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Release Notes for Cisco 2600 Series for Cisco IOS Release 11.3 T

August 2, 1999

These release notes for Cisco 2600 series support Cisco IOS Release 11.3 T, up to and including Release 11.3(11)T. These release notes are updated as needed to accommodate to describe new features, memory requirements, hardware support, software platform deferrals, and changes to the microcode or modem code and related documents.

For a list of the software caveats that apply to Release 11.3 T, refer to *Caveats for Cisco IOS Release 11.3 T* document that accompanies these release notes. This caveats document is updated for every maintenance release and is located on Cisco Connection Online (CCO) and the Documentation CD-ROM. For more information, refer to the "Caveats" section on page 27 of this document.

Use these release notes in conjunction with the *Release Notes for Cisco IOS Release 11.3* located on Cisco Connection Online (CCO) and the Documentation CD-ROM. Because Release 11.3 T is based on Release 11.3, all features and caveats in Release 11.3 are also in Release 11.3 T.

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Introduction

This section provides information about the Cisco 2600 series routers and Early Deployment Releases (ED) for the Cisco 2600 series routers.

Cisco 2600 Series Routers

Cisco Systems extends enterprise-class versatility, integration, and power to branch offices with the Cisco 2600 series modular access router family. The Cisco 2600 series routers are cost-effective, modular access routers designed to enable customers to easily adopt future technologies and scale to accommodate network expansion, thereby protecting the customer's investment. The Cisco 2600 series shares modular interfaces with the Cisco 1600, 1700, and 3600 series, providing a cost-effective solution to meet today's branch office needs for applications such as:

- Secure Internet/intranet access (with Firewall Options)
- Multiservice voice/data integration
- Analog and digital dial access services
- Virtual Private Network (VPN) access
- Inter-VLAN routing

The Cisco 2600 series modular architecture provides the versatility needed to adapt to changes in network technology as new services and applications become available. Driven by a powerful RISC processor, the Cisco 2600 series supports the advanced Quality of Service (QoS), security, and network integration features required in today's evolving enterprise networks.

Early Deployment Releases

This release notes is based on the Cisco 2600 for Cisco IOS Release 11.3(10)T. Release 11.3 T is an Early Deployment (ED) release, delivering fixes to software caveats and support for new Cisco hardware. The following table briefly describes some of the ED releases now and soon to be available for the Cisco 2600 series.

Table 1 Early Deployment Releases for the Cisco 2600 Series

ED Release	Maintenance Release	Additional Software Features	Additional Hardware Features	Additional Feature Sets	Availability
Release 11.3 T	8	N/A	N/A	N/A	Now
Release 12.0 XD	2	N/A	ISDN BRI Voice over IP network module	<ul style="list-style-type: none"> • IP/FW Plus IPSec 56 • IP/IPX/AT/DEC/FW Plus • Enterprise F/W IPSec 56 	Now
Release 12.0 XC	2	N/A	<ul style="list-style-type: none"> • Cisco 2620 and Cisco 2621 1- or 2-port 10/100 Ethernet for the Cisco 2620 and Cisco 2621 	<ul style="list-style-type: none"> • IP/FW • IP/FW Plus IPSec 56 • IP/IPX/AT/DEC/FW Plus • Enterprise F/W IPSec 56 	Now

Table 1 Early Deployment Releases for the Cisco 2600 Series

ED Release	Maintenance Release	Additional Software Features	Additional Hardware Features	Additional Feature Sets	Availability
Release 12.0 T	2	3DES w/IPSec Encryption	Data Compression Advanced Integration Module	<ul style="list-style-type: none"> • IP Plus 3DES • IP/FW • IP/FW Plus IPSec 56 • IP/IPX/AT/DEC/FW Plus • Enterprise F/W IPSec 56 	Now
Cisco IOS Release 12.0T	1	N/A	N/A	<ul style="list-style-type: none"> • IP/FW • IP/FW Plus IPSec 56 • IP/IPX/AT/DEC/FW Plus • Enterprise FW IPSec 56 	Now

System Requirements

This section describes the system requirements for Release 11.3(11)T and includes the following sections:

- Memory Requirements, page 3
- Hardware Supported, page 4
- Determining Your Software Release, page 5
- Upgrading to a New Release, page 6
- Feature Set Tables, page 6

Memory Requirements

Table 2 describes the memory requirements of the Cisco IOS feature sets for the Cisco 2600 series for Release 11.3(11)T. All “Plus” feature sets include voice network support.

Table 2 Memory Requirements for the Cisco 2600 Series

Feature Set	Image Name	Required Flash Memory	Required DRAM Memory	Runs From	Feature Status	
IP Standard Feature Set	IP	c2600-i-mz	4 MB	16 MB	RAM	Added in Release 11.3(3)T
	IP Plus	c2600-is-mz	8 MB	24 MB	RAM	Added in Release 11.3(3)T
	IP Plus 40	c2600-is40-mz	8 MB	24 MB	RAM	Encryption image added in Release 11.3(3)T
	IP Plus 56	c2600-is56-mz	8 MB	24 MB	RAM	Encryption image added in Release 11.3(3)T
	IP Plus IPsec 56	c2600-is56i-mz	8 MB	24 MB	RAM	Encryption image added in Release 11.3(3)T

System Requirements

Table 2 Memory Requirements for the Cisco 2600 Series (continued)

Feature Set	Image Name	Required Flash Memory	Required DRAM Memory	Runs From	Feature Status	
IP/IPX/AT/DEC Standard Feature Set	IP/IPX/AT/DEC	c2600-d-mz	8 MB	20 MB	RAM	Added in Release 11.3(3)T
	IP/IPX/AT/DEC Plus	c2600-ds-mz	8 MB	24 MB	RAM	Added in Release 11.3(3)T
Enterprise Standard Feature Set	Enterprise Plus	c2600-js-mz	8 MB	24 MB	RAM	Added in Release 11.3(3)T
	Enterprise Plus IPsec	c2600-js56i-mz	8 MB	32 MB	RAM	Added in Release 11.3(3)T
Enterprise/APPN Standard Feature Set	Enterprise/APPN Plus	c2600-ajs-mz	8 MB	32 MB	RAM	Added in Release 11.3(3)T
	Enterprise/APPN Plus IPsec 56	c2600-ajs56i-mz	16 MB	32 MB	RAM	Encryption image added in Release 11.3(3)T
Remote Access Server Feature Set	Remote Access Server	c2600-c-mz	4 MB	16 MB	RAM	Added in Release 11.3(3)T

Hardware Supported

Cisco IOS Release 11.3(11)T supports the Cisco 2600 series routers:

- Cisco 2610
- Cisco 2611
- Cisco 2612
- Cisco 2613

Note The Cisco 2620 and Cisco 2621 require Cisco IOS version 12.0(2)XC or 12.0(3)T or later.

Table 3 lists the interfaces supported by the Cisco 2600 series.

