



# Standards Supported in Cisco IOS Software Releases 12.3 and 12.2S

Last updated: July 17,2003

This product bulletin lists the major industry standards supported by Cisco IOS® Software Releases 12.3 and 12.2S. It is arranged in reverse chronological order; each section begins with the most recently supported standards.

**Note:** given the evolving nature of the standardization procedures, this document may not reflect specific drafts, revisions of particular standards, or all the standards that are supported in Cisco IOS Software. Questions of this nature regarding standards not shown below should be directed to the appropriate Cisco IOS Product Manager.

### IETF Requests for Comments (RFCs)

The full text for each RFC may be obtained from: <http://www.rfc-editor.org/>

**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S

RFC Number	Remarks	RFC Title
RFC 3435	Obsoletes RFC 2705	Media Gateway Control Protocol (MGCP) Version 1.0
RFC 3344	Obsoletes RFC 2002 & RFC 3220	Mobile IP—obsoletes RFC 3220
RFC 3309	Updates RFC 2960	Stream Control Transmission Protocol (SCTP) Checksum Change
RFC 3272		Overview and Principles of Internet Traffic Engineering
RFC 3270		MPLS Support for differentiated Services
RFC 3261	Obsoletes RFC 2543	SIP: Session Initiation Protocol
RFC 3215		LDP State Machine
RFC 3210		Applicability Statements for Extensions to RSVP for LSP Tunnels
RFC 3209		RSVP-TE: Extensions to RSVP for LSP Tunnels
RFC 3115	Obsoletes RFC 3025	Mobile IP Vendor/Organization-Specific Extensions
RFC 3107		Carrying label information in BGP
RFC 3031		Multiprotocol Label Switching Architecture
RFC 3079		Deriving Keys for use with Microsoft Point-to-Point Encryption (MPPE)
RFC 3078		Microsoft Point-To-Point Encryption (MPPE) Protocol
RFC 3064		MGCP CAS Packages



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 3063		MPLS Loop Prevention Mechanism
RFC 3057		ISDN Q.921-User Adaptation Layer
RFC 3056		Transmission of IPv6 Domains via IPv4 Clouds (6to4)
RFC 3046		DHCP Relay Agent Information Option
RFC 3038		VCID Notification over ATM link for LDP
RFC 3037		LDP Applicability
RFC 3036		LDP Specification
RFC 3035		MPLS using LDP and ATM VC Switching
RFC 3032		MPLS Label Stack Encoding
RFC 3031		Multiprotocol Label Switching Architecture
RFC 3025		Mobile IP Vendor/Organization-Specific Extensions
RFC 3024	Obsoletes RFC 2344	Reverse Tunneling for Mobile IP
RFC 3012		Mobile IPv4 Challenge/Response Extensions
RFC 2977		Mobile IP Authentication, Authorization, and Accounting Requirements
RFC 2961		RSVP Refresh Overhead Reduction Extensions
RFC 2918		Route Refresh Capability for BGP-4
RFC 2915		The Naming Authority Pointer (NAPTR) DNS Resource Record
RFC 2893		Transition Mechanisms for IPv6 Hosts and Routers
RFC 2878		PPP Bridging Control Protocol (BCP)
RFC 2865		Remote Authentication Dial In User Service (RADIUS)
RFC 2858	Obsoletes RFC 2283	Multi-Protocol extensions for BGP4
RFC 2842		Capability Advertisement with BGP-4
RFC 2833		RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals
RFC 2805		Media Gateway Control Protocol Architecture and Requirements
RFC 2796	Updates RFC 1966	BGP Route Reflection
RFC 2794		Mobile IP Network Access Identifier Extension for IPv4
RFC 2782		A DNS RR for specifying the location of services (DNS SRV)
RFC 2766		Network Address Translation - Protocol Translation (NAT-PT)
RFC 2765		Stateless IP/ICMP Translation Algorithm (SIIT)
RFC 2759		Microsoft PPP CHAP Extensions, Version 2
RFC 2749		COPS usage for RSVP



