



New Features in Cisco IOS Release 12.2(33)SRC

The following hardware and software features are included in Cisco IOS Release 12.2(33)SRC. Links to feature documentation are also provided.

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.

See the following sections for a list of features:

- [New Hardware Features in Cisco IOS Release 12.2\(33\)SRC, page 1](#)
- [New Software Features in Cisco IOS Release 12.2\(33\)SRC, page 3](#)

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

Cisco 7201 Router

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041419

Cisco 8-Port Channelized T1/E1 Shared Port Adapter (SPA-8XCHT1/E1)

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.html

Cisco Channelized T3 to DS0 Shared Port Adapter (SPA-2XCT3/DS0, SPA-4XCT3/DS0)

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109a7.html



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Cisco Clear Channel T3/E3 Shared Port Adapter (SPA-2XT3/E3, SPA-4XT3/E3)

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109a7.html

CT3 CEoP on c7600-SIP-400

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109bf.html

PA-MC-T3-EC and PA-MC-2T3-EC

http://www.cisco.com/en/US/products/hw/modules/ps2033/products_module_installation_guide_chapter09186a0080796f7f.html

Port Adapter Enhancements - 2 New Clear Channel Port Adapters and Channelized PA Hardware Acceleration of MLPPP/MLFR/LFI/FRF12

http://www.cisco.com/en/US/products/hw/modules/ps2033/products_module_installation_guide_chapter09186a008085fc86.html

RSP720-3C-10GE

http://www.cisco.com/en/US/products/hw/routers/ps368/products_installation_guide_book09186a0080800de5.html

RSP720-3CXL-10GE

http://www.cisco.com/en/US/products/hw/routers/ps368/products_installation_guide_book09186a0080800de5.html

Service and Application Module for IP

http://www.cisco.com/en/US/products/hw/modules/ps5510/products_installation_and_configuration_guide_book09186a0080875d19.html

SFP-GE-T Support

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109a7.html

SPA-1X10GE-L-V2

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109bf.html

SPA-1xCHSTM1/OC3

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109a7.html

WiSM Support on Cisco 7600 Platform

http://www.cisco.com/en/US/docs/wireless/technology/wism/installation/note/78_17121.html

WS-X6708-10G-3C, WS-X6708-10G-3CXL

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.html

New Software Features in Cisco IOS Release 12.2(33)SRC

32K EVC Scale

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a00807e5826.html

7600 VRF-aware LI

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a00807e0acb.html

802.1P CoS - PPP & PPPoE Control Frames

http://www.cisco.com/en/US/docs/ios/bbds/ios/configuration/guide/bba_cos_ppp_pppoe.html

AAA Authorization and Authentication Cache

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

AAA CLI Stop Record Enhancement

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

AAA Double Authentication Secured by Absolute Timeout

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

AAA High Availability Support for Local PPPoX Sessions

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

AAA Interim Accounting

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

AAA Method Lists Enhancement

http://www.cisco.com/en/US/docs/ios/12_2sr/release/notes/122SRrn.html#wp4230078

AAA Per-User Scalability

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

AAA-PPP-VPDN Non-Blocking

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

AAA Session MIB

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

ACFC and PFC Support on Multilink Interface on 7600/EnhancedFlexWAN/SIP200

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109bf.html

AToM Tunnel Selection

http://www.cisco.com/en/US/docs/ios/mps/configuration/guide/mp_any_transport.htm

Attribute Filtering Per-Domain and VRF Aware Framed-Routes

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

Attribute Screening for Access Requests

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

BFD—VRF Support

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

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

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

BGP Per Neighbor Graceful Restart Configuration

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

Call Home

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

Calling Station ID Attribute 31

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

CISCO-DATA-COLLECTION-MIB

http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_mib_collect_trans.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 Scripting with Tcl

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

CISCO-IP-URPF-MIB Support

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

CNS—Interactive CLI

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) 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/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