Table 3 Supported Interfaces on the Cisco 2600 Series

Interface, Network Module, or Data Rate ¹	In ²	Platforms Supported
LAN Interfaces	1- or 2-port Ethernet (10BaseT)	Cisco 2610, Cisco 2611, Cisco 2612
	1-port Token Ring (RJ-45)	Cisco 2612, Cisco 2613
LAN Network Modules	4-port Ethernet	All Cisco 2600 series platforms
	1-port Ethernet	All Cisco 2600 series platforms
	1-port ATM-25 RJ-45 interface	All Cisco 2600 series platforms
Serial Network Modules	16- or 32-port Asynchronous	(2) All Cisco 2600 series platforms
	4- or 8-port Asynchronous/ Synchronous Serial low speed (128 kbps max)	(2) All Cisco 2600 series platforms

Table 3 Supported Interfaces on the Cisco 2600 Series

Interface, Network Module, or Data Rate ¹	In ²	Platforms Supported
Dial, ISDN and Channelized Serial Network Modules	1- or 2-port Channelized T1/ISDN PRI	(4) All Cisco 2600 series platforms
	1- or 2-port Channelized T1/ISDN PRI with CSU	(4) All Cisco 2600 series platforms
	1- or 2-port Channelized E1/ISDN PRI balanced	(4) All Cisco 2600 series platforms
	1- or 2-port Channelized E1/ISDN PRI unbalanced	(4) All Cisco 2600 series platforms
	4-or 8-port ISDN BRI S/T interface	(4) All Cisco 2600 series platforms
	4- or 8-port ISDN BRI U (NT1) interface	(4) All Cisco 2600 series platforms
	8 or 16 Analog Modems	(4) All Cisco 2600 series platforms
Voice/Fax Network Modules	1 or 2 Voice/Fax Interface Card Slots	(2) All Cisco 2600 series platforms
WAN Interface Cards and Voice Interface Cards	1-port ISDN BRI S/T interface (requires external NT1)	All Cisco 2600 series platforms
	1-port BRI U	All Cisco 2600 series platforms
	1-port 56/64-kbps DSU/CSU	All Cisco 2600 series platforms
	1- or 2-port T1/Fractional T1 with DSU/CSU	All Cisco 2600 series platforms
	1-port High-Speed Serial (up to 2.048 Mbps)	All Cisco 2600 series platforms
	2-port Dual High-speed Serial (up to 2.048 Mbps; Asynchronous/Synchronous support)	All Cisco 2600 series platforms
	2-port Asynchronous/ Synchronous (up to 128 kbps)	All Cisco 2600 series platforms
	2-port FXS Voice/Fax interface card for Voice/Fax network module ³	All Cisco 2600 series platforms with Voice/Fax network module
	2-port FXO Voice/Fax interface card for Voice/Fax network module ³	All Cisco 2600 series platforms with Voice/Fax network module
	2-port E&M Voice/Fax interface card for Voice/Fax network module ³	All Cisco 2600 series platforms with Voice/Fax network module
Advanced Integration Modules	Data Compression AIM (up to 8.192 Mbps)	(6) All Cisco 2600 series platforms, requires Cisco IOS version 12.0(2)T or higher.

1 The Voice/Fax and ATM-25 network modules require Cisco IOS Plus feature sets.

2 This column indicates the release in which the interface was first supported. For example, (5) means an interface was introduced in Release 11.3(5)T, except in the event of a (2), in which case the feature was introduced in Release 11.3(2)XA1. If a cell in this column is empty, the interface was included in the initial base release.

3 This interface card requires the NM-1V or NM-2V network module.

Determining Your Software Release

To determine the version of Cisco IOS software currently running on the Cisco 2600 series router, log into the router and use the **show version EXEC** command. The following is sample output from the **show version** command. The version number is indicated on the second line as shown below:

```
Cisco Internetwork Operating System Software
IOS (tm) 2600 Software (C2600-JS-L), Version 11.3(11)T, RELEASE SOFTWARE
```

Additional command output lines include more information, such as processor revision numbers, memory amounts, hardware IDs, and partition information.

Upgrading to a New Release

For generic information on upgrading to a new software release, refer to the *Cisco IOS Software Release Upgrade Paths and Packaging Simplification product bulletin* located on CCO at:

Service & Support: Product Bulletins. Scroll to **Software**. Under **Cisco IOS 11.3**, click *Cisco IOS Software Release 11.3 Upgrade Paths (#703: 12/97)*.

Other Firmware Code

The latest version of analog modem firmware for the Cisco 2600 series allows support of the internal analog modems in a wide range of countries. Firmware version 1.0.1 extends support internationally starting with Release 11.3(5)T and later releases.

To access Cisco 2600 firmware documentation on CCO, follow this path:

Service & Support: Documentation Home Page: Access Servers and Access Routers: Modular Access Routers: Cisco 2600 Series Routers: Analog Modem Firmware

To access Cisco 2600 firmware documentation on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Access Servers and Access Routers: Modular Access Routers: Cisco 2600 Series Routers: Analog Modem Firmware

Feature Set Tables

Cisco IOS software is packaged in feature sets (also called software images) depending on the platform. Each feature set contains a specific set of Cisco IOS features. The following section lists the feature set matrix and the features supported by each feature set.

The feature set matrix shows the feature set organization and lists which feature sets are available on the Cisco 2600 series for Release 11.3 T. Table 4 lists the Cisco IOS software features available for the Cisco 2600 series in Cisco IOS Release 11.3 T.

Release 11.3(11)T supports the same feature sets as Release 11.3(7), but it might also have new features, or new features not supported by the Cisco 2600 series. Table 4 lists the feature set name, the feature set matrix term, the software image name, and the supported platforms.

Table 4 Feature Sets Supported by the Cisco 2600 Series

Feature Set	Feature Set Matrix Term	Software Image	Platforms	
IP Standard Feature Sets	IP	Basic ¹	c2600-i-mz	All Cisco 2600 series platforms
	IP Plus	Basic, Plus ²	c2600-is-mz	All Cisco 2600 series platforms
	IP Plus 40	Plus, Plus 40 ³	c2600-is40-mz	All Cisco 2600 series platforms
	IP Plus 56	Plus, Plus 56 ⁴	c2600-is56-mz	All Cisco 2600 series platforms
	IP Plus IPsec 56	Plus, Plus IPsec 56 ⁵	c2600-is56i-mz	All Cisco 2600 series platforms

Table 4 Feature Sets Supported by the Cisco 2600 Series (continued)

Feature Set		Feature Set Matrix Term	Software Image	Platforms
IP/IPX/AppleTalk/DEC Standard Feature Sets	IP/IPX/AppleTalk/DEC	Basic	c2600-d-mz	All Cisco 2600 series platforms
	IP/IPX/AppleTalk/DEC Plus	Basic, Plus	c2600-ds-mz	All Cisco 2600 series platforms
Enterprise Standard Feature Sets	Enterprise Plus	Plus	c2600-js-mz	All Cisco 2600 series platforms
	Enterprise Plus IPsec 56	Plus, Plus IPsec 56	c2600-j56i-mz	All Cisco 2600 series platforms
Enterprise/APPN Standard Feature Set	Enterprise/APPN Plus	Plus	c2600-ajs-mz	All Cisco 2600 series platforms
	Enterprise/APPN Plus IPsec 56	Plus	c2600-asj56i-mz	All Cisco 2600 series platforms
	Remote Access Server	Basic	c2600-c-mz	All Cisco 2600 series platforms

- 1 This feature is offered in the Basic feature set.
- 2 This feature is offered in the Plus feature set
- 3 This feature is offered in the encryption feature sets which consist of 40-bit (Plus 40) data encryption feature sets.
- 4 This feature is offered in the encryption feature sets which consist of 56-bit (Plus 56) data encryption feature sets.
- 5 This feature is offered in the encryption feature sets which consist of IPsec 56-bit (Plus IPsec 56) data encryption feature sets.



