



## New Features in Cisco IOS Release 12.2(33)SXI

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The following features were introduced in Cisco IOS Release 12.2(33)SXI. Links to feature documentation are also 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/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol\\_14271.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol_14271.html)

See the following sections for a list of features:

- [New Hardware Features in Cisco IOS Release 12.2\(33\)SXI, page 1](#)
- [New Software Features in Cisco IOS Release 12.2\(33\)SXI, page 2](#)

### New Hardware Features in Cisco IOS Release 12.2(33)SXI

#### 1 port OC-48c/STM-16 ATM Shared Port Adapter

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/configuration/6500series/76ovw atm.html#Overview](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/6500series/76ovw atm.html#Overview)

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/install\\_upgrade/6500series/6500sov.html#1-Port\\_OC-48c/STM-16\\_ATM\\_SPA\\_Overview](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/install_upgrade/6500series/6500sov.html#1-Port_OC-48c/STM-16_ATM_SPA_Overview)

#### 10GBASE DWDM X2 Module

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol\\_14271.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol_14271.html)



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

**Cisco X2-10GB-ZR**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol\\_14271.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol_14271.html)

**New Software Features in Cisco IOS Release 12.2(33)SX1****Asymmetric Carrier Delay**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/configuration/6500series/76cfsip.html#Configuring\\_Asymmetric\\_Carrier\\_Delay](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/6500series/76cfsip.html#Configuring_Asymmetric_Carrier_Delay)

**AToM over GRE—Phase 2**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/configuration/6500series/76cfgeth.html#Configuring\\_AToM\\_over\\_GRE](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/6500series/76cfgeth.html#Configuring_AToM_over_GRE)

**Backplane Traffic Monitor**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/plat\\_mon.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/plat_mon.html)

**Bandwidth-Based Call Admission Control for IP Multicast**

[http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc\\_admission\\_control.html](http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc_admission_control.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](http://www.cisco.com/en/US/docs/ios/iproute/configuration/guide/irp_bgp_external_sp.html)

**Call Home Request**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/callhome.html#Sending\\_a\\_Request\\_for\\_an\\_Analysis\\_and\\_Report](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/callhome.html#Sending_a_Request_for_an_Analysis_and_Report)

**CatOS Parity: Port VLAN Granularity for show Commands**

[http://www.cisco.com/en/US/docs/ios/cether/command/reference/ce\\_02.html#show\\_ethernet\\_oam\\_status](http://www.cisco.com/en/US/docs/ios/cether/command/reference/ce_02.html#show_ethernet_oam_status)

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s4.html#show\\_interfaces\\_counters](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s4.html#show_interfaces_counters)

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s4.html#show\\_interfaces\\_ethernet](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s4.html#show_interfaces_ethernet)

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s4.html#show\\_interfaces\\_flowcontrol](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s4.html#show_interfaces_flowcontrol)

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s4.html#show\\_interfaces\\_status](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s4.html#show_interfaces_status)

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s4.html#show\\_interfaces\\_trunk](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s4.html#show_interfaces_trunk)

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s5.html#show\\_l2protocol-tunnel](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s5.html#show_l2protocol-tunnel)

[http://www.cisco.com/en/US/docs/ios/netmgmt/command/reference/nm\\_10.html#show\\_cdp](http://www.cisco.com/en/US/docs/ios/netmgmt/command/reference/nm_10.html#show_cdp)

### **CDP Enhancement—Host Presence TLV**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#802.1X\\_Host\\_Modes](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#802.1X_Host_Modes)  
[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/voip.html#Cisco\\_IP\\_Phone\\_Data\\_Traffic](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/voip.html#Cisco_IP_Phone_Data_Traffic)

### **CFM-2**

[http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce\\_cfm.html](http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_cfm.html)  
[http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla\\_metro\\_ethernet.html](http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_metro_ethernet.html)

### **CNS**

[http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm\\_cns\\_services.html](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](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](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](http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_cns_services.html)

### **CNS—Interactive CLI**

[http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm\\_cns\\_services.html](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](http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_cns_services.html)

### **Configuration Rollback Confirmed Change**

[http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf\\_config-rollback.html](http://www.cisco.com/en/US/docs/ios/fundamentals/configuration/guide/cf_config-rollback.html)

