



# Release Notes for the Cisco 4000 Series for Cisco IOS Release 11.2 P

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April 16, 2001



**Note**

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Cisco IOS Release 11.2(26)P is the last scheduled maintenance release for Cisco IOS 11.2 P. TAC support will continue to be available. These release notes will be the last release notes published for Cisco IOS Release 11.2 P.

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**Note**

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You can find the most current Cisco IOS documentation on Cisco.com. These electronic documents can contain updates and modifications made after the hardcopy documents were printed.

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These release notes for the Cisco 4000 series support Cisco IOS Release 11.2 P, up to and including Cisco IOS Release 11.2(26)P. These release notes are updated as needed to describe new memory recommendations, new features, new hardware support, software platform deferrals, and changes to the microcode or modem code and related documents.

For a list of all the software caveats that apply to Cisco IOS Release 11.2(26)P, see *Caveats for Cisco IOS Release 11.2 P* that accompanies these release notes. The caveats document is updated for every maintenance release and is also located on Cisco.com and the Documentation CD-ROM.

Use these release notes with *Cross-Platform Release Notes for Cisco IOS Release 11.2* on Cisco.com and the Documentation CD-ROM.

## Contents

These release notes describe the following topics:

- System Requirements, page 2
- New and Changed Information, page 10
- Important Notes, page 11
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## System Requirements

This section describes the system requirements for Cisco IOS Release 11.2 P:

- Memory Recommendations, page 2
- Hardware Supported, page 3
- Determining the Software Version, page 4
- Upgrading to a New Software Release, page 4
- Feature Set Tables, page 4

## Memory Recommendations

Tables 1 and 2 show the memory recommendations for the Cisco 4000 series.



### Note

Because the Cisco 4000 and Cisco 4000-M routers are not supported in this release, they do not appear in the Memory Recommendations tables.

**Table 1** Memory Recommendations for the Cisco 4500 Series

Feature Set	Image Name	Recommended Flash Memory	Recommended DRAM Memory		Runs from <sup>1</sup>
			Cisco 4500	Cisco 4500-M	
IP	c4500-i-mz	4 MB	32 MB	32 MB	RAM
IP Plus <sup>2</sup>	c4500-is-mz	4 MB	32 MB	32 MB	RAM
IP Plus 40	c4500-is40-mz	4 MB	32 MB	16 MB	RAM
IP Plus 56	c4500-is56-mz	4 MB	32 MB	32 MB	RAM
IP/IPX/AT/DEC	c4500-d-mz	4 MB	32 MB	32 MB	RAM
IP/IPX/AT/DEC Plus	c4500-ds-mz	4 MB	32 MB	32 MB	RAM
Enterprise Plus	c4500-js-mz	8 MB	32 MB	32 MB	RAM
Enterprise Plus 40	c4500-js40-mz	8 MB	32 MB	32 MB	RAM
Enterprise Plus 56	c4500-js56-mz	8 MB	32 MB	32 MB	RAM
Enterprise/APPN Plus	c4500-ajs-mz	8 MB	32 MB	32 MB	RAM
Enterprise/APPN Plus 40	c4500-ajs40-mz	8 MB	32 MB	32 MB	RAM
Enterprise/APPN Plus 56	c4500-ajs56-mz	8 MB	32 MB	32 MB	RAM

1. When a system is running from Flash memory, you cannot update the system. You must use the Flash memory load helper.

2. Plus for the Cisco 4500, 4500-M, 4700, and 4700-M includes NAT, ISL, LANE, and IBM (if IBM is not already included).

**Table 2** Memory Recommendations for the Cisco 4700 Series

Feature Set	Image Name	Recommended Flash Memory	Recommended DRAM Memory	Runs from <sup>1</sup>
IP	c4700-i-mz	4 MB	32 MB	RAM
IP Plus <sup>2</sup>	c4700-is-mz	4 MB	32 MB	RAM
IP Plus 40	c4700-is40-mz	4 MB	16 MB	RAM
IP Plus 56	c4700-is56-mz	4 MB	32 MB	RAM
IP//IPX/AT/DEC	c4700-d-mz	4 MB	32 MB	RAM
IP//IPX/AT/DEC Plus	c4700-ds-mz	4 MB	32 MB	RAM
Enterprise Plus	c4700-js-mz	8 MB	32 MB	RAM
Enterprise Plus 40	c4700-js40-mz	8 MB	32 MB	RAM
Enterprise Plus 56	c4700-js56-mz	8 MB	32 MB	RAM
Enterprise/APPN Plus	c4700-ajs-mz	8 MB	32 MB	RAM
Enterprise/APPN Plus 40	c4700-ajs40-mz	8 MB	32 MB	RAM
Enterprise/APPN Plus 56	c4700-ajs56-mz	8 MB	32 MB	RAM

1. When a system is running from Flash memory, you cannot update the system. You must use the Flash memory load helper.

## Hardware Supported

Cisco IOS Release 11.2 P supports the Cisco 4000 series:

- Cisco 4500, Cisco 4500-M
- Cisco 4700, Cisco 4700-M



### Note

Cisco 4000 and Cisco 4000-M routers are not supported in this release.

