, SFP-10G-LR, and SFP-10G-SRA, a Tx low power alarm displays when either IOS boots or you replace the module.

  SFP and 10GBASE-CU SFP+ modules do not show this problem.

  This is an initial false alarm upon detection of a new SFP+ module; subsequently, it clears.

  Workaround: None. CSCtg82213

- If a third-party non-PoE device is connected to a WS-4648-RJ45V-E or WS-4648-RJ45V+E and PoE is enabled, when the device reboots, the link does not come up.

  An error message might display on the device.

  Workaround: Disable PoE (through entering the **power inline never** command in interface configuration mode.

  In Cisco IOS Release 12.2(54)SG, you can enter the **power inline autoneg-advertise** command in global config mode to enable linkup. CSCtb78851

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- 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

- 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

- 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)

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

  Workaround: None. (CSCsv42869)

- 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 enable the **debug management expression evaluator** command.

  Workaround: Remove the above debug 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.

  CSCtl70275

Open Caveats in Cisco IOS Release 12.2(53)SG10

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

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

(CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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)

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

  Workaround: None. (CSCsv42869)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```

  and

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

  Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

  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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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)

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

  Workaround: None. (CSCsv42869)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```
  and

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

  Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

  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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

Workaround: None.

Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

```
config-if# auto qos voip cisco-phone
config# default interface interface-name
```

Workaround: Replace the **default interface** command with the following:

```
config# interface interface-number
config-if# switchport
```

(CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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.

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- 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)

- 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)

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

  Workaround: None. (CSCsv42869)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

```
ethernet oam link-monitor frame-seconds window
ethernet oam link-monitor frame-seconds threshold low
```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```
  and
  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

  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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

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  config-if# auto qos voip cisco-phone
  config# default interface interface-name
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  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

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

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  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

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  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
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Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

CSCsy37181

- 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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- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

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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)
  ```

  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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```
  and
  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

  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/en/US/products/csa/cisco-sa-20110126-csg2.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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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)

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

  Workaround: None. (CSCsv42869)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```
  and

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

  Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

  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

- 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:

- A switch ignores unicast EAPOL responses, when you use MDA or multi-auth host mode combination with authentication open.

  Workarounds:

  - Force the supplicant to use multicast EAPOL.
  - Avoid authentication open mode. CSCtq33048

- 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)

Open Caveats in Cisco IOS Release 12.2(53)SG5

This section lists the open caveats in Cisco IOS Release 12.2(53)SG5:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

(CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

CSCsy37181

- 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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```

  and

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

Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

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

- 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)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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

```
ethernet oam link-monitor frame-seconds window
ethernet oam link-monitor frame-seconds threshold low
```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- 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 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 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...all

- The following messages are displayed when you load an supported version of Catalyst 4500 software on WS-C4507R+E and WS-C4510R+E 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
  ```
  and
  ```
  %C4K_CHASSIS-2-MUXBUFFERTYPENOTSUPPORTED: Mux Buffer in slot <n> of unsupported type
  14" (where n is a slot number)
  ```

  Workaround: Load Cisco IOS Releases 12.2(53)SG4, 12.2(54)SG, 15.0(1)SG or later.

  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)

- 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)SG4

This section lists the resolved caveats in Release 12.2(53)SG4:

- When CX1 or SFP+ are plugged into a OneX converter (CVR-X2-SFP10G) in a WS-X4908-10GE, the later requires 1 minute to boot the link.

  Workaround: None.

  CSCtc46340

- 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)SG2

This section lists the open caveats in Cisco IOS Release 12.2(53)SG2:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

Workarounds: None.

The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  <N/A for 4948E, means that this item moves to 54SG Open>

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

  <N/A for 4948E, means that this item moves to 54SG Open>

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

  <moves to Resolved for 54SG>

- 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)

- 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

```
ethernet oam link-monitor frame-seconds window
ethernet oam link-monitor frame-seconds threshold low
```

Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

CSCsy37181

- 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

- 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

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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 CX1 or SFP+ are plugged into a OneX converter (CVR-X2-SFP10G) in a WS-X4908-10GE, the later requires 1 minute to boot the link.

  Workaround: None.

  CSCtc46340

- 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

- 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 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 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)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

- When using subsecond timers for protocols like HSRP or OSPF, writing to bootflash causes high CPU, and potentially, protocol flapping.

  Workaround: Avoid lengthy bootflash operations, like copying large files in IOS.

  CSCsw84727

- The 4500-E and 4900M switches running IOS Release 12.2(53)SG1 or 12.2(50)SG6 may crash when the only Qos service-policy in a given VLAN is at the VLAN level.

  The problem occurs when the following three conditions are met:

  - A software-generated or software-switched packet exits an interface (P), which is a member of a VLAN (V).
  - The packet is not a high priority; PAK_PRIORITY is not set.
  - Of the three possible targets, port P, VLAN V, and port-VLAN PV in the output direction, a qos policy-map is attached only to the VLAN V in the output direction.

  Workaround:

  - Provided the VLAN-only policy-map has only marking actions., replace the VLAN-only policy-map with a port-VLAN policy-map on all the ports in the VLAN.
  - Provided the VLAN-only policy-map has a policing action, retain the VLAN output policymap and attach a queuing action-only output policymap to all the ports in that VLAN.

  The port level policy-map should appear as follows.

  ```
  policy-map p1
      class class-default
          bandwidth percent 100
  ```

  CSCte12571

- 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 Catalyst 4900M, 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

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- If the router has a (*,G) entry for the group, then a fastdrop entry is not created to block the non-RPF packets from hitting the CPU.

  Workaround: Create an ACL to block non-RPF packets from entering non-RPF ports.

  CSCta93522

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:
  - ACL are applied on the output direction of the interface.
  - IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

CSCtc13297

- When a switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

Open Caveats in Cisco IOS Release 12.2(53)SG1

This section lists the open caveats in Cisco IOS Release 12.2(53)SG1:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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 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. (CSCsr66876IP 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When the ports connecting a RADIUS server and a client are placed in different VLANs, and you enter the **ip radius source-interface** command and perform two SSO switchovers, the authenticated session is lost.

  Workaround: Re-authenticate the client.

  CSCsx94066

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- If the router has a (*,G) entry for the group, then a fastdrop entry is not created to block the non-RPF packets from hitting the CPU.