### **DHCP—DHCPv6 Relay Agent Notification for Prefix Delegation**

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

### **DHCPv6 —Relay Reload Persistent Interface ID Option**

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

### **DHCPv6 Ethernet Remote ID Option**

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

**Display Admin Speed and Duplex Negotiation Status**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/intrface.html#Displaying\\_the\\_Speed\\_and\\_Duplex\\_Mode\\_Configuration](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/intrface.html#Displaying_the_Speed_and_Duplex_Mode_Configuration)

**Dual PQ (Priority Queue)**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/configuration/6500series/76cfsip.html#Configuring\\_Dual\\_Priority\\_Queueing\\_on\\_a\\_Cisco\\_7600\\_SIP-400](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/6500series/76cfsip.html#Configuring_Dual_Priority_Queueing_on_a_Cisco_7600_SIP-400)

**Embedded Event Manager 2.4**

[http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm\\_eem\\_overview.html](http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_eem_overview.html)

**Embedded Syslog Manager**

[http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm\\_esm\\_syslog.html](http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_esm_syslog.html)

**Ethernet Local Management Interface at Provider Edge**

[http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce\\_elmi-pe.html](http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_elmi-pe.html)

**ELMI and CFM Outward Facing MEP Support for SIP 400**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/configuration/6500series/76cfgeth.html#Configuring\\_Ethernet\\_Operations,\\_Administration,\\_and\\_Maintenance](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/6500series/76cfgeth.html#Configuring_Ethernet_Operations,_Administration,_and_Maintenance)

**Enhanced Fast Software Upgrade**

[http://www.cisco.com/en/US/docs/ios/12\\_2sr/12\\_2srb/feature/guide/sbisefsu.html](http://www.cisco.com/en/US/docs/ios/12_2sr/12_2srb/feature/guide/sbisefsu.html)

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/issu\\_efsus.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/issu_efsus.html)

**FHRP—EOT Integration with EEM**

[http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp\\_eot.html](http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_eot.html)

**FHRP—GLBP Client Cache**

[http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp\\_glb.html](http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_glb.html)

**FHRP—GLBP Support for IPv6**

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

**FHRP—HSRP Group Shutdown**

[http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp\\_hsrp.html](http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_hsrp.html)

**FHRP—HSRP Multiple Group Optimization**

[http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp\\_hsrp.html](http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_hsrp.html)

### **HSRP for IPv6**

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

### **HSRP Gratuitous ARP**

[http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp\\_hsrp.html](http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_hsrp.html)

### **IEEE 802.1ak—MVRP and MRP**

[http://www.cisco.com/en/US/docs/ios/lanswitch/configuration/guide/lsw\\_cfg\\_mvrp.html](http://www.cisco.com/en/US/docs/ios/lanswitch/configuration/guide/lsw_cfg_mvrp.html)

### **IEEE 802.1X Agentless Audit Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#NAC\\_Agentless\\_Audit\\_Support](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#NAC_Agentless_Audit_Support)

### **IEEE 802.1x with ACL Assignments**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Using\\_802.1X\\_Authentication\\_with\\_ACL\\_Assignments\\_and\\_Redirect\\_URLs](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Using_802.1X_Authentication_with_ACL_Assignments_and_Redirect_URLs)

### **IEEE 802.1x—Fallback support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Understanding\\_the\\_Port-based\\_Authentication\\_Process](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Understanding_the_Port-based_Authentication_Process)

### **IEEE 802.1X—Flexible Authentication**

[http://www.cisco.com/en/US/docs/ios/security/configuration/guide/dot1x\\_flex\\_auth.html](http://www.cisco.com/en/US/docs/ios/security/configuration/guide/dot1x_flex_auth.html)

### **IEEE 802.1X—Multidomain Authentication**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Multidomain\\_Authentication\\_Mode](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Multidomain_Authentication_Mode)

### **IEEE 802.1X—Multiple Authentication**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Multiauthentication\\_Mode](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Multiauthentication_Mode)

### **IEEE 802.1X—Open Authentication**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Pre-Authentication\\_Open\\_Access](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Pre-Authentication_Open_Access)

### **IEEE 802.1X—User Port Description**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Using\\_802.1X\\_Authentication\\_with\\_Port\\_Descriptors](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/dot1x.html#Using_802.1X_Authentication_with_Port_Descriptors)

### **IEEE 802.3ah—Link Fault RFI Support**

[http://www.cisco.com/en/US/docs/ios/ether/configuration/guide/ce\\_oam.html](http://www.cisco.com/en/US/docs/ios/ether/configuration/guide/ce_oam.html)