The following LAN interfaces are supported on the Cisco 4000 series routers listed above:

- Ethernet (AUI)
- Ethernet (10BaseT)
- 4-Mbps Token Ring
- 16-Mbps Token Ring
- FDDI DAS
- FDDI SAS
- FDDI multimode (DAS/SAS)
- FDDI single-mode
- ATM
- MultiChannel interface (Channelized E1/T1)
- Packet-over-SONET OC-3 interface
- Synchronous serial

The following WAN data rates are supported on the Cisco 4000 series routers listed above:

- 48/56/64 kbps
- 1.544/2.048 Mbps

The following WAN interfaces are supported on the Cisco 4000 series routers listed above:

- EIA/TIA-232
- X.21
- V.35
- EIA/TIA-449
- EIA-530
- ISDN BRI
- ISDN PRI
- E1-G.703/G.704

For detailed descriptions of the new hardware and software features for Release 11.2 P, see “New and Changed Information,” on page 10.

## Determining the Software Version

To determine the version of Cisco IOS software running on your Cisco 4000 series, log in to the Cisco 4000 series and enter the **show version EXEC** command:

```
Router> show version
Cisco Internetwork Operating System Software
IOS (tm) 4500 Software (C4500-JS-L), Version 11.2(26)P, RELEASE SOFTWARE
```

## Upgrading to a New Software Release

For general information about upgrading to a new software release, see *Cisco IOS Upgrade Ordering Instructions* located at:

[http://www.cisco.com/warp/public/cc/cisco/mkt/ios/prodlit/957\\_pp.htm](http://www.cisco.com/warp/public/cc/cisco/mkt/ios/prodlit/957_pp.htm)

## Feature Set Tables

Cisco IOS software is packaged into feature sets consisting of software images—depending on the platform. Each feature set contains a specific set of Cisco IOS features. Table 3 shows the feature set matrix for the Cisco 4000 series.

**Table 3 Feature Set Matrix for the Cisco 4000 Series**

Standard Feature Sets	Cisco 4000 Series
IP	Basic, Plus, Encrypt
IP/IPX/AppleTalk/DEC	Basic, Plus, Encrypt
Enterprise	Basic, Plus, Encrypt

**Table 3 Feature Set Matrix for the Cisco 4000 Series**

Standard Feature Sets	Cisco 4000 Series
Enterprise and APPN	Plus, Encrypt
IP/IPX/IBM and IBM	Basic

**Caution**

Cisco IOS images with strong encryption (including, but not limited to, 168-bit [3DES] data encryption feature sets) are subject to United States government export controls and have limited distribution. Strong encryption images to be installed outside the United States are likely to require an export license. Customer orders can be denied or subject to delay due to United States government regulations. When applicable, obtain local import and use authorizations for all encryption strengths. Contact your sales representative or distributor for more information, or send e-mail to [export@cisco.com](mailto:export@cisco.com).

Table 4 lists the features and feature sets supported by the Cisco 4000 series in Cisco IOS Release 11.2 P and uses the following conventions:

- No—This feature is not offered in the feature set.
- Basic—This feature is offered in the basic feature set.
- Plus—This feature is offered in the Plus feature set.
- Encrypt—This feature is offered in the encryption feature sets, which consist of 40-bit (Plus 40) or 56-bit (Plus 56) data encryption feature sets.

**Note**

This table might not be cumulative or list all the features in each image. You can find the most current Cisco IOS documentation on Cisco.com. These electronic documents can contain updates and modifications made after the hardcopy documents were printed. If you have a Cisco.com login account, you can find image and release information regarding features prior to Cisco IOS Release 11.2(26)P by using the Feature Navigator tool at: <http://www.cisco.com/go/fn>.