  Workaround: Create an ACL to block non-RPF packets from entering non-RPF ports.

  CSCta93522

- 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 Catalyst 4900M, 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

- When CX1 or SFP+ are plugged into a OneX converter (CVR-X2-SFP10G) in a WS-X4908-10GE, the later requires 1 minute to boot the link.

  Workaround: None.

  CSCtc46340

- 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

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  - IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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 using subsecond timers for protocols like HSRP or OSPF, writing to bootflash causes high CPU, and potentially, protocol flapping.

  Workaround: Avoid lengthy bootflash operations, like copying large files in IOS.

  CSCsw84727

- 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

- 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 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)SG1

This section lists the resolved caveats in Release 12.2(53)SG1:

- When you configure **switchport block multicast** on a port to block unknown multicast traffic, broadcast traffic is also blocked. Therefore, the port will receive neither unknown multicast or broadcast traffic.

  All broadcast traffic (such as ARP request and DHCP discovery) are not received by the port. So, protocols that use such broadcasts stop working.

  Workaround:None

  CSCta61825

- On a WS-C4900M chassis running Cisco IOS Release 12.2(50)SG1, EIGRP adjacency breaks provided you do either of the following:
  - Enabe ip pim spare-mode on a VLAN interface in a vrf without enabling multicast routing on the vrf.
  - Enable multicast routing on the vrf and setting the STP threshold to infinity.

  Workaround: Use static neighbors.

  CSCsz61756

- 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 edit a policy-map to add a policer configuration, entering either the **do show policy-map interface** or **do show policy-map control-plane** command causes a system reload.

  Workaround: Enter either the **show policy-map interface** and **show policy-map control-plane** commands in Exec mode and not in policy-map config mode.

  CSCsy43261

- If a policy map is applied on an interface and the interface is inactive (i.e. the port is running in 10GE mode instead of twin gig mode), your WS-C4900M might crash with Vector 0xD00 when you enter the **show policy-map interface** command.

  Workaround: Ensure that the port is active before apply the policy-map or entering the **show policy-map** command.

  The command to activate a previously inactive interface is the following:

  hw-module module [module number] port-group [group number] select [gigabitethernet]

  CSCtb90328

- When you configure EnergyWise power control on the PoE ports of a a WS-C4900M 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

- When you configure a large number of ACLs on a Catalyst 4900M switch and enable statistics, the switch might exhibit high CPU utilization.

  Certain applications such as IP Source Guard and QoS enable ACL statistics by default. Configuring such features trigger the high CPU.

  High CPU usage is observed through the **show proc cpu** command. The output of the **show platform health** command reveals that the process using a high percentage of CPU is "K5AclCamStatsMan hw".

  This issue can occur in any release after Cisco IOS Release 12.2(40)SG.

  This issue is resolved in Cisco IOS Release 12.2(53)SG1 and 12.2(50)SG6.

  Workaround: Reduce the size of the ACL, IPSG, and QoS configurations. If statistics are enabled explicitly for ACLs, disable them with the CLI.

  If the high CPU is due to ACLs and IPSG, upgrade to the new software.

  If the high CPU is due to the QoS configuration, upgrade the IOS image and enter the **no qos statistics classification** command.

  CSCta54369

- 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

- 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

- High CPU utilization might be observed on a switch for a prolonged period of time when a large number of packets on a VLAN/SVI are processed by software.

  Workaround: None. Functionality is unaffected.

  CSCsy32312

Open Caveats in Cisco IOS Release 12.2(53)SG

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

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  - If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.
  - If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

(CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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 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. (CSCsr66876IP 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 multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- When the ports connecting a RADIUS server and a client are placed in different VLANs, and you enter the **ip radius source-interface** command and perform two SSO switchovers, the authenticated session is lost.

  Workaround: Re-authenticate the client.

  CSCsx94066

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- High CPU utilization might be observed on a switch for a prolonged period of time when a large number of packets on a VLAN/SVI are processed by software.

  Workaround: None. Functionality is unaffected.

  CSCsy32312

- 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

- 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

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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 using subsecond timers for protocols like HSRP or OSPF, writing to bootflash causes high CPU, and potentially, protocol flapping.

  Workaround: Avoid lengthy bootflash operations, like copying large files in IOS.

  CSCsw84727

- 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

- 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 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)SG

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

- On a Catalyst 4900M switch running Cisco IOS Release 12.2(46)SG, if you configure RSPAN, the CPU utilization will be high. This problem can occur when capturing traffic.

  Workarounds: Disable RSPAN.

  CSCsu81046

- When two Catalyst 4900M switches are attached to an optical ring and an optical switchover is performed on the ring to choose a different path, CRC Align Errors and Sequence Errors might be observed when you issue an end to end ping after the switchover. The ping success rate is between 90 and 100 per cent. The interface errors can occur with data traffic as well.

  This issue is seen with the Ten-Gigabit ports of a Catalyst 4900M base board but not with the Ten-Gigabit ports of a WS-X4908-10GE line card.

  Workaround: Enter **shut**, then **no shut**.

  Sometimes you need to do this multiple times before the issue is resolved.

  CSCsx80612

- Entering **shut/no shut** on the port after configuring **port-security vp err disable** and a violation occurs.

  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.

  (CSCsy80415)

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

- If RSPAN is configured on a WS-C4900M running Cisco IOS 12.2(46)SG, CPU utilization will be high.

  Workaround: Disable RSPAN.

  CSCsu81046

- When two WS-C4900M chassis are attached to an optical ring and an optical switchover is performed to choose a different path, you might see CRC Align Errors and Sequence Errors after performing an end to end ping. The ping success rate ranges from 90% to 100%.

  The errors can also occur with data traffic.

  This issue is seen with the TenGigabit ports of the Catalyst 4900M base board. It is not seen with the TenGigabit ports of a WS-X4908-10GE line card.

  The issue is seen with release 12.2(44)XO and later releases.

  Workaround: Enter **shut**, then **no shut**.

  You may need to do this multiple times until the issue is resolved.

  CSCsx80612

- 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

Open Caveats in Cisco IOS Release 12.2(52)SG

This section lists the open caveats in Cisco IOS Release 12.2(52)SG:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

Workarounds: Use the **show log** command to determine the cause of the power-down.