**IP SLAs for Metro-Ethernet**

[http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla\\_metro\\_ethernet.html](http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_metro_ethernet.html)

**IP SLAs Random Scheduler**

[http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla\\_multi\\_scheduler.html](http://www.cisco.com/en/US/docs/ios/ipsla/configuration/guide/sla_multi_scheduler.html)

**IPv6 Access Services: DHCPv6 Relay Agent**

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

**IPv6 ACL Extensions for Mobile IPv6**

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

**IPv6 Reformation**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol\\_14271.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol_14271.html)

**IPv6 Routing - EIGRP Support**

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

**IPv6 Support for VSPA**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/services\\_modules/vspa/configuration/guide/ivm\\_vpn3.html](http://www.cisco.com/en/US/docs/interfaces_modules/services_modules/vspa/configuration/guide/ivm_vpn3.html)

**IPv6 VPN over MPLS (6VPE)**

[http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-ov\\_mpls\\_6vpe.html](http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-ov_mpls_6vpe.html)

**IPv6: Multicast Address Group Range Support**

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

**L2VPN Pseudowire Redundancy**

[http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp\\_l2vpn\\_pseudo\\_red.html](http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_l2vpn_pseudo_red.html)

**MAC Move Counters**

[http://www.cisco.com/en/US/docs/ios/lanswitch/command/reference/lsw\\_m1.html#mac-address-table\\_notification\\_mac-move](http://www.cisco.com/en/US/docs/ios/lanswitch/command/reference/lsw_m1.html#mac-address-table_notification_mac-move)

**Miniprotocol Analyzer**

<http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/mpa.html>

**MPLS EM—LSP Ping/Trace for LDP and RSVP IPv4 FECs**

[http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp\\_ldp\\_te\\_lsp\\_vccv.html](http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_ldp_te_lsp_vccv.html)

### **MPLS EM—MPLS Multipath (ECMP) LSP Tree Trace**

[http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp\\_em\\_multipath\\_tree.html](http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_em_multipath_tree.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](http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vpn_ipv4_ipv6.html)

### **MPLS VPN 6VPE Support over IP Tunnels**

[http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-ov\\_mpls\\_6vpe.html](http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-ov_mpls_6vpe.html)

### **MPLS VPN VRF Selection Using Policy-Based Routing**

[http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp\\_vpn\\_vrf\\_select\\_rt.html](http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vpn_vrf_select_rt.html)

### **MSTP PVST Simulation Disabling and Peer Inconsistency Check**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/stp\\_enhancement.html#Configuring\\_PVST\\_Simulation](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/stp_enhancement.html#Configuring_PVST_Simulation)

### **Multicast Address Group Range Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol\\_14271.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol_14271.html)

### **Multicast Enhancement —Egress Replication Performance Improvement for VLAN and Port Channel**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/mcastv4.html#wpMulticast\\_Enhancement](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/mcastv4.html#wpMulticast_Enhancement)

### **Multicast Replication Packet Drop Counter**

[http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir\\_s5.html#show\\_platform](http://www.cisco.com/en/US/docs/ios/interface/command/reference/ir_s5.html#show_platform)

### **Netconf Access for Configuration over BEEP**

[http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm\\_cns\\_netconf.html](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](http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_cns_netconf.html)

### **NetFlow Accounting for Unicast and Multicast on GRE Tunnel Interface**

[http://www.cisco.com/en/US/docs/ios/netflow/configuration/guide/cfg\\_nf\\_gre\\_tun.html](http://www.cisco.com/en/US/docs/ios/netflow/configuration/guide/cfg_nf_gre_tun.html)

### **Policy-Based Forwarding**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vacl.html#MAC\\_Policy-Based\\_Forwarding](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vacl.html#MAC_Policy-Based_Forwarding)

### **Per Interface Mroute State Limit**

[http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc\\_admission\\_control.html](http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc_admission_control.html)

**Per IP Session QoS Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/qos.html#Session-Based\\_PFC\\_QoS](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/qos.html#Session-Based_PFC_QoS)

**Pre-Encryption QoS for VSPA**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/services\\_modules/vspa/configuration/guide/ivm\\_vpn3.html](http://www.cisco.com/en/US/docs/interfaces_modules/services_modules/vspa/configuration/guide/ivm_vpn3.html)