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 2747		RSVP Refresh Overhead Reduction Extensions
RFC 2740		OSPF for IPv6
RFC 2705	Obsolete by RFC 3435	Media Gateway Control Protocol v1.0
RFC 2702		Requirements for Traffic Engineering over MPLS
RFC 2698		A Two Rate Three Color Marker
RFC 2697		A Single Rate Three Color Marker (Cisco Class-Based Policier is conformant with the sRTCM)
RFC 2694		DNS Extension to Network Address Translators (DNS_ALG)
RFC 2686		The Multi-Class Extension to Multi-Link PPP
RFC 2684	Obsoletes RFC 1483	Multiprotocol Encapsulation over ATM Adaptation Layer 5
RFC 2661		Layer 2 Tunneling protocol
RFC 2637		Point-to-Point Tunneling Protocol (PPTP)
RFC2616		Hypertext Transfer Protocol—HTTP/1.1
RFC 2598		An Expedited Forwarding PHB
RFC 2597		Assured Forwarding PHB Group
RFC 2590		Transmission of IPv6 Packets over Frame Relay Networks Specification
RFC 2560		Stream Control Transmission Protocol
RFC 2547bis		MPLS-VPNs - Inter-AS and CsC
RFC 2547		BGP/MPLS VPNs
RFC 2545		Use of BGP-4 Multi-Protocol extensions for IPv6 Inter-Domain routing
RFC 2543	Obsolete by RFC 3261	SIP: Session Initiation Protocol
RFC 2529		Transmission of IPv6 over IPv4 Domains without explicit tunnels
RFC 2516		PPP Over Ethernet (PPPoE)
RFC 2509		IP Header Compression over PPP
RFC 2508		Compressing IP/UDP/RTP Headers for Low-Speed Serial Links
RFC 2507		IP Header Compression
RFC 2492		IPv6 over ATM networks
RFC 2475		An Architecture for Differentiated Service
RFC 2474		Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers
RFC 2473		Generic Packet Tunneling in IPv6 specification
RFC 2472		IPv6 over PPP



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 2467		Transmission of IPv6 Packets over FDDI Networks
RFC 2464		Transmission of IPv6 Packets over Ethernet Networks
RFC 2463		Internet Control Message Protocol for IPv6 (ICMPv6)
RFC 2462		IPv6 Stateless Address Autoconfiguration
RFC 2461		Neighbor Discovery for IP Version 6 (IPv6)
RFC 2460		Internet Protocol, version 6 (IPv6) specifications
RFC 2453	Obsoletes RFC 1723, 1388	RIP Version 2
RFC 2439		BGP Route Flap Damping
RFC 2433		Microsoft PPP CHAP Extensions
RFC 2427	Obsoletes RFC 1490 & RFC 1294	Multiprotocol Interconnect over Frame Relay
RFC 2409		The Internet Key Exchange (IKE)
RFC 2408		Internet Security Association and Key Management Protocol (ISAKMP)
RFC 2407		The Internet IP Security Domain of Interpretation for ISAKMP
RFC 2406		IP Encapsulation Security Payload (ESP)
RFC 2402		IP Authentication Header
RFC 2401	Obsoletes RFC 1825	Security Architecture for Internet Protocol
RFC 2393		IP Payload Compression Protocol (IPComp)
RFC 2390	Obsoletes RFC 1293	Inverse Address Resolution Protocol
RFC 2374		An Aggregatable Global Unicast Address Format
RFC 2373		IP Version 6 Addressing Architecture
RFC 2370		The OSPF Opaque LSA Option
RFC 2365		(also BCP0023) Administratively Scoped IP Multicast
RFC 2364		PPP over ATM AAL5
RFC 2362	Obsoletes RFC2117	Protocol Independent Multicast-Sparse Mode (PIM-SM)
RFC 2341		Cisco Layer Two Forwarding Protocol (L2F)
RFC 2338		Virtual Router Redundancy Protocol
RFC 2337		Intra-LIS IP Multicast among routers over ATM using Sparse Mode PIM
RFC 2332		NBMA Next Hop Resolution Protocol (NHRP)
RFC 2328	Obsoletes RFC 2178	OSPF Version 2
RFC 2327		SDP: Session Description Protocol