- If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.
- If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

(CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- 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)

- 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)

- 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)

- 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 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. (CSCsr66876IP 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 two WS-C4900M chassis are attached to an optical ring and an optical switchover is performed to choose a different path, you might see CRC Align Errors and Sequence Errors after performing an end to end ping. The ping success rate ranges from 90% to 100%.

  The errors can also occur with data traffic.

  This issue is seen with the TenGigabit ports of the Catalyst 4900M base board. It is not seen with the TenGigabit ports of a WS-X4908-10GE line card.

  The issue is seen with release 12.2(44)XO and later releases.

  Workaround: Enter **shut**, then **no shut**.

  You may need to do this multiple times until the issue is resolved.

  CSCsx80612

- When multiple streams of CRC errors are encountered on WS-C4900M configured with OAM Configuration of monitoring the frame errored seconds, OAM does not always report the value of errored frame seconds correctly.

  To observe this issue, the following CLIs are configured with window size as the period for monitoring the errors and a low threshold equal to the number of CRC errored seconds seen/expected.

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value of low threshold such that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- If RSPAN is configured on a WS-C4900M running Cisco IOS 12.2(46)SG, CPU utilization will be high.

  Workaround: Disable RSPAN.

  CSCsu81046

- When two Catalyst 4900M switches are attached to an optical ring and you perform an optical switchover to choose a different path, you might observe CRC Align Errors and Sequence after performing an end to end ping. The ping success rate ranges from 90% to 100%. The interface errors can also occur with data traffic.

  This issue is seen with the TenGigabit ports of a Catalyst 4900M base board. It is not seen with the TenGigabit ports of a WS-X4908-10GE line card.

  Workaround: Enter the commands **shut** then **no shut**.

  Occasionally, you need to re-enter the commands.

  CSCsx80612

- 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

- 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

- When the ports connecting a RADIUS server and a client are placed in different VLANs, and you enter the **ip radius source-interface** command and perform two SSO switchovers, the authenticated session is lost.

  Workaround: Re-authenticate the client.

  CSCsx94066

- When multiple streams of CRC errors are encountered on a WS-C4900M chassis configured with OAM monitoring of frame errored seconds, OAM does not report the value of errored frame seconds correctly if you configure the following CLIs:

  ```
  ethernet oam link-monitor frame-seconds window
  ethernet oam link-monitor frame-seconds threshold low
  ```

  Workaround: Configure a lower value for the low threshold so that the frame errors are seen divided into the expected number of frame errored seconds.

  CSCsy37181

- 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

- 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

- 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

- 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.

  CSCsz73895

  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.

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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 using subsecond timers for protocols like HSRP or OSPF, writing to bootflash causes high CPU, and potentially, protocol flapping.

  Workaround: Avoid lengthy bootflash operations, like copying large files in IOS.

  CSCsw84727

- 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

- 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)

Resolved Caveats in Cisco IOS Release 12.2(52)SG

This section lists the resolved caveats in Release 12.2(52)SG:

- 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

- 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

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name (device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- An Unhandled Rommon Exception occurs while booting a WS-X4013+10GE for Cisco IOS Releases 12.2(31)SGA8, 12.2(31)SGA9, 12.2(46)SG, 12.2(46)SG1, 12.2(50)SG, 12.2(50)SG1.

  Workaround: Upgrade to ROMMON version 1.2(31r)SGA4.

  CSCsw91043

- 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)

- 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

- An Unhandled Rommon Exception occurs while booting a WS-X4013+10GE for Cisco IOS Releases 12.2(31)SGA8, 12.2(31)SGA9, 12.2(46)SG, 12.2(46)SG1, 12.2(50)SG, 12.2(50)SG1.

  Workaround: Upgrade to ROMMON version 1.2(31r)SGA4.

CSCsw91043

- Ping does not execute prior to a posture validation.

  Workaround: Reapply the identity policy on the interface with the **permit icmp** command. (CSCsu03507

  This issue may occur on switches with Supervisor 6(L)-E and 4900M running Cisco IOS Releases 12.2(40)SG, 12.2(44)SG, 12.2(46)SG, 12.2(50)SG-SG5. This issue does not affect switches with Supervisor V-10GE.

  Resolved in 12.2(52)SG and beyond and 12.2(50)SG6 and beyond.

- Attempting to use the nested policy-map feature on Supervisor Engine 6-E or 6L-E can cause the switch to reboot.

  This issue may occur on switches running Cisco IOS Releases 12.2(40)SG, 12.2(44)SG, 12.2(46)SG, 12.2(50)SG-SG5. This issue does not affect switches with Supervisor V-10GE.

  This issue is resolved in 12.2(52)SG (and later) and12.2(50)SG6 (and later) releases.

  Workaround: Do not use the nested policy-map feature in Cisco IOS Release 12.2(40)SG and 12.2(44)SG. (CSCsy80664)

- 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

Open Caveats in Cisco IOS Release 12.2(50)SG8

This section lists the open caveats in Cisco IOS Release 12.2(50)SG8:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name (device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- 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)

- 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)

- 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)

- 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)

- 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 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)

- On Cisco IOS Releases 12.2(50)SG7 and 12.2(50)SG6, if you reload a local switch (Catalyst 4900M or Supervisor Engine 6-E) with [speed] full/[duplex] full configuration on interface Fa1, the link on both sides will be down after bootup.

  Workaround: Unconfigure 100/Full, execute **shut/no shut**, then reconfigure 100/Full on the local switch.

  CSCtf76196

Open Caveats in Cisco IOS Release 12.2(50)SG7

This section lists the open caveats in Cisco IOS Release 12.2(50)SG7:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  - If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.
  - If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name (device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- 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)

- 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)

- 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)

- 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 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

- On Cisco IOS Releases 12.2(50)SG7 and 12.2(50)SG6, if you reload a local switch (Catalyst 4900M or Supervisor Engine 6-E) with [speed] full/[duplex] full configuration on interface Fa1, the link on both sides will be down after bootup.

  Workaround: Unconfigure 100/Full, execute **shut/no shut**, then reconfigure 100/Full on the local switch.

  CSCtf76196

Resolved Caveats in Cisco IOS Release 12.2(50)SG7

This section lists the resolved caveats in Release 12.2(50)SG7:

- The 4500-E and 4900M switches running IOS Release 12.2(53)SG1 or 12.2(50)SG6 may crash when the only Qos service-policy in a given VLAN is at the VLAN level.