**Table 4 Software Feature Sets Supported by the Cisco 4000 Series**

Feature	Feature Set			
	IP Routing	IP/IPX/IBM/APPN <sup>1</sup>	Desktop (IP/IPX/AppleTalk/DEC)	Enterprise <sup>2</sup>
<b>LAN Support</b>				
Apollo Domain	No	No	No	Basic
AppleTalk 1 and 2 <sup>3</sup>	No	No	Basic	Basic
Banyan VINES	No	No	No	Basic
Concurrent routing and bridging (CRB)	Basic	Basic	Basic	Basic
DECnet IV	No	No	Basic	Basic
DECnet V	No	No	No	Basic
GRE	Basic	Basic	Basic	Basic
Integrated routing and bridging (IRB) <sup>4</sup>	Basic	Basic	Basic	Basic

Table 4 Software Feature Sets Supported by the Cisco 4000 Series (continued)

Feature	Feature Set			
	IP Routing	IP/IPX/IBM/APPN <sup>1</sup>	Desktop (IP/IPX/AppleTalk/DEC)	Enterprise <sup>2</sup>
IP	Basic	Basic	Basic	Basic
LAN extension host	Basic	Basic	Basic	Basic
Multiring	Basic	Basic	Basic	Basic
Novell IPX <sup>5</sup>	No	Basic	Basic	Basic
OSI	No	No	No	Basic
Source-route bridging <sup>6</sup>	No	No	No	No
Transparent and translational bridging	Basic	Basic	Basic	Basic
VLANs (ISL <sup>7</sup> and IEEE 802.10) (Cisco 4500 only)	Plus	No	Plus	Plus
XNS	No	No	No	Basic
<b>WAN Services</b>				
ATM LAN emulation: DECnet routing, XNS routing, and Banyan VINES support (Cisco 4500 and 4700 only) <sup>8</sup>	No	No	Plus	Plus
ATM LAN emulation: Hot Standby Router Protocol (HSRP) and Simple Server Redundancy Protocol (SSRP) (Cisco 4500 and 4700 only)	Plus	No	Plus	Plus
ATM: Rate queues for SVC per subinterface (Cisco 4000, 4500, and 4700 only)	Plus	No	Plus	Plus
ATM: UNI 3.1 signaling for ATM (Cisco 4500 and 4700 only)	Plus	No	Plus	Plus
Combined Packet Protocol (CPP)	Basic	Basic	Basic	Basic
Dialer profiles	Basic	Basic	Basic	Basic
Frame Relay	Basic	Basic	Basic	Basic
Frame Relay SVC Support (DTE)	No	No	No	Basic
Frame Relay traffic shaping	Basic	Basic	Basic	Basic
Half bridge/half router for CPP and PPP	Basic	Basic	Basic	Basic
HDLC	Basic	Basic	Basic	Basic
IPXWAN 2.0	No	Basic	Basic	Basic
ISDN <sup>9</sup>	Basic	Basic	Basic	Basic
Multichassis Multilink PPP (MMP)	No	No	No	Basic
NetBEUI over PPP	No	No	No	Basic
PPP <sup>10</sup>	Basic	Basic	Basic	Basic
SMDS	Basic	Basic	Basic	Basic
Switched 56	Basic	Basic	Basic	Basic

**Table 4 Software Feature Sets Supported by the Cisco 4000 Series (continued)**

Feature	Feature Set			
	IP Routing	IP/IPX/IBM/APPN <sup>1</sup>	Desktop (IP/IPX/AppleTalk/DEC)	Enterprise <sup>2</sup>
Virtual Private Dial-Up Network (VPDN)	Plus	No	Plus	Basic
X.25 <sup>11</sup>	Basic	Basic	Basic	Basic
<b>WAN Optimization</b>				
Bandwidth-on-demand	Basic	Basic	Basic	Basic
Custom and priority queuing	Basic	Basic	Basic	Basic
Dial backup	Basic	Basic	Basic	Basic
Dial-on-demand	Basic	Basic	Basic	Basic
Header <sup>12</sup> , link and payload compression	Basic	Basic	Basic	Basic
Snapshot routing	Basic	Basic	Basic	Basic
Weighted fair queuing	Basic	Basic	Basic	Basic
<b>IP Routing</b>				
BGP	Basic	Basic	Basic	Basic
BGP4 <sup>13</sup>	Basic	Basic	Basic	Basic
EGP	Basic	Basic	Basic	Basic
Enhanced IGRP	Basic	Basic	Basic	Basic
Enhanced IGRP Optimizations	Basic	Basic	Basic	Basic
ES-IS	No	No	No	Basic
IGRP	Basic	Basic	Basic	Basic
IS-IS	No	No	No	Basic
Named IP Access Control List	Basic	Basic	Basic	Basic
Network Address Translation (NAT)	Plus	No	Plus	Plus
NHRP	Basic	Basic	Basic	Basic
On Demand Routing (ODR)	Basic	Basic	Basic	Basic
OSPF	Basic	Basic	Basic	Basic
OSPF Not-So-Stubby-Areas (NSSA)	Basic	Basic	Basic	Basic
OSPF On Demand Circuit (RFC 1793)	Basic	Basic	Basic	Basic
PIM	Basic	Basic	Basic	Basic
Policy-based routing	Basic	Basic	Basic	Basic
RIP	Basic	Basic	Basic	Basic
RIP Version 2	Basic	Basic	Basic	Basic
<b>Other Routing</b>				
AURP	No	No	Basic	Basic
IPX RIP	No	Basic	Basic	Basic
NLSP	No	Basic	Basic	Basic
RTMP	No	No	Basic	Basic