Caution Cisco IOS images with strong encryption (including, but not limited to, 56-bit data encryption feature sets) are subject to U.S. government export controls, and have a limited distribution. Images to be installed outside the U.S. require an export license. Customer orders might be denied or subject to delay due to U.S. government regulations. Contact your sales representative or distributor for more information, or send e-mail to export@cisco.com.

Table 5 lists the features and feature sets supported by the Cisco IOS Release 11.3 T for the Cisco 2600. This table uses the following conventions to identify features:

- Yes—The feature is supported in the feature set.
- No—The feature is not supported in the feature set.
- In—The Cisco IOS release that first introduced a feature. For example, (5) means a feature is introduced in 11.3(5)T. If a cell in this column is empty, the feature was included in the initial base release.

Note The feature set tables contain only selected lists of features. These tables are not cumulative or complete lists of all the features in each image.

System Requirements

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T

Feature	In ¹	Feature Set					Feature Set							
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server	
IBM Support														
APPN High-Performance Routing		No	No	No	No	No	No	No	No	No	No	Yes	No	No
APPN MIB Enhancements		No	No	No	No	No	No	No	No	No	No	Yes	No	No
APPN Modularity Enhancements		No	No	No	No	No	No	No	No	No	No	Yes	No	No
APPN over Ethernet LAN Emulation		No	No	No	No	No	No	No	No	No	No	Yes	No	No
APPN Scalability Enhancements		No	No	No	No	No	No	No	No	No	No	Yes	No	No
BAN for SNA Frame Relay support		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Bisync Enhancements, include:		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
• Bisync 3780 Support														
• BSC Extended Addressing														
• Block Serial Tunneling (BSTUN) over Frame Relay														
Caching and filtering		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Cisco MultiPath Channel (CMPC)		No	No	No	No	No	No	No	No	No	No	No	No	No

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set					Feature Set							
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server	
DLSw+ Enhancements, <i>include:</i>		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
<ul style="list-style-type: none"> • Backup Peer Extensions for Encapsulation Types • DLSw+ Border Peer Caching • DLSw+ MIB Enhancements • DLSw+ SNA Type of Service • LLC2-to-SDLC Conversion between PU4 Devices • NetBIOS Dial-on-Demand Routing • RIF Passthru • UDP Unicast Enhancement 														
Downstream PU concentration (DSPU)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes		
Frame Relay SNA support (RFC 1490)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
FRAS Enhancements, <i>include:</i>		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
<ul style="list-style-type: none"> • FRAS Boundary Network Node Enhancement • FRAS Dial Backup over DLSw+ • FRAS DLCI Backup • FRAS Host • FRAS MIB • SRB over Frame Relay 														
IBU Modularity Enhancements		Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
Native Client Interface Architecture (NCIA) Server		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
NetView Native Service Point		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	

System Requirements

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
Polled asynch (ADT, ADPLEX)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
QLLC		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Response Time Reporter (RTR)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	
RFC 1795		No	No	No	No	No	No	No	No	No	No	No	No
RSRB		No	No	No	No	No	No	No	No	No	No	No	No
SDLC integration		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
SDLC transport (STUN)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
SDLC-to-LAN conversion (SDLLC)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
SNA and NetBIOS WAN optimization via local acknowledgment		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
SRB/RSRB		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
SRT		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
TG/COS		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
TN3270		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
TN3270 LU Nailing		No	No	No	No	No	No	No	No	No	No	No	No
TN3270 Server Enhancements		No	No	No	No	No	No	No	No	No	No	No	No
Token Ring LANE		No	No	No	No	No	No	No	No	No	No	No	No
Tunneling of Asynchronous Security Protocols		Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Internet													
DRP Server Agent		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
DRP Server Agent Enhancements	(2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
IP Routing													
BGP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
BGP4		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Easy IP (Phase 1)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EGP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Enhanced IGRP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enhanced IGRP Optimizations		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
ES-IS		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Hot Standby Router Protocol (HSRP) over ISL in Virtual LAN Configurations		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
IP Enhanced IGRP Route Authentication		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP Type of Service and Precedence for GRE Tunnels	(4)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IS-IS		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Multiple group Hot Standby Router Protocol (M-HSRP)	_	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Named IP Access Control List		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Network Address Translation (NAT)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
NHRP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
On Demand Routing (ODR)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OSPF		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
OSPF Not-So-Stubby-Areas (NSSA)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
OSPF On Demand Circuit (RFC 1793)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
PIM		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Policy-based routing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RIP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RIP Version 2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TCP Enhancements, include:		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
• TCP Selective Acknowledgment													
• TCP Timestamp													
LAN Support													
Apollo Domain		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
AppleTalk 1 and 21		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

System Requirements

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
AppleTalk Access List Enhancements		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Banyan VINES		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Concurrent routing and bridging		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
DECnet Accounting		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
DECnet IV		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
DECnet V		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
GRE		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integrated routing and bridging (IRB)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPX Named Access Lists		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPX SAP-after-RIP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LAN extension host		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Multiring		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NLSP Enhancements		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
NLSP Multicast Support		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Novell IPX		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OSI		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Source-route bridging		No	No	No	No	No	No	No	No	No	No	No	No
Transparent and translational bridging		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Transparent bridging		No	No	No	No	No	No	No	No	No	No	No	No
VLANs (ISL and IEEE 802.10) Cisco 4500 only		No	No	No	No	No	No	No	No	No	No	No	No
XNS		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Management													
AutoInstall		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Automatic modem configuration		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cisco Call History MIB Command-Line Interface		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cisco IOS Internationalization		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Entity MIB (Phase I)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
HTTP Server		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RMON events and alarms		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RMON full (Cisco 2500 only)		No	No	No	No	No	No	No	No	No	No	No	No
SNMP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SNMP Inform Requests	(1)	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
SNMPv2C		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Telnet		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Virtual Profiles		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VPDN MIB and Syslog Facility	(2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multimedia and Quality of Service													
Generic traffic shaping		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP Multicast Load Splitting across Equal-Cost Paths		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
IP Multicast over ATM Point-to-Multipoint Virtual Circuits		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
IP Multicast over Token Ring LANs		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PIM Version 2	(2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Early Detection (RED)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Resource Reservation Protocol (RSVP)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
RTP Header Compression		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stub IP Multicast Routing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voice over IP	(2)	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Other Routing													
AURP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPX RIP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NLSP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
RTMP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SMRP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
SRTP		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Protocol Translation													