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 2326		Real Time Streaming Protocol (RTSP)
RFC 2284		PPP Extensible Authentication Protocol
RFC 2283		Multi-protocol Extension for BGP-4
RFC 2281		Cisco Hot Standby Router Protocol (HSRP)
RFC 2275		View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
RFC 2274		User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
RFC 2273		SNMPv3 Applications
RFC 2272		Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
RFC 2271		An Architecture for Describing SNMP Management Frameworks
RFC 2236		Internet Group Management Protocol, Version 2
RFC 2206		RSVP Management Information Base Using SMIv2
RFC 2205		Resource ReSerVation Protocol (RSVP)
RFC 2166		DLSw + V2
RFC 2131	Obsoletes RFC 1541 & RFC 1531	Dynamic Host Configuration Protocol
RFC 2125		PPP Bandwidth Allocation Protocol (BAP) The PPP Bandwidth Allocation Control Protocol (BACP)
RFC 2127		ISDN Management Information Base Using SMIv2
RFC 2118		Microsoft Point-to-Point Compression (MPPC) Protocol
RFC 2115	Obsoletes RFC 1315	Management Information Base for Frame Relay DTEs
RFC 2091		Triggered Extensions to RIP to Support Demand Circuits
RFC 2080		RIPng
RFC 2037		Entity MIB, Phase I
RFC 2024		DLSw + MIB Enhancements
RFC 2018		TCP Selective Acknowledgment
RFC 2012		SNMP 2C
RFC 2006		The Definitions of Managed Objects for IP Mobility Support Using SMIv2
RFC 2003		IP Encapsulation within IP
RFC 2002		IP Mobility Support



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 1997		BGP Communities Attribute
RFC 1994		PPP Challenge Handshake Authentication Protocol
RFC 1990	Obsoletes RFC 1717	PPP Multilink Protocol
RFC 1989	Obsoletes RFC 1333	PPP Link Quality Monitoring
RFC 1981		Path MTU Discovery for IP version 6
RFC 1974		LZS STAC Compression
RFC 1973		PPP in Frame Relay
RFC 1967		PPP LZS-DCP Compression Protocol (LZS-DCP)
RFC 1966		BGP Route Reflection
RFC 1965		Autonomous System Confederation for BGP
RFC 1962		The PPP Compression Control Protocol (CCP)
RFC 1918		Address Allocation for Private Internets
RFC 1907	Obsoletes RFC 1450	Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1906	Obsoletes RFC 1449	Transport Mappings for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1905	Obsoletes RFC 1448	Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1904	Obsoletes RFC 1444	Conformance Statements for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1889		RTP: A Transport for Real-Time Applications
RFC 1886		DNS extensions to support IPv6
RFC 1877		PPP Internet Protocol Control Protocol Extensions for Name Server Addresses
RFC 1829		The ESP DES-CBC Transform
RFC 1828		IP Authentication Using Keyed MD5
RFC 1827		IP Encapsulating Security Payload (ESP)
RFC 1826		IP Authentication Header
RFC 1812		Requirements for IP Version 4 Routers
RFC 1795	Makes RFC 1434 obsolete	Data Link Switching (DLSw): Switch-to-Switch Protocol AIW DLSw RIG: DLSw Closed Pages, DLSw Version 1.0
RFC 1793		Extending OSPF to Support Demand Circuits
RFC 1771	Supersedes RFC 1654	A Border Gateway Protocol (BGP-4)



