



New Features in Cisco IOS Release 12.2(33)SB

The following hardware and software features were introduced in Cisco IOS Release 12.2(33)SB. Links to feature documentation are included.

Feature guides may contain information about more than one feature. To find information about a specific feature within a feature guide, see the Feature Information table at the end of the guide.

Feature guides document features that are supported on many different software releases and platforms. Your Cisco IOS software release or platform may not support all the features documented in a feature guide. See the Feature Information table at the end of the feature guide for information about which features in that guide are supported in your software release. Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

For the latest feature information and caveats, see the release notes for your platform and software release at the following URL: http://www.cisco.com/en/US/docs/ios/12_2sb/release/notes/122SB.html.

See the following sections for a list of features:

- [New Hardware Features in Cisco IOS Release 12.2\(33\)SB](#)
- [New Software Features in Cisco IOS Release 12.2\(33\)SB](#)

New Hardware Features in Cisco IOS Release 12.2(33)SB

1-Port 10 Gigabit Ethernet Shared Port Adapter, LANPHY XFP Optics

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/install_upgrade/10000series/10ovspa.html

Cisco 10000 Series Performance Routing Engine 4

http://www.cisco.com/en/US/docs/routers/10000/10008/install_and_upgrade/pre_installation/pre4_guide/pre4ins.html

Cisco 10000 Series SPA Interface Processor-600

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/install_upgrade/10000series/10ovrsip.html



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ISSU Support for 2 Port GE SPA V2 with RJ45 Ports

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/install_upgrade/10000series/10ovspa.html

ISSU Support for 5 Port GE SPA V2

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/install_upgrade/10000series/10ovspa.html

New Software Features in Cisco IOS Release 12.2(33)SB**Alarm Filtering Support in the Cisco Entity Alarm MIB**

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

Any Transport over MPLS (AToM): Remote Ethernet Port Shutdown

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/atom.html>

Any Transport over MPLS (AToM): Tunnel Selection

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/atom.html>

ATM VP Average Traffic Rate

http://www.cisco.com/en/US/docs/routers/10000/10008/feature/guides/122_33SB/avgrate.html

AToM Class Based Match FR DE

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

AToM Set FR DE as Police Action

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

BFD Echo Mode

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

BFD—Static Route Support

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

BFD—Version 1 Support

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

BFD—VRF Support

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

BFD—WAN Interface Support (ATM, FR, POS, and Serial)

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

BGP Neighbor Policy

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bgp_basic_net.html

BGP Per Neighbor S00 Configuration

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bgp_neighbor_soo.html

BGP Route-Map Continue Support for Outbound Policy

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bgp_external_sp.html

BGP Support for BFD

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bgp_adv_features.html

Bidirectional Forwarding Detection (BFD) Standard Implementation

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

Cisco Express Forwarding - SNMP CEF-MIB Support

http://www.cisco.com/en/US/docs/ios/ipswitch/configuration/guide/cef_snmp_mib.html

Cisco IOS 10000 Series Router CLI Command Changes in Cisco IOS Release 12.2(33)SB

http://www.cisco.com/en/US/docs/routers/10000/10008/feature/guides/122_33SB/clchges.html

Cisco IOS Scripting with Tcl

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

CISCO-DATA-COLLECTION-MIB

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

CNS

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

CNS—Configuration Agent

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

CNS—Event Agent

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

CNS—Image Agent

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

CNS Config Retrieve Enhancement with Retry and Interval

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

Command Scheduler (Kron)

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

Command Scheduler (Kron) Policy for System Startup

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

Config Change Tracking Identifier

http://www.cisco.com/en/US/docs/ios/12_2sb/release/notes/122SB.html

Config Logger Persistency

<http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/config-logger-6149.html>

Configuration Change Notification and Logging

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_config-logger.html

Configuration Generation Performance Enhancement

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/config_cache.html

Configuration Partitioning

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_partition.html

Configuration Replace and Configuration Rollback

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_config-rollback.html

Configuration Rollback Confirmed Change

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_config-rollback.html

Contextual Configuration Diff Utility

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_config-diff.html

COPP—Platform Improvements

http://www.cisco.com/en/US/docs/routers/10000/10008/feature/guides/122_33SB/cppenhan.html