Table 4 Software Feature Sets Supported by the Cisco 4000 Series (continued)

Feature	Feature Set			
	IP Routing	IP/IPX/IBM/APPN <sup>1</sup>	Desktop (IP/IPX/AppleTalk/DEC)	Enterprise <sup>2</sup>
SMRP	No	No	Basic	Basic
SRTP	No	No	No	Basic
<b>Multimedia and Quality of Service</b>				
Generic traffic shaping	Basic	Basic	Basic	Basic
Random Early Detection (RED) <sup>14</sup>	Basic	Basic	Basic	Basic
Resource Reservation Protocol (RSVP) <sup>14</sup>	Basic	Basic	Basic	Basic
<b>Management</b>				
AutoInstall	Basic	Basic	Basic	Basic
Automatic modem configuration	Basic	Basic	Basic	Basic
HTTP Server	Basic	Basic	Basic	Basic
RMON events and alarms <sup>15</sup>	Basic	Basic	Basic	Basic
RMON full (Cisco 2500 series only)	Plus	Plus	Plus	Plus
SNMP	Basic	Basic	Basic	Basic
Telnet	Basic	Basic	Basic	Basic
<b>Security</b>				
Access lists	Basic	Basic	Basic	Basic
Access security	Basic	Basic	Basic	Basic
Extended access lists	Basic	Basic	Basic	Basic
Kerberized login	No	No	No	Basic
Kerberos V client support	No	No	No	Basic
Lock and key	Basic	Basic	Basic	Basic
MAC security for hubs <sup>16</sup>	Basic	Basic	Basic	Basic
MD5 routing authentication	Basic	Basic	Basic	Basic
Router authentication and network layer encryption (40-bit or export controlled 56-bit DES) <sup>17</sup>	Encrypt	No	Encrypt	Encrypt
RADIUS	Basic	Basic	Basic	Basic
TACACS+ <sup>18</sup>	Basic	Basic	Basic	Basic
<b>IBM Support (optional)</b>				
APPN (optional) <sup>2</sup>	No	Basic	No	Basic
BAN for SNA Frame Relay support	Plus	Basic	Plus	Basic
Bisync	Plus	Basic	Plus	Basic
Caching and filtering	Plus	Basic	Plus	Basic
DLSw+ <sup>19</sup>	Plus	Basic	Plus	Basic
Downstream PU concentration (DSPU)	Plus	Basic	Plus	Basic

**Table 4 Software Feature Sets Supported by the Cisco 4000 Series (continued)**

Feature	Feature Set			
	IP Routing	IP/IPX/IBM/APPN <sup>1</sup>	Desktop (IP/IPX/AppleTalk/DEC)	Enterprise <sup>2</sup>
Frame Relay SNA support (RFC 1490)	Plus	Basic	Plus	Basic
Native Client Interface Architecture (NCIA) Server	Plus	Basic	Plus	Basic
NetView Native Service Point	Plus	Basic	Plus	Basic
QLLC	Plus	Basic	Plus	Basic
Response Time Reporter (RTR)	Plus	Basic	Plus	Basic
SDLC integration	Plus	Basic	Plus	Basic
SDLC transport (STUN)	Plus	Basic	Plus	Basic
SDLC-to-LAN conversion (SDLLC)	Plus	Basic	Plus	Basic
SNA and NetBIOS WAN optimization via local acknowledgment	Plus	Basic	Plus	Basic
SRB/RSRB <sup>20</sup>	Plus	Basic	Plus	Basic
SRT	Plus	Basic	Plus	Basic
TG/COS	No	No	No	Basic
TN3270	No	No	No	Basic
<b>Protocol Translation</b>				
LAT	No	No	No	Basic
Rlogin	No	No	No	Basic
<b>Remote Node<sup>21</sup></b>				
ARAP 1.0/2.0 <sup>22</sup>	No	No	Basic	Basic
Asynchronous master interfaces	Basic	Basic	Basic	Basic
ATCP	No	No	Basic	Basic
CPPP	Basic	Basic	Basic	Basic
CSLIP	Basic	Basic	Basic	Basic
DHCP	Basic	Basic	Basic	Basic
IP pooling	Basic	Basic	Basic	Basic
IPX and ARAP on virtual async interfaces	No	No	No	Basic
IPXCP <sup>12</sup>	No	Basic	Basic	Basic
MacIP	No	No	Basic	Basic
NASI	No	Basic	Basic	Basic
PPP	Basic	Basic	Basic	Basic
SLIP	Basic	Basic	Basic	Basic
<b>Terminal Services<sup>21</sup></b>				
LAT <sup>23</sup>	No	No	No	Basic