Configuration Enhancements for Broadband Scalability

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_preparing.html

Configuration Generation Performance Enhancement

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

Connect-Info RADIUS Attribute 77

http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_rad_77_connect.html

Connection Accounting

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

CoPP Enhancements on SIP-400

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.html

DHCP—DHCP Server MIB

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_mib.html

DHCP—DHCPv6 Relay Agent Notification for Prefix Delegation

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

DHCP—Server Multiple Subnet

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_svr_cfg.html

DHCP—Static Mapping

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_svr_cfg.html

DHCP—Statically Configured Routes Using a DHCP Gateway

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_svr_cfg.html

DHCP Authorized ARP

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_acct_sec.htm

DHCP Enhancements for Edge-Session Management

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_esm.html

DHCP ODAP Server Support

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_sod_apm.html

DHCP On Demand Address Pool (ODAP) Manager for Non-MPLS VPN Pools

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_sod_apm.html

DHCP Per Interface Lease Limit and Statistics

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_acct_sec.html

DHCP Relay—MPLS VPN Support

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_rly_agt.html

DHCP Relay Option 82—Per Interface Support

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_rly_agt.html

DHCP Release and Renew CLI in Exec Mode

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_client.html

DHCP Secured IP Address Assignment

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_acct_sec.html

DHCP Server—On Demand Address Pool Manager

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_sod_apm.html

DHCP Server Import All Enhancement

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp_svr_cfg.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>

Digital Optical Monitoring

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

Dynamic Per VRF AAA

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

Embedded Syslog Manager (ESM)

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

Encrypted Vendor Specific Attributes

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

Enhanced Test Command

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

EtherChannel Load Distribution

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

EVC PortChannel on Port Channel

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a00807e5826.html

Exec Accounting (RADIUS/TACACS+)

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

Extended NAS-Port-Type and NAS-Port Support

http://www.cisco.com/en/US/docs/iosbbdsl/configuration/guide/bba_extd_nas_port.html

FHRP - HSRP Group Shutdown

http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_hsrp.html

Framed-Route in RADIUS Accounting

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

Hot Fabric Sync

http://www.cisco.com/en/US/docs/ios/12_2sr/release/notes/122SRrn.html#wp4121395

HTTP TACACS+ Accounting Support

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

H-VPLS N-PE Redundancy for MPLS Access

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

H-VPLS N-PE Redundancy for QinQ Access

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

IEEE 802.1x with DHCP

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

IMA on SIP-400 for 24xT1/E1 CEOP and 1xOC3 CEOP SPAs

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.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

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 - Tcl

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

ISG:Accounting:Per Session, Service and Flow

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

ISG:Accounting:Postpaid

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

ISG:Authentication:DHCP Option 82 Line ID - AAA Authorization Support

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

ISG:Flow Control:Flow Redirect (L4, Captive Portal)

http://www.cisco.com/en/US/docs/ios/isg/configuration/guide/isg_l4_redirect.html

ISG:Network Interface:IP Routed, VRF Aware MPLS

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

ISG:Instrumentation:Advanced Conditional Debugging

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

ISG:Instrumentation:Session and Flow Monitoring (local and external)

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

ISG:Policy Control:DHCP Proxy

http://www.cisco.com/en/US/docs/ios/isg/configuration/guide/isg_cntrl_policies.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:Policy Control:Multidimensional Identity per Session

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

ISG:Policy Control:Policy:Domain Based (Auto-domain, Proxy)

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

ISG:Policy Control:Policy:Triggers (Time, Volume, Duration)

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

ISG:Policy Control:Policy Server:CoA (QoS, L4 Redirect, User ACL, TimeOut)

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

ISG:Policy Control:Policy Server:CoA ASCII Command Code Support

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

ISG:Policy Control:Policy Server:SSG-SESM Protocol

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

ISG:Policy Control:Service Profiles

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

ISG:Policy Control:User Profiles

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

ISG:Session:Auth:PBHK

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

ISG:Session:Auth:Single Sign On

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

ISG:Session:Authentication (MAC, IP, EAP)

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

ISG:Session:Creation:Interface IP Session:L2

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

ISG:Session:Creation:Interface IP Session:L3

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

ISG:Session:Creation:IP Session:Protocol Event (DHCP,RADIUS)