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 1765		OSPF Database Overflow
RFC 1757	Supersedes RFC 1271	Remote Network Monitoring (RMON) Management Information Base
RFC 1755		ATM Signaling Support for IP over ATM
RFC 1745		BGP4/IDRP for IP—OSPF Interaction
RFC 1724		RIP Version 2 MIB Extension
RFC 1723		RIP Version 2 Carrying Additional Information
RFC 1722		RIP Version 2 Protocol Applicability Statement
RFC 1717	Obsolete by RFC 1990	The PPP Multilink Protocol (MP)
RFC 1706	Obsoletes RFC 1637, 1348	DNS NSAP Resource Records
RFC 1701		Generic Route Encapsulation (GRE)
RFC 1702		Generic Routing Encapsulation over IPv4 networks
RFC 1695		Definitions of Management Objects for ATM Management Version 8.0 Using SMIv2
RFC 1663		PPP Reliable Transmission
RFC 1662	bit-oriented/async only - obsoletes RFC 1549	PPP in HDLC-like Framing
RFC 1661	Obsoletes RFC 1548	PPP (Point-to-Point Protocol)
RFC 1657		Definitions of Managed Objects for Version 4 of the Border Gateway Protocol (BGP-4) Using SMIv2
RFC 1647		TN3270 Enhancements
RFC 1646	LU Name Selection only	TN3270 Extensions for LUname and Printer Selection
RFC 1638		PPP Bridging Control Protocol (BCP)
RFC 1634	Supersedes 1362 and 1551	Novell Routing over Various WAN Media (IPXWAN)
RFC 1631		The IP Network Address Translator (NAT)
RFC 1619		PPP over SONET
RFC 1618		PPP over ISDN
RFC 1613		X.25 over TCP, XOT
RFC 1595		Definitions of Managed Objects for the SONET/SDH Interface Type
RFC 1593		SNA APPN Node MIB
RFC 1587		The OSPF NSSA Option



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 1583	Supersedes 1247	OSPF Version 2
RFC 1577		Classical IP and ARP over ATM
RFC 1576		TN3270 Current Practices
RFC 1573		Evolution of the Interfaces Group of MIB-II
RFC 1570		PPP LCP Extensions
RFC 1559		DECnet Phase IV MIB Extensions
RFC 1553		Compressing IPX Headers over WAN Media (CIPX)
RFC 1552		The PPP Internetwork Packet Exchange Control Protocol (IPXCP)
RFC 1549	Obsolete by RFC 1662	PPP in HDLC Framing
RFC 1548	Obsolete by RFC 1661	The Point-to-Point Protocol (PPP)
RFC 1542	BOOTP relay agent	Clarifications and Extensions for the Bootstrap Protocol
RFC 1534		Interoperation between DHCP and BOOTP
RFC 1519		Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregation Strategy
RFC 1512	Updates RFC 1285	FDDI Management Information Base
RFC 1510		The Kerberos Network Authentication Service (V5)
RFC 1497		BOOTP Vendor Extensions
RFC 1493	Obsoletes RFC 1286	Definitions of Managed Objects for Bridges
RFC 1492		Access Control Protocol or TACACS
RFC 1469		IP Multicast over Token Ring LANs
RFC 1450	Obsolete by RFC1907	MIB for SNMP Version 2
RFC 1449	Obsolete by RFC1906	Transport Mappings for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1448	Obsolete by RFC1905	Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1447		Party MIB for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1445		Administrative Model for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1444	Obsolete by RFC1904	Conformance Statements for Version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1413		Identification Protocol
RFC 1407	Obsoletes RFC 1233	Definitions of Managed Objects for the DS3/E3 Interface Type





**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 1406		Definitions of Managed Objects for the DS1 and E1 Interface Types
RFC 1403		BGP OSPF Interaction
RFC 1398		Definitions of Managed Objects for Ethernet-Like Interface Types
RFC 1395		BOOTP Extensions
RFC 1393		Traceroute Using an IP Option
RFC 1390		Transmission of IP and ARP over FDDI Networks
RFC 1382		SNMP MIB Extension for X.25 Packet Layer
RFC 1381		SNMP MIB Extension for X.25 LAPB
RFC 1378	Partial support	PPP AppleTalk Control Protocol (ATCP)
RFC 1377		PPP OSI Network Layer Control Protocol (OSINLCP)
RFC 1376		PPP DECnet Phase IV Control Protocol (DNCP)
RFC 1370		Applicability Statement for OSPF
RFC 1362		Novell IPX Over Various WAN Media (IPXWAN)
RFC 1356		Multiprotocol Interconnect on X.25 and ISDN in the Packet Mode
RFC 1350		TFTP Version 2
RFC 1349		Type of Service in the Internet Protocol Suite
RFC 1334		PPP Authentication Protocols
RFC 1333	Obsolete by RFC 1989	PPP Link Quality Monitoring
RFC 1332		PPP Internet Protocol Control Protocol (IPCP)
RFC 1331	Replaced by RFC 1548	PPP for the Transmission of Multiprotocol Datagrams over Point-to-Point Links
RFC 1323		TCP Extensions for High Performance
RFC 1321		The MD5 Message-Digest Algorithm
RFC 1317		Definitions of Managed Objects for RS-232-like Hardware Devices
RFC1315		Management Information Base for Frame Relay DTEs
RFC 1305		Network Time Protocol (NTP) Version 3
RFC 1286		Definitions of Managed Objects for Bridges
RFC 1268		Application of BGP in the Internet
RFC 1256		ICMP Router Discovery Messages
RFC 1253		MIB for OSPF Version 2
RFC 1243		AppleTalk Management Information Base