  The problem occurs when the following three conditions are met:

  – A software-generated or software-switched packet exits an interface (P), which is a member of a VLAN (V).

  – The packet is not a high priority; PAK_PRIORITY is not set.

  – Of the three possible targets, port P, VLAN V, and port-VLAN PV in the output direction, a qos policy-map is attached only to the VLAN V in the output direction.

  Workaround:

  – Provided the VLAN-only policy-map has only marking actions., replace the VLAN-only policy-map with a port-VLAN policy-map on all the ports in the VLAN.

  - Provided the VLAN-only policy-map has a policing action, retain the VLAN output policymap and attach a queuing action-only output policymap to all the ports in that VLAN.

  The port level policy-map should appear as follows.

```
policy-map p1
    class class-default
        bandwidth percent 100
```

  CSCte12571

- 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

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  - ACL are applied on the output direction of the interface.
  - IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- On PVLAN trunk ports, learned MAC addresses age out unconditionally, resulting in flooding not only at the initial phase of frame delivery, but periodically at every MAC age interval. This behavior makes use of the **switchport block unicast** command risky, because it prevents communication.

  Workaround: None. However, you cannot enter the **switchport block unicast** command on PVLAN trunk ports.

  CSCtd49056

- When port security is configured or have a static MAC address on an isolated trunk port, the adjacencies for the port are resolved on the primary VLAN rather than on the secondary VLAN.

  Workaround: None.

  CSCtc79119

- 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)

- 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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name (device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- 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)

- 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)

- 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 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)

- 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)

- 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

- 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

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

- IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

Workaround: None.

CSCtc13297

- On PVLAN trunk ports, learned MAC addresses age out unconditionally, resulting in flooding not only at the initial phase of frame delivery, but periodically at every MAC age interval. This behavior makes use of the **switchport block unicast** command risky, because it prevents communication.

  Workaround: None. However, you cannot enter the **switchport block unicast** command on PVLAN trunk ports.

  CSCtd49056

- When port security is configured or have a static MAC address on an isolated trunk port, the adjacencies for the port are resolved on the primary VLAN rather than on the secondary VLAN.

  Workaround: None.

  CSCtc79119

- 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:

- When you run Supervisor Engine 6 with a large number of Layer 3 routes in the system, high CPU utilization may occur when minimal persistent ARP activity exists.

The **show processes cpu** command indicates that Cat4k Mgmt LoPri consumes a significant amount of CPU. The **show platform health** command indicates that K5L3FlcMan FwdEntry, K5L3Unciast IFE Review, and K5L3UnicastRpf IFE Review processes are running above their target utilization.

Note that large amounts of incomplete ARP entries may result from a scanning device or virus.

Workarounds:

- Reduce the number of Layer 3 routes.
- Prevent the ARP activity that triggers the high CPU utilization.

CSCta77487

- When you configure a large number of ACLs on a Supervisor 6-E/6L-E and enable statistics, the switch might exhibit high CPU utilization.

  Certain applications such as IP Source Guard and QoS enable ACL statistics by default. Configuring such features trigger the high CPU.

  High CPU usage is observed through the **show proc cpu** command. The output of the **show platform health** command reveals that the process using a high percentage of CPU is "K5AclCamStatsMan hw".

  This issue can occur in any release after Cisco IOS Release 12.2(40)SG.

  This issue is resolved in Cisco IOS Release 12.2(53)SG1 and 12.2(50)SG6.

  Workaround: Reduce the size of the ACL, IPSG, and QoS configurations. If statistics are enabled explicitly for ACLs, disable them with the CLI.

  If the high CPU is due to ACLs and IPSG, upgrade to the new software.

  If the high CPU is due to the QoS configuration, upgrade the IOS image and enter the **no qos statistics classification** command.

  CSCta54369

- 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

- When using subsecond timers for protocols like HSRP or OSPF, writing to bootflash causes high CPU, and potentially, protocol flapping.

  Workaround: Avoid lengthy bootflash operations, like copying large files in IOS.

  CSCsw84727

- 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

- 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

- High CPU utilization might be observed on a switch for a prolonged period of time when a large number of packets on a VLAN/SVI are processed by software.

  Workaround: None. Functionality is unaffected.

  CSCsy32312

Open Caveats in Cisco IOS Release 12.2(50)SG5

This section lists the open caveats in Cisco IOS Release 12.2(50)SG5:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  - If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name (device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

Workaround: None. (CSCso50659)

- 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)

- 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)

- 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)

- 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 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)

- 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)

- 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

- 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

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

Workaround: None.

CSCtc13297

- 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)SG5

This section lists the resolved caveats in Release 12.2(50)SG5:

- Under extremely rare conditions, a switch may silently stop forwarding traffic.

  This caveat occurs when a register value is corrupted and you subsequently enable a Layer 3 feature.

  Workaround: None (CSCsz48273)

Open Caveats in Cisco IOS Release 12.2(50)SG4

This section lists the open caveats in Cisco IOS Release 12.2(50)SG4:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

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- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

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- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

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  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

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  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

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  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
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  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

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  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

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You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

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  Workaround: None. (CSCso50659)

- 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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  %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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  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.

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  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)

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  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 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)

- 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)

- 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

- 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

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  - IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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.

  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)

- 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

- Ordinarily, you observe the following messages frequently 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
```

They imply no impact to performance.

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

- On a Catalyst 4900M switch, when you use a WS-X4908-10GE card with CVR-X2-SFP twin gig converters, the giga ports do not link up to the peer device that sends a remote fault. The **show int status | inc gi x/y** command indicates notconnect.

  Similar behavior is observed with Supervisor Engine 6-E uplinks and the WS-X4706-10GE line card.

  This behavior is seen in Cisco IOS Releases 12.2(50)SG thru 12.2(50)SG3 when the peer device sends a remote fault.

  Workaround: Disable auto negotiation at both ends.

  (CSCta02425)

Open Caveats in Cisco IOS Release 12.2(50)SG3

This section lists the open caveats in Cisco IOS Release 12.2(50)SG3:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds: Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name (device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- 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 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)

- 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)

- 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 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)

- 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 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)

- 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)

- Ordinarily, you observe the following messages frequently 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
```

  They imply no impact to performance.