System Requirements

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
LAT		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
PPP7		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Rlogin		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Telnet		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
TN3270		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
X.25		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Remote Node													
ARAP 1.0/2.0		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Asynchronous master interfaces		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ATCP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CPPP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CSLIP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DHCP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP pooling		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPX and ARAP on virtual asynch interfaces		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
IPXCP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MacIP		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NASI		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
NetBEUI over PPP		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
PPP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SLIP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Security													
Access lists		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Access security		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Authenticating ACLs Featurtte		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Automated Double Authentication	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Certificate Authority Interoperability	(3)	No	No	No	No	Yes	No	No	No	Yes	No	Yes	No
Encrypted Kerberized Telnet		No	No	No	No	No	No	No	No	Yes	No	Yes	No
Extended access lists		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HTTP Security		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
Internet Key Exchange Security Protocol	(3)	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Kerberized login		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Kerberos V client support		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Lock and key		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MAC security for hubs		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
MD5 routing authentication		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MS-CHAP Support	(3)	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Named Method Lists for AAA Authorization & Accounting	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Network layer encryption (export controlled 40-bit and 56-bit DES)		No	No	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No
Per-User Configuration		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reflexive Access Lists		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Router authentication		No	No	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No
Subblock (Phase I)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TACACS+		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TCP Intercept		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Vendor-Proprietary RADIUS Attributes	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Switching													
AppleTalk Routing over ISL and IEEE 802.10 in Virtual LANs		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CLNS and DECnet Fast Switching over PPP		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
DECnet/VINES/XNS over ISL, includes:		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
• Banyan VINES Routing over ISL Virtual LANs													
• DECnet Routing over ISL Virtual LANs													
• XNS Routing over ISL Virtual LANs													
Fast-Switched Policy Routing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

System Requirements

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
IPX Routing over ISL Virtual LANs		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
VIP Distributed Switching Support for IP Encapsulated in ISL		No	No	No	No	No	No	No	No	No	No	No	No
Terminal Services													
LAT		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Rlogin		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Telnet		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TN3270		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Virtual Templates for Protocol Translation		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
X.25 PAD		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Xremote		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
WAN Optimization													
ATM MIB Enhancements		No	No	No	No	No	No	No	No	No	No	No	No
ATM PVC Management	(2)	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Bandwidth-on-demand		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Custom and priority queuing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dial backup		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dial-on-demand		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Header, link and payload compression		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PAD Enhancements		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
PAD Subaddressing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Snapshot routing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Weighted fair queuing		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WAN Services													
Always On/Dynamic ISDN	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ATM LAN emulation: DECnet routing and Banyan VINES support		No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No
ATM LAN emulation: Hot Standby Router Protocol (HSRP) and Simple Server Redundancy Protocol (SSRP)		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set						Feature Set					
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server
ATM LAN emulation: Rate queues for SVC per subinterface		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
ATM LAN emulation: UNI 3.1 signaling for ATM		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Bandwidth Allocation Control Protocol (BACP)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Combinet Packet Protocol (CPP)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dialer profiles		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dialer Watch	(2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enhanced Local Management Interface (ELMI)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay Enhancements		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay MIB Extensions		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay Router ForeSight		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay SVC Support (DTE)		No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Frame Relay traffic shaping		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Half bridge/half router for CPP and PPP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HDLC		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPXWAN 2.0		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ISDN		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
ISDN Advice of Charge		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ISDN Caller ID Callback		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
ISDN Multiple Switch Type	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ISDN NFAS		No	No	No	No	No	No	No	No	No	No	No	No
Layer 2 Forwarding—Fast Switching		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Leased-Line ISDN at 128 kbps		Yes	Yes	No	No	No	Yes	Yes	Yes	No	Yes	No	No

System Requirements

Table 5 Feature List by Feature Set for the Cisco 2600 Series for Cisco IOS Release 11.3(11)T (continued)

Feature	In ¹	Feature Set					Feature Set							
		IP	IP Plus	IP Plus 40	IP Plus 56	IP Plus IPSE C 56	IP/ IPX/ AT/ DEC	IP/ IPX/ AT/ DEC Plus	Enterprise Plus	Enterprise Plus IPSEC 56	Enterprise/ APPN Plus	Enterprise/ APPN Plus IPSEC 56	Remote Access Server	
Microsoft Point-to-Point Compression	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MS Callback	(2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multichassis Multilink PPP (MMP)		No	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
National ISDN Switch Types for BRI and PRI (NI2)	(3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PPP		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PPP over ATM		No	No	No	No	No	No	No	No	No	No	No	No	No
SMDS		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stacking Home Gateway Featurette		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Switched 56		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Telnet Extensions for Dialout		No	No	No	No	No	No	No	No	No	No	No	No	Yes
Virtual Private Dial-up Network (VPDN)		No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
X.25 on ISDN B-Channel		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
X.25 on ISDN D-Channel		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
X.25 Protocol Engine		Yes	Yes	No	No	No	Yes	Yes	Yes	No	Yes	No	No	Yes
X.25 Switching between PVCs and SVCs		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
X.25		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
X.28 Emulation		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

¹ This column indicates the maintenance release in which the feature was introduced. For example, (5) means a feature was introduced in 11.3(5)T, except in the event of a (2), in which case the feature was introduced in Release 11.3(2)XA1. If a cell is empty in this column, the feature was included in the initial base release.

New and Changed Information

The following sections list the new features supported by the Cisco 2600 series in Cisco IOS Release 11.3 T.

For additional information about features listed in this section, connect to www.cisco.com and browse to the following:

Service & Support: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3T New Features

To find feature information on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3T New Features

New Features in Cisco IOS Release 11.3(11)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(11)T.

New Features in Cisco IOS Release 11.3(10)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(10)T.

New Features in Cisco IOS Release 11.3(9)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(9)T.

New Features in Cisco IOS Release 11.3(8)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(8)T.

New Features in Cisco IOS Release 11.3(7)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(7)T.

New Features in Cisco IOS Release 11.3(6)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(6)T.

New Features in Cisco IOS Release 11.3(5)T

There are no new features in the Cisco 2600 series routers for Cisco IOS Release 11.3(5)T.

New Features in Cisco IOS Release 11.3(4)T

The following software enhancement was introduced in Release 11.3(4)T and is available for the Cisco 2600 series routers.