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 1236		IP to X.121 Address Mapping for DDN
RFC 1234		Tunneling IPX Traffic through IP Networks
RFC 1231	Partial support	IEEE 802.5 Token Ring MIB
RFC 1220		Point-to-Point Protocol (PPP) Extensions for Bridging
RFC 1215		Convention for Defining Traps for Use with SNMP
RFC 1213		Management Information Base for Network Management of TCP/IP-Based Internets: MIB-II
RFC 1212		Concise MIB Definitions.
RFC 1209		Transmission of IP Datagrams over SMDS Service
RFC 1196		Finger User Information Protocol
RFC 1195		Use of OSI IS-IS for Routing in TCP/IP in Dual Environments
RFC 1191		Path MTU Discovery
RFC 1172		PPP Initial Configuration Options
RFC 1157		Simple Network Management Protocol (SNMP)
RFC 1144		Compressing TCP/IP Headers for Low-Speed Serial Links
RFC 1144		TCP/IP Header Compression (Van Jacobson Method)
RFC 1141		Incremental Updating of the Internet Checksum
RFC 1139		Echo Function for ISO 8473 (PING)
RFC 1136		Administrative Domains and Routing Domains: A Model for Routing in the Internet
RFC 1122		Requirements for Internet Hosts—Communication Layers
RFC 1112		Host Extensions for IP Multicasting
RFC 1108	DCA Draft	IP Security Option (IPSO)
RFC 1101		DNS Encoding of Network Names and Other Types
RFC 1091		Telnet Terminal-Type Option
RFC 1084		BOOTP Extensions
RFC 1080		Telnet Remote Flow Control Option
RFC 1079		Telnet Terminal Speed Option
RFC 1075	Interoperate	Distance Vector Multicast Routing Protocol
RFC 1070		Use of the Internet as a Subnetwork for Experimentation with the OSI Network Layer



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 1069		Guidelines for the Use of Internet-IP Addresses in the ISO Connectionless-Mode Network Protocol
RFC 1058		Routing Information Protocol (RIP)
RFC 1055		Standard for the Transmission of IP Datagrams over Serial Lines: SLIP
RFC 1042		Standard for the Transmission of IP Datagrams over IEEE 802 Networks
RFC 1035		Domain Names—Implementation and Specification
RFC 1034		Domain Names—Concepts and Facilities
RFC 1027		Using ARP to Implement Transparent Subnet Gateways (Proxy ARP)
RFC 995	Replaced by ISO 9542	ES-to-IS Routing Exchange Protocol for Use in Conjunction with ISO 8473
RFC 994	Replaced by ISO 8473	Protocol for Providing the Connectionless-Mode Network Service
RFC 982		Guidelines for the Specification of the Top of the Structure of the Domain Specific Part (DSP) of the ISO standard NSAP address
RFC 974		Mail Routing and The Domain System
RFC 951		Bootstrap Protocol (BootP)
RFC 950		Internet standard Subnetting Procedure
RFC 925		Multi-LAN Address Resolution (PROXY ARP)
RFC 922		Broadcasting Internet Datagrams in the Presence of Subnets (IP_BROAD)
RFC 919		Broadcasting Internet datagrams
RFC 906		Bootstrap Loading Using TFTP
RFC 904		Exterior Gateway Protocol (EGP) Formal Specification
RFC 903		Reverse Address Resolution Protocol (RARP)
RFC 896		Congestion Control in TCP/IP Internetworks
RFC 895		Standard for the Transmission of IP Datagrams over Experimental Ethernet Networks
RFC 894		Standard for the Transmission of IP Datagrams over Ethernet
RFC 891		Hello Protocol
RFC 879		The TCP Maximum Segment Size and Related Topics
RFC 877		Standard for the Transmission of IP Datagrams over Public Data Networks
RFC 874		Telnet Protocol Specification
RFC 863		Discard Service (TCP Discard)