  Workaround: None. (CSCsv17545)

- 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

- On a Catalyst 4900M switch, when you use a WS-X4908-10GE card with CVR-X2-SFP twin gig converters, the giga ports do not link up to the peer device that sends a remote fault. The **show int status | inc gi x/y** command indicates notconnect.

Similar behavior is observed with Supervisor Engine 6-E uplinks and the WS-X4706-10GE line card.

This behavior is seen in Cisco IOS Releases 12.2(50)SG thru 12.2(50)SG3 when the peer device sends a remote fault.

Workaround: Disable auto negotiation at both ends.

(CSCta02425)

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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)SG3

This section lists the resolved caveats in Release 12.2(50)SG3:

- A Catalyst 4900M switch might crash if you insert/remove a TwinGig converter or boot it with installed TwinGig converters.

  TwinGig converters are only supported on E-series supervisors and line cards. This bug does not affect systems without installed converters.

  Workaround: None.

  Once the switch has booted successfully and has detected all installed TwinGig converters, it is unlikely to crash unless you insert a converter. CSCsz49331

Open Caveats in Cisco IOS Release 12.2(50)SG2

This section lists the open caveats in Cisco IOS Release 12.2(50)SG2:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  - If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.
  - If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

Workaround: None.

Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds:Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

```
config-if# auto qos voip cisco-phone
config# default interface interface-name
```

Workaround: Replace the **default interface** command with the following:

```
config# interface interface-number
config-if# switchport
```

(CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

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- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name(device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- 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)

- Ordinarily, you observe the following messages frequently 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
```

  They imply no impact to performance.

  Workaround: None. (CSCsv17545)

- 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

- On a Catalyst 4900M switch, when you use a WS-X4908-10GE card with CVR-X2-SFP twin gig converters, the giga ports do not link up to the peer device that sends a remote fault. The **show int status | inc gi x/y** command indicates notconnect.

  Similar behavior is observed with Supervisor Engine 6-E uplinks and the WS-X4706-10GE line card.

  This behavior is seen in Cisco IOS Releases 12.2(50)SG thru 12.2(50)SG3 when the peer device sends a remote fault.

  Workaround: Disable auto negotiation at both ends.

  (CSCta02425)

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  - ACL are applied on the output direction of the interface.
  - IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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

- 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

- On a Catalyst 4500 redundant switch running Cisco IOS Release 12.2(50)SG or 12.2(50)SG1, when 802.1X VVID and port security are configured together on a switch port, the CDP MAC from the non 802.1X capable Cisco IP phone may not be added to the port security table on the standby supervisor engine.

  Workaround: None. CSCsw29489

- 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

Open Caveats in Cisco IOS Release 12.2(50)SG1

This section lists the open caveats in Cisco IOS Release 12.2(50)SG1:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  - If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.
  - If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

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Workaround: None.

Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

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Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

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config-if# auto qos voip cisco-phone
config# default interface interface-name
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Workaround: Replace the **default interface** command with the following:

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  Workaround: None. (CSCso50659)

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  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
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- 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)

- On a Catalyst 4900M switch, when you use a WS-X4908-10GE card with CVR-X2-SFP twin gig converters, the giga ports do not link up to the peer device that sends a remote fault. The **show int status | inc gi x/y** command indicates notconnect.

  Similar behavior is observed with Supervisor Engine 6-E uplinks and the WS-X4706-10GE line card.

  This behavior is seen in Cisco IOS Releases 12.2(50)SG thru 12.2(50)SG3 when the peer device sends a remote fault.

  Workaround: Disable auto negotiation at both ends.

  (CSCta02425)

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

CSCtc13297

- 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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds:Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

  (CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

Workaround: Unconfigure, then reconfigure the IFM on the port.

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name(device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- 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
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%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)

- On a Catalyst 4900M switch, when you use a WS-X4908-10GE card with CVR-X2-SFP twin gig converters, the giga ports do not link up to the peer device that sends a remote fault. The **show int status | inc gi x/y** command indicates notconnect.

  Similar behavior is observed with Supervisor Engine 6-E uplinks and the WS-X4706-10GE line card.

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  Similar behavior is observed with Supervisor Engine 6-E uplinks and the WS-X4706-10GE line card.

  This behavior is seen in Cisco IOS Releases 12.2(50)SG thru 12.2(50)SG3 when the peer device sends a remote fault.

  Workaround: Disable auto negotiation at both ends.

  (CSCta02425)

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

- 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 or 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)

- When policer or shape or shape values are specified in terms of percentage of link bandwidth on a policy and the interface on which it is attached is forced to a specific speed with the **speed** *10/100/1000* command, the applied policer or shape or shape value might correspond to the new forced speed.

  Service policy has to be configured with percentage police or shape or share values and the link speed is forced to a specific values. For example

```
Policy-map p1
    class-map c1
       police rate percent 10
```

  Workaround: Either use the **speed auto** *10/100/1000* command or the absolute policer, shape or shape values rather than percentage values. For example,

```
Policy-map p1
   class-map c1
     police rate 10 mbps
```

  (CSCsk56877

- When the trusted boundary feature is enabled on an interface, there is no command to check the current operating state.

  Workaround: None. You cannot explicitly check the trusted boundary state. However, you can indirectly determine this state:

The trusted boundary feature ensures whether the packet's COS/DSCP value will b e trusted or not. When the interface is not in a trusted state, the COS/DSCP fields are forced to zero on a received packet.

A QoS policy exists on that interface that uses that COS/DSCP value for classification. Therefore, if the packet classification is based on the packet value, you can infer that the interface is in a trusted state. (CSCsh72408)

- 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.

  This advisory is posted at
  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20090325-tcp

  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. This advisory is posted at the following link:
  http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20090325-tcp

  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.

This advisory is posted at

http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20090325-tcp

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:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- When policer or shape or shape values are specified in terms of percentage of link bandwidth on a policy and the interface on which it is attached is forced to a specific speed with the **speed** *10/100/1000* command, the applied policer or shape or shape value might correspond to the new forced speed.

  Service policy has to be configured with percentage police or shape or share values and the link speed is forced to a specific values. For example

```
Policy-map p1
    class-map c1
       police rate percent 10
```

  Workaround: Either use the **speed auto** *10/100/1000* command or the absolute policer, shape or shape values rather than percentage values. For example,