DHCPv6—Relay—Reload Persistent Interface ID Option

<http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-dhcp.html>

Embedded Event Manager (EEM) 2.3

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

Embedded Resource Manager (ERM)

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

Embedded Resource Manager (ERM)—MIB

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

Embedded Syslog Manager (ESM)

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

EtherChannel Mini-Links

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_lnkbnld.html

Ethernet Overhead Accounting

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

Exclusive Configuration Change Access and Access Session Locking

http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_config-lock.html

GEC—8 Member Links

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

HTTP TACAC+ Accounting Support

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

HTTPS—HTTP Server and Client with SSL 3.3

http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_https_sc_ssl3.html

IEEE 802.1Q and QinQ Support on GEC

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

IEEE 802.1Q Tunneling (QinQ) for AToM

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/atom.html>

IEEE 802.3ad—Faster Link Switchover Time

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_lnkbnld.html

IEEE 802.3ad—Maximum Number of Links Increased

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_lnkbnld.html

IEEE 802.3ad MIB

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_lacpmib.html

IGP Convergence Acceleration

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/dffsrv.html>

Interfaces MIB: SNMP Context-Based Access

http://www.cisco.com/en/US/docs/ios/12_2sb/release/notes/122SB.html

IP SLA CLI Phase 3

http://www.cisco.com/en/US/docs/ios/ipsla/command/reference/sla_book.html

IP SLAs—LSP Health Monitor

http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_lsp_mon_autodisc.html

IP SLAs—LSP Health Monitor with LSP Discovery

http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_lsp_mon_autodisc.html

IP SLAs Additional Threshold Traps

http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_lsp_mon_autodisc.html

IP SLAs for MPLS Pseudo Wire (PWE3) via VCCV

http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_lsp_mon_autodisc.html

IP SLAs Random Scheduler

http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_multi_scheduler.html

IPv6—CNS Agents

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

IPv6—Config Logger

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

IPv6—HTTP(S)

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

IPv6—IP SLAs (UDP Jitter, UDP Echo, ICMP Echo, TCP Connect)

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

IPv6—Netconf

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

IPv6—SOAP

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

IPv6 Default Router Preferences

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-addrg_bsc_con.html

IPv6 RIP Default-Information

http://www.cisco.com/en/US/docs/ios/ipv6/command/reference/ipv6_08.html

IPv6 VPN over MPLS (6VPE)

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-ov_mpls_6vpe.html

ISG: Flow Control: Flow Redirect (PXF Scaling)

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/scaling.html>

ISG: Flow Control: QoS Control: MQC Support for IP Sessions

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

ISG: Policy Control: ISG-SCE Control Bus

http://www.cisco.com/en/US/docs/ios/isg/configuration/guide/isg_sce_control_bus.html

ISG: Session: Protection & Resiliency: Keepalive—ARP, ICMP

http://www.cisco.com/en/US/docs/ios/isg/configuration/guide/isg_pol_sessn_maint.html

IS-IS Support for BFD over IPv4

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

ISSU—GEC

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

ISSU—SNMP

http://www.cisco.com/en/US/docs/ios/ha/configuration/guide/ha-inserv_updg.html

L2TP Forwarding of PPPoE Tag Information

http://www.cisco.com/en/US/docs/ios/vpdn/configuration/guide/config_aaa_for_vpdn.html

L2VPN Interworking: Ethernet VLAN to ATM AAL5

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/l2vpn.html>

L2VPN Interworking: Ethernet VLAN to Frame Relay

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/l2vpn.html>

L2VPN Local Switching—HDLC/PPP

http://www.cisco.com/en/US/docs/ios/wan/configuration/guide/wan_l2_lcl_swng.html

Logging to Local Nonvolatile Storage (ATA Disk)

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

MLP on LNS

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/mlp.html>

MPLS EM—MPLS LDP MIB (RFC 3815)

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_em_ldp_mib_3815.html

MPLS EM—MPLS LSR MIB (RFC 3813)