**Table 1** IETF RFC supported in Cisco IOS Software Releases 12.3 and 12.2S (Continued)

RFC Number	Remarks	RFC Title
RFC 862		Echo Service (TCP Echo)
RFC 860		Telnet Timing Mark Option
RFC 858		Telnet Suppress Go Ahead Option
RFC 857		Telnet Echo Option
RFC 856		Telnet Binary Transmission
RFC 855		Telnet Option Specification
RFC 854	MIL STD 1782	Telnet Protocol Specification
RFC 827		Exterior Gateway Protocol (EGP)
RFC 826		Address Resolution Protocol (ARP)
RFC 815		IP Datagram Reassembly Algorithms
RFC 813		Window and Acknowledgment Strategy in TCP/IP
RFC 793	MIL STD 1778	Transmission Control Protocol (TCP)
RFC 792		Internet Control Message Protocol (ICMP)
RFC 791	MIL STD 1777	Internetwork Protocol (IP)
RFC 783		Trivial File Transfer Protocol (TFTP) (Version 2)
RFC 779		Telnet Send-Location Option
RFC 768		User Datagram Protocol (UDP)

### Drafts

L2TPv3 - draft-ietf-l2tpext-l2tp-base-03  
Routing IPv6 with IS-IS -draft-ietf-isis-ipv6  
Multi-Topology Routing in IS-IS - draft-ietf-isis-wg-multi-topology  
Connecting IPv6 Islands across IPv4 Clouds with BGP - draft-ietf-ngtrans-bgp-tunnel  
Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) - draft-ietf-ngtrans-isatap  
IP MIB - draft-ietf-ipv6-rfc2011-update  
IP Forwarding Table MIB - draft-ietf-ipv6-rfc2096-update  
LSP Ping - draft-ietf-mppls-lsp-ping-01  
MPLS Fast ReRoute - draft-ietf-mppls-rsvp-lsp-fastreroute-02  
AToM - draft-martini-l2circuit-trans-mppls-10.  
draft-martini-l2circuit-encap-mppls-04  
Nat-traversal IPsec:  
draft-ietf-ipsec-nat-t-ike-03  
draft-ietf-ipsec-nat-t-ike-02  
draft-ietf-ipsec-udp-encaps-03  
A Border Gateway Protocol 4 (BGP-4) - draft-ietf-idr-bgp4-20  
BGP Extended Communities Attribute - draft-ietf-idr-bgp-ext-communities-05



Graceful Restart Mechanism for BGP - draft-ietf-idr-restart-06

The AES Cipher Algorithm and Its Use With IPsec - draft-ietf-ipsec-ciph-aes-cbc-04

SIP-Specific Event Notification - draft-ietf-sip-events-01

ISUP to SIP Mapping draft - draft-ietf-sip-isup-03

A Media Resource Control Protocol Developed by Cisco, Nuance, and Speechworks - draft-shanmugham-mrcp-04

### IEEE Standards

The full text for each standard may be obtained from: <http://www.ieee.com>

**Table 2** IEEE standards supported in Cisco IOS Software Release 12.3 and 12.2S

802.1	LAN/MAN bridging and management
802.1Q	Virtual LANs
802.3	CSMA/CD (Ethernet)
802.5	Token ring access method and physical layer specification

### ATM Forum Standards

The full text for each standard may be obtained from: <http://www.atmforum.com>

**Table 3** IEEE standards supported in Cisco IOS Software Releases 12.3 and 12.2S Software

ILMI (Integrated Local Management Interface)	ILMI 4.0 (af-ilmi-0065.000)
User-to-Network Interface	UNI 3.0 and 3.1 (af-uni-0010.002)
LAN Emulation (Version 2)	Ethernet and Token Ring (af-lane-0021.000)
Multiprotocol over ATM (Version 1)	MPOA (af-mpoa-0087.000)
Private Network-Network Interface	PNNI Version 1 (af-pnni-0055.000)