IP Type of Service and Precedence for GRE Tunnels

Prior to the IP Type of Service and Precedence for GRE Tunnels feature, at generic route encapsulation-based tunnel endpoints, the Type of Service (TOS) bits (including precedence bits) were not copied to the tunnel or GRE IP header that encapsulates the inner packet. Instead, those bits were set to zero. This was not a problem unless the intermediate routers between two tunnel endpoints honored TOS or precedence bits, in which case those settings were ignored.

With the advent of virtual private network (VPN) and QoS applications, you should copy the TOS bits when the router encapsulates the packets using GRE. Thus, intermediate routers between tunnel endpoints can take advantage of the QoS features such as weighted fair queuing (WFQ) and weighted random early detection (WRED).

New Features in Cisco IOS Release 11.3(3)T

The following software enhancements were introduced in Release 11.3(3)T and are available for the Cisco 2600 series routers.

Named Method Lists for AAA Authorization and Accounting

In earlier Cisco IOS releases, only named authentication method lists were supported under Cisco's authentication, authorization, and accounting (AAA) network security services. With Cisco IOS Release 11.3(3)T, AAA has been extended to support both authorization and accounting named method lists. Named Method Lists for Authorization and Accounting function the same way as those for authentication: they allow you to define different methods for authorization and accounting and apply those methods on a per-interface or per-line basis.

Always On/Dynamic ISDN

Always On/Dynamic ISDN (AO/DI) is an on-demand service that is designed to optimize the use of an existing Integrated Services Digital Network (ISDN) signaling channel (D channel) to transport X.25 traffic. The X.25 D channel call is placed from the subscriber to the packet data service provider. The use of PPP allows protocols to be encapsulated within the X.25 logical circuit carried by the D channel. The bearer channels (B channels) use the Multilink Protocol without the standard Q.922 and X.25 encapsulations, and invoke additional bandwidth as needed. Optionally, the Bandwidth Allocation Control Protocol (BACP) and the Bandwidth Allocation Protocol (BAP) can be used to negotiate bandwidth allocation as required.

Automated Double Authentication

The Automated Double Authentication feature enhances the existing double authentication feature. Previously, with the existing double authentication feature, a second level of user authentication is achieved when the user Telnets to the network access server or router and enters a username and password. Now, with automated double authentication, the user does not have to Telnet anywhere but instead responds to a dialog box that requests a username and password or PIN.

Certificate Authority Interoperability

Certificate Authority (CA) Interoperability is provided in support of the IP Security (IPSec) standard. CA interoperability permits Cisco IOS devices and CAs to communicate so that your Cisco IOS device can obtain and use digital certificates from the CA. Although IPSec can be implemented in your network without the use of a CA, using a CA provides manageability and scalability for IPSec.

Internet Key Exchange Security Protocol

The Internet Key Exchange Security (IKE) Protocol is a key management protocol used in conjunction with the IPsec standard. IPsec is an IP security feature that provides robust authentication and encryption of IP packets. IPsec can be configured without IKE, but IKE enhances IPsec by providing additional features, flexibility, and ease of configuration for the IPsec standard. IKE is a hybrid protocol that implements the Oakley key exchange and Skeme key exchange inside the ISAKMP framework. (ISAKMP, Oakley, and Skeme are security standards implemented by IKE.)

Microsoft Challenge Handshake Authentication Protocol Support

Microsoft Challenge Handshake Authentication Protocol (MS-CHAP) is the Microsoft version of CHAP and is an extension to RFC 1994. Like the standard version of CHAP, MS-CHAP is used for PPP authentication; in this case, authentication occurs between a PC using Microsoft Windows NT or Microsoft Windows 95 and a Cisco router or access server acting as a network access server (NAS).

MS-CHAP differs from the standard CHAP as follows:

- MS-CHAP is enabled by negotiating CHAP Algorithm 0x80 in LCP option 3, Authentication Protocol.
- The MS-CHAP Response packet is in a format designed to be compatible with Microsoft Windows NT 3.5 and 3.51, Microsoft Windows 95, and Microsoft LAN Manager 2.x. This format does not require the authenticator to store a clear or reversibly encrypted password.
- MS-CHAP provides an authenticator-controlled authentication retry mechanism.
- MS-CHAP provides an authenticator-controlled change password mechanism.
- MS-CHAP defines a set of “reason-for failure” codes that are returned in the Failure packet message field.

Depending on the security protocols you have implemented, PPP authentication using MS-CHAP can be used with or without authentication, authorization and accounting (AAA) security services. If you have enabled AAA, PPP authentication using MS-CHAP can be used in conjunction with both TACACS+ and RADIUS.

Microsoft Point-to-Point Compression

Microsoft Point-to-Point Compression (MPPC) is a scheme used to compress Point-to-Point Protocol (PPP) packets between Cisco and Microsoft client devices. The MPPC algorithm is designed to optimize bandwidth utilization in order to support multiple simultaneous connections. The MPPC algorithm uses a Lempel-Ziv (LZ) based algorithm with a continuous history buffer, called a dictionary.

Multiple ISDN Switch Types

The Multiple ISDN Switch Types feature allows for configuring more than one ISDN switch type per router. An ISDN switch type can be applied on a per interface basis, thus extending the existing global ISDN switch-type command to the interface level. This allows Basic Rate Interfaces (BRI) and Primary Rate Interfaces (PRI) to run simultaneously on platforms that support both interface types.

National ISDN Switch Types for BRI and PRI

National ISDN Switch Types for Basic Rate and Primary Rate Interfaces (NI2) introduce changes to ISDN switch types for Primary Rate Interfaces (PRIs) and Basic Rate Interfaces (BRIs) as follows:

- Adds a new switch type for PRI interfaces (ISDN switch-type primary-ni).
- Changes the BRI basic-ni1 switch type to basic-ni (ISDN switch-type basic-ni).
- Removes the ISDN vn2 switch type (ISDN switch-type vn2) used in France. The existing vn3 switch type (ISDN switch-type vn3) supports French vn2 switches.
- Removes the ISDN basic-nwnet3 switch type (ISDN switch-type basic-nwnet3) used in Norway. The basic-net3 switch type (ISDN switch-type basic-net3) supports Norway NET3 switches.
- Removes the ISDN basic-nznet3 switch type (ISDN switch-type basic-nznet3) used by New Zealand NET3 switches. The ISDN basic-net3 switch type (ISDN switch-type basic-net3) supports New Zealand NET3 switches.
- Adds the ability to configure outgoing PRI B-channel selection for the T1 controller in ascending order (channel 1 to channel 23) or descending order (channel 23 to channel 1). Previously, the router selected a B-channel for outgoing calls from the highest free channel in descending order. The E1 controller channel selection for ascending order is channel 1 to 31, and 31 to 1 for descending order.

Note The command parser will still accept the following switch types: basic-nwnet3, vn2, and basic-net3; however, when viewing the NVRAM configuration using either the **show running config** or **write terminal** command, the basic-net3 or vn3 switch types are displayed respectively.