**QoS Statistics Enhancement**

[http://www.cisco.com/en/US/docs/ios/qos/command/reference/qos\\_s4.html#show\\_mls\\_qos](http://www.cisco.com/en/US/docs/ios/qos/command/reference/qos_s4.html#show_mls_qos)

**Radius Per-VRF Server Group**

[http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec\\_per\\_vrf\\_aaa.html](http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_per_vrf_aaa.html)

**Rapid-PVST+ Dispute Mechanism**

<http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/spantree.html#Rapid-PVST>

**Reliable Delivery and Filtering for Syslog**

[http://cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm\\_reliable\\_del\\_filter.html](http://cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_reliable_del_filter.html)

**Role-Based Access Control CLI Commands**

[http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec\\_role\\_base\\_cli.html](http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_role_base_cli.html)

**Show Diagnostic Health**

<http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/diags.html>

**SNMP over IPv6**

[http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng\\_apps.html](http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html)

**SNMPv3—3DES and AES Encryption Support**

[http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng\\_apps.html](http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng_apps.html)

**SSO—IPv4 Multicast HA Support for Group-to-RP Mapping**

[http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc\\_ha\\_grp\\_to\\_rp\\_mappings.html](http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc_ha_grp_to_rp_mappings.html)

**SSO—VRRP**

[http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp\\_vrrp.html](http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_vrrp.html)

### **Standalone MAB Support**

[http://www.cisco.com/en/US/docs/ios/security/configuration/guide/standalone\\_mab.html](http://www.cisco.com/en/US/docs/ios/security/configuration/guide/standalone_mab.html)

### **Static Virtual Tunnel and GRE/TP Interface Enhancements**

[http://www.cisco.com/en/US/docs/interfaces\\_modules/shared\\_port\\_adapters/configuration/6500series/76cfvpna.html#Configuring\\_an\\_IPSec\\_Virtual\\_Tunnel\\_Interface](http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/6500series/76cfvpna.html#Configuring_an_IPSec_Virtual_Tunnel_Interface)

### **STP Bridge Assurance**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/stp\\_enh.html#Understanding\\_Bridge\\_Assurance](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/stp_enh.html#Understanding_Bridge_Assurance)

### **Submillisecond Policer Burst Size Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/qos.html#wppolicer\\_granularity](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/qos.html#wppolicer_granularity)

### **Syslog over IPV6**

[http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-mng\\_apps.html](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/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol\\_14271.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/release/notes/ol_14271.html)

### **TACACS+ Per VRF**

[http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec\\_vrf\\_tacas\\_svrs.html](http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_vrf_tacas_svrs.html)

### **Trusted Flow Acceleration**

[http://www.cisco.com/en/US/docs/security/fwsm/fwsm40/configuration/guide/protct\\_f.html#Configuring\\_Trusted\\_Flow\\_Acceleration](http://www.cisco.com/en/US/docs/security/fwsm/fwsm40/configuration/guide/protct_f.html#Configuring_Trusted_Flow_Acceleration)

### **VSS—512 EtherChannels Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Configuring\\_Multichassis\\_EtherChannels](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Configuring_Multichassis_EtherChannels)

### **VSS—ACE 10/20 Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service\\_Module\\_Support](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service_Module_Support)

### **VSS—Firewall Service Module Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service\\_Module\\_Support](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service_Module_Support)

**VSS - Intrusion Detection (IDS) Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service\\_Module\\_Support](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service_Module_Support)

**VSS—PACL Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Software\\_Features](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Software_Features)

**VSS—Wireless (WiSM) Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service\\_Module\\_Support](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Service_Module_Support)

**VSS—Dual-Active Detection Using L2 Fast Hello Detection**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Dual-Active\\_Detection\\_Using\\_Dual-Active\\_Fast\\_Hello\\_Packets](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vss.html#Dual-Active_Detection_Using_Dual-Active_Fast_Hello_Packets)

**VTP v3**

<http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/vtp.html>

**Web Authentication with Critical Auth Support**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/webauth.html#AAA\\_Fail\\_Policy](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/webauth.html#AAA_Fail_Policy)

**Webauth Enhancements**

[http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/webauth.html#Customization\\_of\\_the\\_Authentication\\_Proxy\\_Web\\_Pages](http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/webauth.html#Customization_of_the_Authentication_Proxy_Web_Pages)

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