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_em_ldp_mib_3813.html

MPLS EM—MPLS VPN MIB RFC 4382 Upgrade

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_em_vpn_mib_4382.html

MPLS Enhancements to Interfaces MIB

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_enhance_mib.html

MPLS LDP—IGP Synchronization

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_ldp_igp_synch.html

MPLS LDP—Local Label Allocation Filtering

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_ldp_alloc_filter.html

MPLS LDP—Lossless MD5 Session Authentication

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_ldp_lossless_md5.html

MPLS LDP—VRF Aware Static Labels

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vrf_aware_static.html

MPLS Static Labels

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vrf_aware_static.html

MPLS VPN—VRF CLI for IPv4 and IPv6 VPNs

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vpn_ipv4_ipv6.html

MPLS VPN—BGP Local Convergence

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vpn_pece_lnk_prot.html

MQC—Traffic Shaping Overhead Accounting for ATM

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/overhead_acctng.html

MVPN—Support on GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

NAT—Route Maps in PXF

http://www.cisco.com/en/US/docs/ios/12_2sb/release/notes/122SB.html

Netconf Access for Configuration over BEEP

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

NETCONF over SSHv2

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

Netflow Multicast Support

http://www.cisco.com/en/US/docs/ios/netflow/configuration/guide/cfg_nf_multi_acctg.html

NSF—Support for GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

NSF/SSO—Any Transport over MPLS (AToM)

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/atom.html>

NSR—Support for GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

OSPF Graceful Shutdown

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_ospf_ttl.html

OSPF Support for BFD over IPv4

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

OSPFv2 Local RIB

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_ospf_local_rib.html

OSPFv3 Fast Convergence—LSA and SPF Throttling

<http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-ospf.html>

PBR—Support for GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

Periodic MIB Data Collection and Transfer Mechanism

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

Policy Map Scaling Phase 2

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

PPPoE—QinQ Support

http://www.cisco.com/en/US/docs/ios/bbdsi/configuration/guide/bba_pppoe_qinq.html

PPPoE over VLANs Scaling and PPPoE over VLANs Forwarding over PVC

http://www.cisco.com/en/US/docs/ios/bbdsi/configuration/guide/bba_ppoe_vlan_enh.html

PPPoE—Session Limit Local Override

http://www.cisco.com/en/US/docs/ios/bbdsi/configuration/guide/bba_ppoe_sllov.html

PPPoE—Smart Server Selection

http://www.cisco.com/en/US/docs/ios/bbdsi/configuration/guide/bba_pppoe_sss.html

PPPoEoE—Support for GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

PPPoEoQinQ—Support for GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

PPPoVLAN—Support for GEC Bundle

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

PPPoX Hitless Failover

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_lnkbnld.html

QoS: ATM-CLP-Based WRED

<http://cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

QoS: Per-Session Shaping for ATM Interfaces

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

QoS: Service Policies on Aggregate GEC

<http://cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/10queue.html>

QoS: Set ATM CLP Bit Using a Policer

<http://cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

QoS: Set L2 CoS as Policer Action

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

QoS: Simultaneous Policy Map on Interface and PPP Session

<http://cisco.com/en/US/docs/routers/10000/10008/configuration/guides/qos/qoscf.html>

QoS: Tunnel Marking for GRE Tunnels

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/tnl_mrkg_gre_tnls.html

Reliable Delivery and Filtering for Syslog

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

RFC 3020 Multilink Frame Relay MIB Support

http://www.cisco.com/en/US/docs/ios/wan/configuration/guide/wan_ml_fr_mib_3020.html

RFC 4293 IP-MIB (IPv6 only)

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

Role-Based Access Control CLI Commands

http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_role_base_cli.html

Secure SNMP Views

http://www.cisco.com/en/US/docs/ios/12_2sb/release/notes/122SB.html

SNMP Support for MTR

http://www.cisco.com/en/US/docs/ios/mtr/configuration/guide/multi-top_rtng.html

SNMP Support for VPNs

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

SNMPv3—3DES and AES Encryption Support

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

SSO—BFD (Admin Down)

http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bfd.html

SSO—GEC

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/gec.html>

SSO—LACP

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_lnkbncl.html

Syslog over IPV6

http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html

System Logging—EAL4 Certification Enhancements

http://www.cisco.com/en/US/docs/ios/12_2sb/release/notes/122SB.html

Throttling of AAA (RADIUS) Records

http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_throtl_aaa.html

Unicast Reverse Path Forwarding (uRPF)

<http://www.cisco.com/en/US/docs/routers/10000/10008/configuration/guides/broadband/urpf.html>

VRF-Aware VPDN Tunnels

http://www.cisco.com/en/US/docs/ios/vpdn/configuration/guide/additional_vpdn_feat.html

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