RIF Passthru in DLSw+

By default, DLSw+ terminates the RIF for Token Ring, terminates the LLC for all media types and forwards data only across a WAN with DLSw+ and TCP/IP headers. The RIF is a field in source-route bridged frames that indicates the SRB path the frame should take when traversing a Token Ring network. In the case of an explorer packet, the RIF is a field of the source-route bridged frame that indicates the SRB path that the SRB explorer has traversed so far. The RIF is limited to seven hop counts by the IBM standards. Because DLSw+ terminates the RIF at the virtual ring, the network's scalability increases because the hop count of the packet starts over, and the packet can traverse seven additional hops. Also, RIF termination simplifies network design because ring numbers no longer have to be unique throughout an entire enterprise. Some environments, however, do not function properly if the RIF is terminated. For that reason, DLSw+ now supports the RIF Passthru in DLSw+ feature, in which the entire source-route bridged path appears in the RIF.

Additional Vendor-Proprietary RADIUS Attributes

In Cisco IOS Release 11.3(3)T, Cisco IOS software introduces support for Additional Vendor-Proprietary RADIUS Attributes. Remote Authentication Dial-In User Server (RADIUS) is an access server authentication, authorization, and accounting protocol originally developed by Livingston, Inc. An Internet Engineering Task Force (IETF) draft standard for RADIUS specifies a method for communicating vendor-proprietary information between the network access server and the RADIUS.

VPDN MIB and Syslog Facility

The Virtual Private Dialup Network (VPDN) Management Information Base (MIB) feature is intended to support all the tables and objects defined in the Cisco VPDN Management MIB for VPDN user sessions. VPDN system-wide information is available. This includes active VPDN tunnels, active user sessions in active VPDN tunnels, and failure history information, per username.

The VPDN syslog facility provides generic logging output for VPDN information, such as Layer 2 Forwarding Protocol (L2F). The syslog messages are generated to inform authentication or authorization errors, resource issues, and timeout events.

New Features in Cisco IOS Release 11.3(2)XA1

Cisco IOS Release 11.3(2)XA1 is the first release for the Cisco 2600 series routers. This software release includes many new software features, which are briefly described in this section.

ATM PVC Management

The Enhanced ATM VC Configuration and Management feature set includes new and enhanced capabilities that allow you to create and manage ATM PVCs and SVCs with more ease and improved integrity. This feature set includes the following five subfeatures:

- **New VC Configuration**—Allows you to create ATM permanent virtual circuits (PVCs), switched virtual circuits (SVCs), static maps, and associated virtual circuit (VC) parameters more easily and with fewer errors using new ATM commands in new VC command modes.
- **VC Integrity Management**—Allows you to manage your ATM PVCs and SVCs so that your router receives immediate notification of when these VCs go down in your network. Upon notification, protocols can reroute packets and prevent unpredictable and relatively long timeout periods.
- **PVC Discovery**—Allows you to enable your router to automatically assign (or discover) PVCs on an ATM interface or subinterface using information from an attached adjacent switch.
- **Multiprotocol Inverse ARP**—Allows you to enable a dynamic protocol mapping between an ATM PVC and a network address by configuring Inverse Address Resolution Protocol (Inverse ARP) on ATM PVCs running IP or IPX.
- **Rate Queue Tolerance**—Allows you to configure a range of peak rates on a single rate queue, thereby improving ATM rate-queue usage.

Dialer Watch

Dialer Watch is a backup feature that integrates dial backup with routing capabilities. Prior dial backup implementations used the following conditions to trigger backup:

- Interesting packets were defined at central and remote routers using dial-on-demand routing (DDR).
- Connection loss occurred on a primary interface using a back up interface with floating static routes.
- Traffic thresholds were exceeded using a dialer load threshold.

Prior backup implementations might not have supplied optimum performance on some networks, such as those using Frame Relay multipoint subinterfaces or Frame Relay connections that do not support end-to-end PVC status. Dialer Watch provides reliable connectivity without relying solely on defining interesting traffic to trigger outgoing calls at the central router.

Dialer Watch uses the convergence times and characteristics of dynamic routing protocols. Integrating backup and routing features enables Dialer Watch to monitor every deleted route. By configuring a set of watched routes that define the primary interface, you are able to monitor and track the status of the primary interface as watched routes are added and deleted.

DRP Server Agent Enhancements

The Director Response Protocol (DRP) Server Agent enhancements are as follows:

- Distributed Director can use Border Gateway Protocol (BGP) Multi-Exit Discriminators in traffic redirection decisions.
- The DRP Server can measure client-to-server link latency (roundtrip time) for use in traffic redirection decisions.

MS Callback

The MS Callback feature provides client-server callback services for Microsoft Windows 95 and Microsoft Windows NT clients. MS Callback supports the Microsoft Callback Control Protocol (MSCB). MSCB is Microsoft's proprietary protocol that is used by Windows 95 and Windows NT clients. MS Callback supports negotiated PPP Link Control Protocol (LCP) extensions initiated and agreed upon by the Microsoft client. MS Callback is added to existing PPP Callback functionality. Therefore, if you configure your Cisco access server to perform PPP Callback using Cisco IOS Release 11.3(2)XA1 or later, MS Callback is automatically available.

MS Callback supports AAA security models using a local database or AAA server. MSCB uses LCP callback options with suboption type 6. The Cisco MS Callback feature supports clients with a user-specified callback number and server specified (preconfigured) callback number. MS Callback does not affect non-Microsoft machines that implement standard PPP LCP extensions as described in RFC 1570. In this scenario, MS Callback is transparent.

PIM Version 2

Protocol-Independent Multicast (PIM) Version 2 includes the following improvements over PIM Version 1:

- A single, active rendezvous point (RP) exists per multicast group, with multiple backup RPs. This compares to multiple active RPs for the same group in PIM Version 1.
- A bootstrap router (BSR) provides a fault-tolerant, automated RP discovery and distribution mechanism. Thus, routers dynamically learn the group-to-RP mappings.
- Sparse mode and dense mode are properties of a group, as opposed to an interface. We strongly recommend sparse-dense mode, as opposed to either sparse mode or dense mode only.
- PIM Join and Prune messages have more flexible encodings for multiple address families.
- A more flexible Hello packet format replaces the Query packet to encode current and future capability options.
- Register messages to an RP indicate whether they were sent by a border router or a designated router.
- PIM packets are no longer inside IGMP packets; they are stand-alone packets.

PIM Version 1, together with the Auto-RP feature, can perform the same tasks as the PIM Version 2 BSR. However, Auto-RP is a standalone protocol, separate from PIM Version 1, and Cisco proprietary. PIM Version 2 is a standards track protocol in the Internet Engineering Task Force (IETF).

SNMP Inform Requests

The SNMP Inform Requests feature allows routers to send inform requests to SNMP managers. Routers can send notifications to SNMP managers when particular events occur. For example, an agent router might send a message to a manager when the agent router experiences an error condition.