```
Policy-map p1
   class-map c1
     police rate 10 mbps
```

  (CSCsk56877

- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

  Workaround: Provided the queue in question is non-default (queuing actions are not configured in the class-default class of the policy-map), detach and re-attach the service-policy.

  If this happens on the default queue, modifying and resetting some queuing parameters like bandwidth/shape fixes the issue. (CSCsk62457

- When an Catalyst 4900M switch encounters either a fan tray failure or a supervisor critical temperature, the chassis shuts off. The output of the **show crashdump** command will *not* indicate the cause of the power-down.

  Workarounds: Use the **show log** command to determine the cause of the power-down.

  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

  – If the log has *LogRkiosModuleShutdownTemp* messages, the cause was that the supervisor critical temperature exceeded the failure threshold.

  (CSCsk48632)

- A Catalyst 4900M switch will support a maximum of 32 MTU values system wide.

  On a Catalyst 4900M running Cisco IOS Release 12.2(40)SG, all MTU values configured on a line card are set to default when the module is reset. Furthermore, MTU values are not retained for modules that are physically moved.

  Workaround: None. (CSCsk52542)

  Workaround: Reinsert the X2. (CSCsk43618)

- On rare occasions, if you use an X2 SR transceiver on a WS-X4706-10GE running Cisco IOS Release 12.2(40)SG, you will observe CRC errors after a reload or power cycle when you insert the card or the X2.

  Workaround: Reinsert the X2. (CSCsk43618)

- Control plane policing applied to DHCP traffic as identified by the system class-maps system-cpp-dhcp-cs, system-cpp-dhcp-sc, and system-cpp-dhcp-ss may not be effective.

  Workaround: None. CSCsk67395)

- When the CPU transmits .1X packet on an interface that has an egress qos policy attached, the packet is not matched and exits without any QoS marking actions.

  When a packet is sent to the CPU it may get sent out on some other interface. If so, the original COS value for a .1X packet cannot be matched by software QoS (as per CSCsk66449). The packet is transmitted with whatever COS value it was generated with (7, for the MLDv1 packets described here).

  Workaround: None.

  Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

- When the trusted boundary feature is enabled on an interface, there is no command to check the current operating state.

  Workaround: None. You cannot explicitly check the trusted boundary state. However, you can indirectly determine this state:

  The trusted boundary feature ensures whether the packet's COS/DSCP value will b e trusted or not. When the interface is not in a trusted state, the COS/DSCP fields are forced to zero on a received packet.

  A QoS policy exists on that interface that uses that COS/DSCP value for classification. Therefore, if the packet classification is based on the packet value, you can infer that the interface is in a trusted state. (CSCsh72408)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

CSCsk70826)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- IGMP snooping entries are active even after disabling IGMP snooping globally and per VLAN.

  Workarounds:Disable IGMP snooping on all the relevant VLANs before disabling it globally.

- IPv6 MLD entries are active even if an IPv6 MLD related configuration does not exist.

  Workaround: Unconfigure all generic QOS policies from the system. (CSCsq84853)

- IPv6 entries are active in the CAM; the CPU receives IPv6 packets.

  Workaround: Unconfigure any generic QOS policies from the system. The QoS policies with the **match any** attribute cause IPv6 entries to become active. If the switch is a pure Layer 2 device, remove the generic protocol family attributes and narrow it to the protocol family.

  (CSCsq84796)

- Initially, REP configured with VLAN Load Balancing (VLB) works correctly. When you issue a force-switchover on the switch, that has a port acting as the secondary ALT port, a loop is induced in the topology.

  Workaround: Enter shut, then no-shut on any REP port (of the same segment in which VLB is configured) in the topology. (CSCsq75342)

- In Cisco IOS Release 12.2(46)SG, if flexlink is applied to a pair of etherchannels, then flexlink config may not be applied after a reboot, if the backup EtherChannel is defined after the flexlink configuration.

  Workaround: Define the backup etherchannel before applying flexlink command. (CSCsq13477)

- In Cisco IOS Release 12.2(46)SG, if an etherchannel is a member of a flexlink pair, then static MAC addresses configured on the EtherChannel are not moved to the alternate port when the EtherChannel fails (flexlink failure)

  Workaround: None. (CSCsq99468)

- Performing a default interface operation on an interface with auto-QoS enabled results in an error message and the loss of the auto-QoS configuration. For example, the following sequence of operation results in a loss of the configuration:

  ```
  config-if# auto qos voip cisco-phone
  config# default interface interface-name
  ```

  Workaround: Replace the **default interface** command with the following:

  ```
  config# interface interface-number
  config-if# switchport
  ```

(CSCsq47116)

- The IPv6 ICMP neighbor state changes from **REACH** to **STALE** after 15 secs of inactivity on the link.

  Workaround: Ping the global and link local addresses of the neighbor to ascertain and reinstate reachability. (CSCsq77181)

- IPv6 EIGRP routes are not learned through the port channel.

  Workaround: Unconfigure the port channel and the associated physical port, and reconfigure them.

  (CSCsq74229)

- When a CFM Inward Facing MEP(IFM) is configured on a VLAN that is not allocated on a switch port that is DOWN, the **show ethernet cfm maintenance-points local** command displays the IFM CC Status as **Inactive**. Then, you allocate the VLAN, the CC-status remains **Inactive**.

  You only see this symptom if you did not allocate a VLAN before you configure the IFM, then at a later time allocate the same VLAN.

  Workaround: Unconfigure, then reconfigure the IFM on the port.

- With CFM, if the VLAN associated with the service instance or 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)

- Ordinarily, the output of a CFM Traceroute from a MEP normally lists down the next hop name(device/host name) for each hop till the other MEP. When CFM over EtherChannel exists between the two MEPs, CFM Traceroute issued from a MEP does not show the next hop name.

  Workaround: None. (CSCso50659)

- 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)

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  - ACL are applied on the output direction of the interface.
  - IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

  ```
  IPv6 access list a1
      permit icmp any any nd-ns sequence 10
      deny ipv6 any any sequence 20