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

ISG:Session:Creation:IP Session:Subnet and Source IP:L2

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

ISG:Session:Creation:IP Session:Subnet and Source IP:L3

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

ISG:Session:Creation:P2P Session (PPPoE, PPPoXoX)

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

ISG:Session:LifeCycle:Idle Timeout

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

ISG:Session:LifeCycle:POD

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

ISG:Session:Protection and Resiliency:Keepalive - ARP, ICMP

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

ISG:Session:VRF Transfer

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

ISG:Subscriber Aware Ethernet

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

ISSU - AToM ATM Attachment Circuit

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

ISSU - AToM FR/MFR Attachment Circuit

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

ISSU - AToM HDLC Attachment Circuit

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

ISSU - DHCP ODAP Client/Server

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp-sso_ha.html

ISSU - DHCP Proxy Client

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp-sso_ha.html

ISSU - DHCP Relay on Unnumbered Interface

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp-sso_ha.html

ISSU - DHCP Server

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp-sso_ha.html

ISSU - PPPoE

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_ha_svc_sw_up.html

ISSU - Virtual Private LAN Service (VPLS)

http://www.cisco.com/en/US/docs/ios/mp1s/configuration/guide/mp_vpls_atom.html

ISSU - Virtual Template Manager

http://www.cisco.com/en/US/docs/ios/ha/configuration/guide/ha_inserv_updg.htm

ISSU - VRRP

http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_vrrp.html

KEOPS Phase 2 Access Circuit Redundancy with Local Switching

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.html

Layer 2 Tunnel Protocol Version 3

http://www.cisco.com/en/US/docs/ios/wan/configuration/guide/wan_l2_tun_pro_v3.html

LACP 1-1 Redundancy with Fast Switchover

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

LACP Fast Rate

http://www.cisco.com/en/US/docs/ios/cether/command/reference/ce_book.html

LACP Single Fault Direct Load Balance Swap

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_Inkbn1.html

Local AAA Server

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

Message Banners for AAA Authentication

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

MPLS EM - MPLS VPN MIB RFC4382 Upgrade

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_em_vpn_mib_4382.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 Pseudowire Status Signaling

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

MPLS TE - BFD-triggered Fast Reroute (FRR)

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

MPLS TE - Bundled Interface Support (EtherChannel and MLPPP)

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

MPLS TE—Tunnel-Based Admission Control (TBAC)

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

MPLS Traffic Engineering (TE) - Fast Reroute Path Protection

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

MPLS VPN - Inter-AS Option AB

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

MPLS VPN Half Duplex VRF (HDVRF)

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

MPLS VPN PE-CE Link Protection

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

Multicast VPN Extranet Support

http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc_mc_vpn_extranet.html

NAS-Port Format E

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_extd_nas_port.html

NAS-Port ID Format C Enhancement

http://www.cisco.com/en/US/products/ps6566/products_feature_guide09186a0080792993.html

Network Accounting (RADIUS/TACACS+)

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

NSF/SSO - AToM ATM Attachment Circuit

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

NSF/SSO - AToM FR/MFR Attachment Circuits

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

NSF/SSO - AToM HDLC Attachment Circuit

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

NSF/SSO - Virtual Private LAN Services

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

Offload Server Accounting Enhancement

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

OSPF Graceful Shutdown

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

OSPF TTL Security Check

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

Per Session Queuing and Shaping for PPPoEoVLAN Using RADIUS

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_ppoe_ses_q_rad.html

Per Subinterface MTU for Ethernet over MPLS (EoMPLS)