SNMP notifications can be sent as traps or inform requests. Traps are unreliable because the receiver does not send any acknowledgment when it receives a trap. The sender cannot determine if the trap was received. However, an SNMP manager that receives an inform request acknowledges the message with an SNMP response PDU. If the manager does not receive an inform request, it does not send a response. If the sender never receives a response, the inform request can be sent again. Thus, informs are more likely to reach their intended destination.

Voice-over IP

Voice-over IP enables a Cisco 2600 series router to carry live voice traffic (for example, telephone calls and faxes) over an IP network.

This feature provides the following benefits:

- Toll bypass
- Remote PBX presence over WANs
- Unified voice/data trunking
- POTS-Internet telephony gateways

Important Notes

The following important notes apply to Cisco IOS Release 11.3 T.

Enabling IPX Routing

The Token Ring interface is reset whenever IPX routing is enabled on that interface.

Forwarding of Locally Sourced AppleTalk Packets

The Cisco implementation of AppleTalk does not forward packets with local-source and destination network addresses. This behavior does not conform to the definition of AppleTalk in the Apple Computer publication *Inside AppleTalk*. However, this behavior is designed to prevent any possible corruption of the AppleTalk Address Resolution Protocol (AARP) table in any AppleTalk node that is performing MAC-address gleaning.

Removed Bridging Command

As of Release 11.3(2)XA1, the command `bridge group multicast-source` is no longer available. This command was removed to comply with the source-route-transparent (SRT) bridging implementation.

Missing Source-Route Bridging Commands

Due to a production problem, many source-route bridging commands were omitted from the printed version of the *Cisco IOS Software Command Summary (78-4746-XX)*. For complete documentation of all source-route bridging commands, refer to the *Bridging and IBM Networking Command Reference (78-4743-XX)*. You can also obtain the most current documentation on CCO and the Documentation CD-ROM.

New TACACS+ Attribute-Value Pair

A new authorization feature was added in Release 11.3(1) that allows for separate configuration and authorization of Multilink PPP. This can cause MLP authorization to fail in TACACS+ servers that do not include the relevant authorization permissions in the configuration. For TACACS+, the following attribute-value (AV) pair should be added for all users who are allowed to negotiate Multilink PPP:

```
service = ppp protocol = multilink {
```

Configuring VPDN

For information about configuring VPDN, access the Cisco Documentation CD-ROM. Using a web browser, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3 Configuration Guides, Command References: Dial Solutions Configuration Guide: Virtual Private Dialup Networks

To access the VPDN command reference, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3 Configuration Guides, Command References: Dial Solutions Command Reference: Virtual Private Dialup Networks: Virtual Private Dialup Network Commands

40-bit Encryption Images are Unavailable in Release 11.3(1)

Cisco is conducting an internal review of the build and distribution processes associated with its 40-bit Cisco IOS cryptographic products. To provide seamless access to Cisco IOS 40-bit encryption capability, Cisco will provide access to the most current 40-bit encryption images, beginning with Cisco IOS Release 11.2 (12), 11.2(12)P, and 11.3(2). The following 40-bit encryption images will be indefinitely unavailable:

- 11.2(1)–11.2(11.2)
- 11.2(2)P–11.2(11.1)P
- 11.2(1)F–11.2(4)F
- 11.3(1)

This review is not related to any new or previously unreported caveats. The information gathered in the review will be used to implement new automated development and order-processing applications.

Caveats

For a list of software caveats that apply to 11.3 T, refer to *Caveats for Cisco IOS Release 11.3 T* document that accompanies these release notes. This document lists severity 1 and 2 caveats for 11.3 T. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. Caveats describe unexpected behavior or defects in Cisco IOS software releases. The caveats document is also located on CCO and the Documentation CD-ROM.

Because Release 11.3 T is based on Release 11.3 all caveats in Release 11.3 are also in Release 11.3 T.

If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. Bug Navigator II is at <http://www.cisco.com/support/bugtools>, or from CCO, select **Service & Support: Online Technical Support: Software Bug Toolkit II**.

Related Documentation

The following sections describe the documentation available for the Cisco 2600 series. Typically, these documents consist of hardware installation guides, software installation guides, Cisco IOS configuration and command references, system error messages, and other documents, which are updates to Cisco IOS documentation. Documentation is available as printed manuals or electronic documents, except for feature modules, which are only available online.

The most up-to-date documentation can be found on the Web at Cisco Connection Online (CCO) and the Documentation CD-ROM. These electronic documents may contain updates and modifications made after the hardcopy documents were printed.

Use these release notes with the documents listed in the following sections:

- Release-Specific Documents, page 27
- Feature Modules, page 28
- Platform-Specific Documents, page 28
- Cisco IOS Software Document Set, page 29

Release-Specific Documents

The following documents are specific to Release 11.3 T. They are located on CCO and the Documentation CD-ROM:

- *Release Notes for Cisco IOS Release 11.3 T*

To reach the cross-platform *Release Notes for Cisco IOS Release 11.3 T* on CCO, follow this path:

Service & Support: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Product Specific Release Notes for Cisco IOS Release 11.3: Cross-Platform Release Notes for Cisco IOS Release 11.3

To reach the cross-platform *Release Notes for Cisco IOS Release 11.3* on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Product Specific Release Notes for Cisco IOS Release 11.3: Cross-Platform Release Notes for Cisco IOS Release 11.3

- Product bulletins, field notices, and other release-specific documents

To reach these documents, refer to the Software Center at this path on CCO:

Service & Support: Technical Documents

- Caveat documents

The *Caveats for Cisco IOS Release 11.3 T* document contains caveats applicable to all platforms for all maintenance releases of Release 11.3 T.

To reach the caveat document on CCO, follow this path:

Service & Support: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Product Specific Release Notes for Cisco IOS Release 11.3: Caveats for Cisco IOS Release 11.3 T

To reach the caveat document on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Product Specific Release Notes for Cisco IOS Release 11.3: Caveats for Cisco IOS Release 11.3

Note If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. Bug Navigator II can be found at <http://www.cisco.com/support/bugtools>, or from CCO, select **Service & Support: Online Technical Support: Software Bug Toolkit II**.

Feature Modules

Feature modules describe new features supported by Release 11.3 T and are an update to the Cisco IOS documentation set. They consist of a brief overview of the feature, benefits, configuration tasks, and a command reference. As updates, the feature modules are available online only. The feature module information is included in the next printing of the Cisco IOS documentation set.

To reach the feature modules on CCO, follow this path:

Service & Support: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3T New Features

To reach the feature modules on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3 T New Features

Platform-Specific Documents

The documents listed below are available for the Cisco 2600. These documents are also available online at Cisco Connection Online (CCO) and on the Documentation CD-ROM.