  IPv6 access list a2
     permit icmp 2020::/96 any nd-ns sequence 10
      deny ipv6 any any sequence 20
  ```

  Workaround: None.

  CSCtc13297

Resolved Caveats in Cisco IOS Release 12.2(46)SG

This section lists the resolved caveats in Release 12.2(46)SG:

- When a service-policy is removed from a physical port that is member of an ether channel, a LACP or PAGP protocol-based ether channel goes down. The port-channel members get bundled back in but remain in *suspended* state due to failure to exchange the protocol packets with the other end.

  Workarounds: Before removing the service policy from a ether channel member, remove it from the channel. Then, return it to the channel. (CSCsk70568)

- When using *bandwidth percentage* actions in a queuing policy-map, the actual bandwidth share differs from that of the configured policy-map.

  In a queuing QoS policy, there can be zero or more queuing classes that have an explicit, user specified, bandwidth share specified. There can be zero or more queuing classes that do not have such user specified bandwidth share. The system takes the unallocated bandwidth share and allocates it equally among the latter set of classes.

  When using percentage-based bandwidth allocation, if the share comes to less than 1%, the queues corresponding to those classes do not get updated in hardware with the new bandwidth share. These queues get more than the expected share of bandwidth.

Workarounds: Ensure that the unallocated bandwidth percentage is at least equal to the number of queues that do not have the explicit **bandwidth percentage** command. This should include the default as well as priority queues. (CSCsk77757)

- Not all combinations of features can be simultaneously supported by the hardware. When such a feature combination is configured, packets will be processed in software and a log message indicating this will be generated:

```
%C4K_HWACLMAN-4-ACLHWLABELERR: Path (in :50, 1006) label allocation failure:
SignatureInconsistent - packets will be handled in software, QoS is disabled.
```

  One feature combination that can trigger this problem is the attempt to combine a QoS policy that matches on cos bits with IPv6 ACL configuration that matches on IPv6 source addresses that partially mask in the lower 48 bits of the address. (IPv6 subnets in the /81 to /127 range will also trigger this behavior if IPv6 multicast routing is enabled.)

  Workaround: Do not configure feature combinations that conflict. Currently the above conflict between QoS policies matching on COS bits and IPv6 configuration with partial masking of the lower 48 bits of the source address is the only known conflicting feature combination. If matching on COS bits is required by the QoS policy, architect the IPv6 network using /80 subnets or larger. (CSCsk79791)

- When a service policy on a port-channel member port is modified, traffic may be dropped for some of the classes.

  Workaround: Do the following:

  1. Un-configure the interface(s) on which this policy-map is attached from the portchannel.
  2. Modify the policy-map.
  3. Configure the interface(s) in the portchannel.

  (CSCsk77119)

- When two switches are connected back-to-back via two or more links and when a packet is locally-originated, the source IP address may not correspond to the IP address of the outgoing interface. A switch receiving such a packet with unicast RPF feature enabled might drop the incoming packet.

  Workaround: None. (CSCsh99124)

- In policy map, if a queuing class with the **bandwidth remaining percent <>** command sits before a priority queuing class configuration, the **bandwidth remaining percent <>** command action is applied on reload.

  Workaround: Re-apply the policy-map. (CSCsk75793

- A port can be either a member of a portchannel or have auto-QoS applied to it, but not both. The two are mutually exclusive features.

  Currently, if it is applied to a port that is already a member of a portchannel, the application is rejected with an error message. However, the reverse is not true. If auto-QoS is applied first and then the port joins a portchannel, the command is accepted.

  The following example using port g2/1 shows the type of usage that should be avoided:

```
conf t
int g2/1
auto qos voice trust
channel-group 10 mode auto
```

  This example applies auto-QoS on a port (g2/1) and subsequently makes the port a member of portchannel (10).

  Workaround: Do not make a port with auto-QoS enabled a member of a portchannel. (CSCsi95018)

- If *exceed burst* is not explicitly configured for a dual rate policer, the **show policy-map** command displays “0” as the burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsj44237)

- When a queuing policy is attached to a trunk port configured with a per-port per-VLAN QoS policy, the port-level queuing policy is processed as part of a per-VLAN policy and is rejected on bootup.

  Queuing policy is supported on a physical interface in the output direction only.

  Workaround: After bootup, reattach a queuing policy on a physical interface. (CSCsk87548)

- When you delete a port-channel with a per-port per-VLAN QoS policy, the switch crashes.

  Workaround: Before deleting the port-channel, do the following:

  1. Remove any per-port per-VLAN QoS policies, if any.

  2. Remove the VLAN configuration on the port-channel with the **no vlan-range** command.

  (CSCsk91916)

- The cbQosPoliceCfgTable mib object is *not* populated by the **police** *bps byte* command.

  Workaround: None. (CSCsk45940)

- On rare occasions, a Catalyst 4900M switch may undergo restart if ARP requests are send to all ports on the switch and “debug ip arp” is enabled.

  Workaround: None. (CSCsl26706)

- Storm control may not work as expected on Tengig ports 1/1 and 1/3.

  Workaround: None. (CSCsl37599)

Open Caveats in Cisco IOS Release 12.2(40)XO

This section lists the open caveats in Cisco IOS Release 12.2(40)XO:

- Software qos does not match a .1Q packet properly for applying the desired qos actions.

  Workarounds: None.

  The support to handle .1Q packets for software QoS lookup unavailable in the Cisco IOS Release 12.2(40)SG release. (CSCsk66449)

- When a service-policy is removed from a physical port that is member of an ether channel, a LACP or PAGP protocol-based ether channel goes down. The port-channel members get bundled back in but remain in *suspended* state due to failure to exchange the protocol packets with the other end.

  Workarounds: Before removing the service policy from a ether channel member, remove it from the channel. Then, return it to the channel. (CSCsk70568)

- When using *bandwidth percentage* actions in a queuing policy-map, the actual bandwidth share differs from that of the configured policy-map.

  In a queuing QoS policy, there can be zero or more queuing classes that have an explicit, user specified, bandwidth share specified. There can be zero or more queuing classes that do not have such user specified bandwidth share. The system takes the unallocated bandwidth share and allocates it equally among the latter set of classes.

  When using percentage-based bandwidth allocation, if the share comes to less than 1%, the queues corresponding to those classes do not get updated in hardware with the new bandwidth share. These queues get more than the expected share of bandwidth.

Workarounds: Ensure that the unallocated bandwidth percentage is at least equal to the number of queues that do not have the explicit **bandwidth percentage** command. This should include the default as well as priority queues. (CSCsk77757)

- Not all combinations of features can be simultaneously supported by the hardware. When such a feature combination is configured, packets will be processed in software and a log message indicating this will be generated:

  ```
  %C4K_HWACLMAN-4-ACLHWLABELERR: Path (in :50, 1006) label allocation failure:
  SignatureInconsistent - packets will be handled in software, QoS is disabled.
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  One feature combination that can trigger this problem is the attempt to combine a QoS policy that matches on cos bits with IPv6 ACL configuration that matches on IPv6 source addresses that partially mask in the lower 48 bits of the address. (IPv6 subnets in the /81 to /127 range will also trigger this behavior if IPv6 multicast routing is enabled.)