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

Per-Session QoS

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

Per-User Access-List

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

Per-User QoS via AAA Policy Name

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

Per VRF AAA

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

PPP MLP MRRU Negotiation Configuration

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/dia_pppmlp_mrru_neg.html

PPP-Max-Payload and IWF PPPoE Tag Support

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_ppp_mx_payld.html

PPPoE Support

PPPoE Agent Remote ID and DSL Line Characteristics Enhancement

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_rmtid_dsl.html

PPPoE Circuit-ID Tag Processing

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_cir_id_tag_pr.html

PPPoE Connection Throttling

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_pppoe_baa.html

PPPoE on Ethernet

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_ppoe_enet.html

PPPoE over Gigabit Ethernet Interface

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

PPPoE over VLANs Scaling and PPPoE over VLANs Forwarding over PVC

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

PPPoE - QinQ Support

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_pppoe_qinq.html

PPPoE RADIUS Port Identification

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_radius_psl.html

PPPoE Service Selection

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_svc_callstup.html

PPPoE Session Count MIB

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_mon_pppoe_snmp.html

PPPoE Session Limit

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_limit_legcfg.html

PPPoE Session Limit per NAS Port

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_ses_lim_nas.html

PPPoE - Session Limiting on Inner QinQ VLAN

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_qinq_vlan_limt.html

PPPoE Session Recovery After Reload

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_pppoe_baa.html

PPPoE Tag Support with Agent Remote ID Field

http://www.cisco.com/en/US/docs/ios/bbds1/configuration/guide/bba_rmtid_dsl.html

PPPoEoE on SIP-400

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109bf.html

Programmable BERT Patterns Enhancement on Channelized SPAs

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guide_s_book09186a00802109bf.html

QoS:Tunnel Marking for GRE Tunnels

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

RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level

http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_rad_5_pre_serv.htm

RADIUS Attribute 52 and 53 Gigaword Support

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

RADIUS Attribute 77 for DSL

http://www.cisco.com/en/US/products/ps6922/prod_release_note09186a00806c096f.html#wp4041228

RADIUS Attribute Value Screening

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

RADIUS Centralized Filter Management

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

RADIUS DNIS Screening, RADIUS Packet of Disconnect (POD), ISDN Guard Timer

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

RADIUS Logical Line ID

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

RADIUS NAS-IP-Address Configurability

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

RADIUS Per-VRF Server Group

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

RADIUS Progress Codes

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

RADIUS Push for MOD CLI Policies

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

RADIUS Route Download

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

RADIUS Server Load Balancing

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

RADIUS Server Reorder on Fail

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

Retransmit Counter for Exponential Backoff Accounting

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

Resilient Ethernet Protocol

http://www.cisco.com/en/US/docs/ios/lanswitch/configuration/guide/lsw_cfg_rep.html

RFC 4293 IP-MIB (IPv6 only) and RFC 4292 IP-FORWARD-MIB (IPv6 only)

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

RSVP Aggregation

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

SIP-400 Accelerated Lawful Intercept

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a00807e0acb.html

SLB (Server Load Balancing)

http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_slb.html

SLB:KAL-AP Agent Support

http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_slb.html

SLB:RADIUS Loadbalancing Accelerated Data Plane Forwarding

http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_slb.html

Source IPv4 and Source MAC Address Binding

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.html

SPAN Destination Port Support On Etherchannels

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

SPAN Egress Session Increase

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

SSO - BFD (Admin Down)

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

SSO - DHCP ODAP Client/Server

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp-sso_ha.html

SSO - DHCP Proxy Client

http://www.cisco.com/en/US/docs/ios/ipaddr/configuration/guide/iad_dhcp-sso_ha.html

SSO - PPPoE

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_ha_stfl_swovr.html

Static Routes for BFD

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

SSO - Virtual Template Manager

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

SSO - VRRP

http://www.cisco.com/en/US/docs/ios/ipapp/configuration/guide/ipapp_vrrp.html

Sticky IP

http://www.cisco.com/en/US/docs/ios/security/configuration/guide/sec_rad_8_accss_req.html

Subscriber Service Switch

http://www.cisco.com/en/US/docs/ios/bbds/configuration/guide/bba_cfg_sss_pol.html

Switch Port Analyzer (SPAN) - Input Packets with Don't Learn Option

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

TDM Local Switching

http://www.cisco.com/en/US/products/hw/routers/ps368/module_installation_and_configuration_guides_book09186a00802109bf.html

Throttling of AAA (RADIUS) Records

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

VPLS MAC Address Withdrawal

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

VTP v3

http://www.cisco.com/en/US/products/hw/routers/ps368/products_configuration_guide_book09186a0080685955.html

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