### Frame Relay Forum Standards

The full text for each standard may be obtained from: <http://www.frforum.com>

Frame Relay Forum standards supported in Cisco IOS Software:

- User-to-Network (UNI) Implementation Agreement—FRF.1.2
- Frame Relay Network-to-Network (NNI) Implementation Agreement Version 2.1—FRF.2.1
- Multiprotocol Encapsulation Implementation Agreement (MEI)—FRF.3.2
- SVC User-to-Network Interface (UNI) Implementation Agreement—FRF.4.1
- Frame Relay/ATM Network Internetworking Implementation Agreement—FRF.5
- Frame Relay/ATM PVC Service Internetworking Implementation Agreement—FRF.8.1
- Data Compression over Frame Relay Implementation Agreement —FRF.9
- Voice over Frame Relay Implementation Agreement—FRF.11



- Frame Relay Fragmentation Implementation Agreement—FRF.12
- Frame Relay Forum Implementation Agreement FRF.11 for Data Compression
- Frame Relay Forum Implementation Agreement FRF.16 for Multilink Frame Relay

### **ITU-T/CCITT Standards**

More information for each standard may be obtained from: <http://www.itu.int/>

- X.3—ITU-T/CCITT 1993 mandatory
- X.25—ITU-T/CCITT 1993
- X.28—ITU-T/CCITT 1993
- X.29—ITU-T/CCITT 1993
- X.31—X.25 on ISDN
- X.121—Addressing scheme
- ITU-T H.323 Packet-based multimedia communications systems
- ITU-T T.37 Procedures for the transfer of facsimile data via store-and-forward on the Internet
- ITU-T T.38, Procedures for real-time Group 3 facsimile communication over IP networks
- ITU-T T.38, Procedures for real-time Group 3 facsimile communication over IP networks, Amendment 1
- ITU-T, Revised Annex B of Recommendation T.38

ITU Standards for Voice CODECs:

- g711alaw G.711 A Law 64000 bps
- g711ulaw G.711 u Law 64000 bps
- g723ar53 G.723.1 ANNEX-A 5300 bps
- g723ar63 G.723.1 ANNEX-A 6300 bps
- g723r53 G.723.1 5300 bps
- g723r63 G.723.1 6300 bps
- g726r16 G.726 16000 bps
- g726r24 G.726 24000 bps
- g726r32 G.726 32000 bps
- g728 G.728 16000 bps
- g729br8 G.729 ANNEX-B 8000 bps
- g729r8 G.729 8000 bps
- gsmefr GSMEFR 12200 bps
- gsmfr GSMFR 13200 bps

ITU-T Q.931 (and related standards)—ISDN user-network interface layer 3 specification for basic call control

## Additional Standards

PacketCable. PSTN Gateway Call Signaling Protocol Specification, Pkt-SP-TGCP-D02-991028, Dec 1, 1999

PacketCable. Network-Based Call Signaling Protocol Specification, PKT-SP-EC-MGCP-I02-991201, Dec 1, 1999

PacketCable PSTN Gateway Call Signaling Protocol Specification, Pkt-SP-TGCP-101-991024, October 24, 1999.

PacketCable Network-Based Call Signaling Protocol Specification, Pkt-SP-EC-MGCP-102-991024, October 24, 1999.

Telecordia SM 1.5 (Simple Gateway Control Protocol)

VoiceXML Version 2.0, W3C Working Draft October 23, 2001—Working draft that defines VoiceXML.—<http://www.w3.org/Voice/>

ECMA-262, ECMAScript Language Specification, 3rd edition August 1998—Defines the ECMAScript scripting language—<http://www.ecma-international.org/>

ECMA (series of standards for QSIG)—<http://www.ecma-international.org/>

QSIG Standards supported (with certain exceptions):

ECMA 141, 142, 143(ETSI300-172), 165(ETSI239), Q.SIG v1 & v2



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(0304R) 202925.M/ETMG\_07/03