- *Quick Start Guide Cisco 2600 Series Cabling and Setup*
- *Cisco 2600 Series Hardware Installation Guide*
- *Network Module Hardware Installation Guide*
- *Update to Network Module Hardware and Software Guides*
- *Cisco WAN Interface Cards Hardware Installation Guide*

- *Update to WAN Interface Cards Hardware Installation Guide*
- *Software Configuration Guide For Cisco 3600 and Cisco 2600 Series Routers*
- New and Changed Show Commands for the Cisco 2600 Series Routers
- Cisco 2600 Series Configuration Notes
- Analog Modem Firmware
- Analog Modem Firmware Release Notes and AT Command Set
- Cisco 2600 Series Cabling Specifications
- Cisco Modular Access Router Cable Specifications

To access Cisco 2600 documentation on CCO, follow this path:

Service & Support: Documentation Home Page: Access Servers and Access Routers: Modular Access Routers: Cisco 2600 Series Routers

To reach Cisco 2600 documentation on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Access Servers and Access Routers: Modular Access Routers: Cisco 2600 Series Routers

Cisco IOS Software Document Set

The Cisco IOS software documentation set consists of the Cisco IOS configuration guides, Cisco IOS command references, and several other supporting documents. These documents are shipped with your order in electronic form on the Documentation CD-ROM, unless you specifically ordered the printed versions.

Documentation Modules

Each module in the Cisco IOS documentation set consists of two books: a configuration guide and a corresponding command reference. Chapters in a configuration guide describe protocols, configuration tasks, Cisco IOS software functionality, and comprehensive configuration examples. Chapters in a command reference provide complete command syntax information. Each configuration guide can be used in conjunction with its corresponding command reference.

On CCO and the Documentation CD-ROM, two master hot-linked documents provide information for the Cisco IOS software documentation set: configuration guides and command references.

To reach these documents on CCO, follow this path:

Service & Support: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS Release 11.3 Configuration Guides, Command References

To reach these documents on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS Release 11.3 Configuration Guides, Command References

Release 11.3 Documentation Set

Table 6 describes the contents of the Cisco IOS Release 11.3 software documentation set. The document set is available in electronic form and also in printed form upon request.

Note You can find the most current Cisco IOS documentation on the latest Documentation CD-ROM and on the Web. These electronic documents may contain updates and modifications made after the paper documents were printed.

To reach the Cisco IOS documentation set on CCO, follow this path:

Service & Support: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3 Configuration Guides, Command References

To reach the Cisco IOS documentation set on the Documentation CD-ROM, follow this path:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS 11.3 Configuration Guides, Command References

Table 6 Cisco IOS Software Release 11.3 Documentation Set

Books	Chapter Topics
<ul style="list-style-type: none"> • <i>Configuration Fundamentals Configuration Guide</i> • <i>Configuration Fundamentals Command Reference</i> 	Configuration Fundamentals Overview Cisco IOS User Interfaces File Management System Management
<ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 1</i> • <i>Network Protocols Command Reference, Part 1</i> 	IP Addressing IP Services IP Routing Protocols
<ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 2</i> • <i>Network Protocols Command Reference, Part 2</i> 	AppleTalk Novell IPX
<ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 3</i> • <i>Network Protocols Command Reference, Part 3</i> 	Apollo Domain Banyan VINES DECnet ISO CLNS XNS
<ul style="list-style-type: none"> • <i>Wide-Area Networking Configuration Guide</i> • <i>Wide-Area Networking Command Reference</i> 	ATM Frame Relay SMDS X.25 and LAPB
<ul style="list-style-type: none"> • <i>Security Configuration Guide</i> • <i>Security Command Reference</i> 	AAA Security Services Security Server Protocols Traffic Filtering and Firewalls IP Security and Encryption Passwords and Privileges Neighbor Router Authentication IP Security Options
<ul style="list-style-type: none"> • <i>Cisco IOS Interface Configuration Guide</i> • <i>Cisco IOS Interface Configuration Guide</i> 	Interface Configurations

Table 6 Cisco IOS Software Release 11.3 Documentation Set (continued)

Books	Chapter Topics
<ul style="list-style-type: none"> • <i>Dial Solutions Configuration Guide</i> • <i>Dial Solutions Command Reference</i> 	<ul style="list-style-type: none"> Dial-In Port Setup Dial-In Terminal Services Dial-on-Demand Routing (DDR) Dial Backup Dial-Out Modem Pooling Large-Scale Dial Solutions Cost-Control Solutions ISDN X.25 over ISDN VPDN Dial Business Solutions and Examples
<ul style="list-style-type: none"> • <i>Cisco IOS Switching Services Configuration Guide</i> • <i>Cisco IOS Switching Services Command Reference</i> 	<ul style="list-style-type: none"> Switching Paths for IP Networks Virtual LAN (VLAN) Switching and Routing
<ul style="list-style-type: none"> • <i>Bridging and IBM Networking Configuration Guide</i> • <i>Bridging and IBM Networking Command Reference</i> 	<ul style="list-style-type: none"> Transparent Bridging Source-Route Bridging Token Ring Inter-Switch Link Remote Source-Route Bridging DLSw+ STUN and BSTUN LLC2 and SDLC IBM Network Media Translation DSPU and SNA Service Point SNA Frame Relay Access Support APPN Cisco Database Connection NCIA Client/Server Topologies Cisco Mainframe Channel Connection Airline Product Set
<ul style="list-style-type: none"> • <i>Voice, Video, and Home Applications Configuration Guide</i> • <i>Voice, Video, and Home Applications Command Reference</i> 	<ul style="list-style-type: none"> Voice over IP Voice over Frame Relay Voice over ATM Voice over HDLC Video Support Universal Broadband Features
<ul style="list-style-type: none"> • <i>Quality of Service Solutions Configuration Guide</i> • <i>Quality of Service Solutions Command Reference</i> 	<ul style="list-style-type: none"> Classification Scheduling Packet Drop Traffic Shaping ATM QoS SNA QoS Line Protocols
<ul style="list-style-type: none"> • <i>Configuration Guide Master Index</i> • <i>Command Reference Master Index</i> 	
<ul style="list-style-type: none"> • <i>Cisco IOS Software Command Summary</i> • <i>Cisco IOS System Error Messages</i> • <i>Debug Command Reference</i> • <i>Dial Solutions Quick Configuration Guide</i> 	

Service and Support

For service and support for a product purchased from a reseller, contact the reseller. Resellers offer a wide variety of Cisco service and support programs, which are described in the section “Service and Support” in the information packet shipped with your product.

Note If you purchased your product from a reseller, you can access CCO as a guest. CCO is Cisco Systems’ primary real-time support channel. Your reseller offers programs that include direct access to CCO services.

For service and support for a product purchased directly from Cisco, use CCO.

Software Configuration Tips on the Cisco TAC Home Page

The following URL contains links and helpful tips on configuring your Cisco products: http://www.cisco.com/kobayashi/serv_tips.shtml. This URL is subject to change without notice. If it changes, point your browser to CCO and click on this path:

Products & Technologies: Products: Technical Tips

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems’ primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco’s customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: <http://www.cisco.com>
- WWW: <http://www-europe.cisco.com>
- WWW: <http://www-china.cisco.com>
- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO’s Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments.

This document is to be used in conjunction with the documents listed in the "Related Documentation" section on page 27.

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