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  Service policy has to be configured with percentage police or shape or share values and the link speed is forced to a specific values. For example

  ```
  Policy-map p1
      class-map c1
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  Policy-map p1
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- Under some conditions, one or more flows continue to be dropped because of DBL even after DBL has been removed from the service-policy.

  When an output service-policy is attached to an interface and if the policy is configured to apply DBL on a queue, the flows that are enqueued to the queue are subjected to the DBL algorithm. If one or more flows are classified as *belligerent* (flows do not back-off in response to drops because of congestion in the queue), those flows continue to be classified as belligerent even when DBL is disabled on that queue.

  For this condition to persist, the transmit queues in question must remain congested for a long period of time and that congestion must be caused by flows that remain belligerent.

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  – If the log has *LogGalInsufficientFansDetected* messages, the cause was a fan-tray failure.

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Part of the root cause of this problem is captured through CSCsk66449, which indicates that the software QoS cannot match against a .1X packet. (CSCsk72544)

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  The trusted boundary feature ensures whether the packet's COS/DSCP value will b e trusted or not. When the interface is not in a trusted state, the COS/DSCP fields are forced to zero on a received packet.

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  This example applies auto-QoS on a port (g2/1) and subsequently makes the port a member of portchannel (10).

  Workaround: Do not make a port with auto-QoS enabled a member of a portchannel. (CSCsi95018)

- If a class-map is configured with **exceed-action drop**, re-configuring the same class-map with **exceed-action transmit** causes class-map configurations to conflict for the same class-map.

  Workaround: If you plan to change a class-map action, such as **exceed-action**, you meed to remove the class-map with the **no class c1** command under policy-map submode. Then, apply the new class-map with the updated changes.

  CSCsk70826)

- Policing actions are not applied if they appear at the child level of a two-level hierarchical policy-map.

  The switch supports two-level hierarchical policy-maps. Policing actions can be present at only one of the two levels (parent or child). If they are present at the child level, they are not applied.

  Workaround: None. (CSCsl0631)

- Applying a policy to a VLAN that has been allocated to a routed port causes the internal VLAN to be policed.

  Workaround: Avoid creating a VLAN that has been allocated internally to a routed port. (CSCsh60244)

- If *exceed burst* is not explicitly configured for a dual rate policer, the **show policy-map** command displays "0" as the burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsj44237)

- If *burst* is not explicitly configured for a single rate policer, the **show policy-map command** displays an incorrect burst value.

  Workaround: Enter the **show policy-map interface** command. (CSCsi71036)

- When a queuing policy is attached to a trunk port configured with a per-port per-VLAN QoS policy, the port-level queuing policy is processed as part of a per-VLAN policy and is rejected on bootup.

  Queuing policy is supported on a physical interface in the output direction only.

  Workaround: After bootup, reattach a queuing policy on a physical interface. (CSCsk87548)

- When you delete a port-channel with a per-port per-VLAN QoS policy, the switch crashes.

  Workaround: Before deleting the port-channel, do the following:

  1. Remove any per-port per-VLAN QoS policies, if any.

  2. Remove the VLAN configuration on the port-channel with the **no vlan-range** command.

  (CSCsk91916)

- The cbQosPoliceCfgTable mib object is *not* populated by the **police** *bps byte* command.

  Workaround: None. (CSCsk45940)

- When you enter the **show policy-map vlan** *vlan* command, unconditional marking actions that are configured on the VLAN are not shown.

  Workaround: None. However, if you enter the **show policy-map** *name*, the unconditional marking actions are displayed. (CSCsi94144)

- You observe a .05% loss on WS-X4908-10GE when sending traffic at 99% of the port capacity.

  Workaround: None. (CSCsl39767)

- On rare occasions, a Catalyst 4900M switch may undergo restart if ARP requests are send to all ports on the switch and “debug ip arp” is enabled.

  Workaround: None. (CSCsl26706)

- Storm control may not work as expected on Tengig ports 1/1 and 1/3.

  Workaround: None. (CSCsl37599)

- Output IPv6 ACLs with Ace to match on the ICMP option fail on a switch.

  The following conditions may cause a RACL to malfunction:

  – ACL are applied on the output direction of the interface.

  – IPv6 ACL contain Ace to match on the ICMP option fields (ICMP Type or ICMP Code).

  Here are two examples of such non-functioning RACL:

```
IPv6 access list a1
    permit icmp any any nd-ns sequence 10
    deny ipv6 any any sequence 20

IPv6 access list a2
   permit icmp 2020::/96 any nd-ns sequence 10
    deny ipv6 any any sequence 20
```

  Workaround: None.

  CSCtc13297

Resolved Caveats in Cisco IOS Release 12.2(40)XO

This section lists the resolved caveats in Release 12.2(40)XO:

- None

Troubleshooting

These sections provide troubleshooting guidelines for the Catalyst 4900M series switch running IOS supervisor engines:

- Netbooting from the ROMMON, page 226
- Troubleshooting at the System Level, page 227
- Troubleshooting Modules, page 227
- Troubleshooting MIBs, page 227

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>
```

Note The Catalyst 4948E does not contain a compact flash slot.

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-ipbase-mz** located on the TFTP server 172.16.1.8, enter the following command:

```
rommon 3> boot tftp://172.16.1.8/tftpboot/cat4500-ipbase-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. An Ethernet cable plugged into the Ethernet port is active only in ROMMON mode.

Troubleshooting Modules

This section contains troubleshooting guidelines for the Catalyst 4900M 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 4900M 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(53)SG