**Table 4 Software Feature Sets Supported by the Cisco 4000 Series (continued)**

Feature	Feature Set			
	IP Routing	IP/IPX/IBM/APPN <sup>1</sup>	Desktop (IP/IPX/AppleTalk/DEC)	Enterprise <sup>2</sup>
Rlogin	Basic	Basic	Basic	Basic
Telnet	Basic	Basic	Basic	Basic
TN3270	No	No	No	Basic
X.25 PAD	Basic	Basic	Basic	Basic
Xremote	No	No	No	Basic

1. This feature set has no additional options. It offers a low-end APPN solution for this set of hardware platforms. This feature set is not available for AccessPro PC cards.
2. Enterprise is available with APPN in a separate feature set. APPN includes APPN Central Registration (CRR) and APPN over DLSw+. APPN is not available on the AccessPro PC Card.
3. This feature includes AppleTalk load balancing.
4. IRB supports IP, IPX, and AppleTalk; it is supported for transparent bridging, but not for SRB; it is supported on all media-type interfaces except X.25 and ISDN bridged interfaces; and IRB and concurrent routing and bridging (CRB) cannot operate at the same time.
5. The Novell IPX feature includes display SAP by name, IPX Access Control List violation logging, and plain-English IPX access lists.
6. Translational bridging is fast switched by default but can be disabled.
7. Note that the only IPX encapsulation supported in ISL is 802.3.
8. ATM LAN emulation for Banyan VINES is only supported in Enterprise. The Desktop feature set supports DECnet only.
9. ISDN support includes calling line identification (ANI), X.25 over the B channel, ISDN subaddressing, and applicable WAN optimization features.
10. PPP includes support for LAN protocols supported by the feature set, address negotiation, PAP and CHAP authentication, Multilink PPP, and PPP compression.
11. X.25 includes X.25 switching.
12. IPX header compression (RFC 1553) is available in the feature sets that support IPX.
13. BGP4 includes soft configuration, multipath support, and prefix filtering with inbound route maps.
14. RED and RSVP are supported in IP/IPX/IBM/APPN for the Cisco 4000, 4500, and 4700 only.
15. The RMON events and alarms groups are supported on all interfaces. Full RMON support is available with the Plus feature sets.
16. MAC security for hubs is applicable to the following Cisco 2500 series Ethernet hub models: Cisco 2505, 2507, 2516, and 2518.
17. For more details, see the description of the new data encryption options in the section “Cisco IOS Packaging” in the *Release Notes for Cisco IOS Release 11.2*. (See the “Related Documentation” section on page 12 for information on accessing the related release notes.)
18. TACACS+ Single Connection and TACACS+ SENDAUTH enhancements are supported.
19. Cisco IOS Release 11.2 introduces several DLSw+ enhancements available in the Plus, Plus 40, and Plus 56 feature sets.
20. SRB/RSRB is fast switched. This enhancement is on by default, but can be disabled.
21. This feature is supported on access servers (with limited support on router auxiliary ports).
22. The Cisco 4000, 4500, and 4700 products do not support ARAP 1.0/2.0.
23. Use of LAT requires terminal license (FR-L8-10.X= for an 8-user license or FR-L16-10.X= for a 16-user license).

## New and Changed Information

The following sections list the new hardware and software features supported by the Cisco 4000 series for Cisco IOS Release 11.2P.

### New Features in Cisco IOS Release 11.2(25)P

No new features are supported by the Cisco 4000 series for Cisco IOS Release 11.2(26)P.

## New Hardware Features in Previous Releases

The following hardware features were introduced in previous Cisco IOS 11.2 P releases:

- Fast Ethernet—Release 11.2(2)P
- 2T16S Network Processor Module—Release 11.2(3)P
- High-Speed Serial Interface Network Processor Module—Release 11.2(5)P
- Network Processor Two-Port Ethernet Full-Duplex (NP-2E-FDX)—Release 11.2(14)P

## New Software Features in Previous Releases

The following software features were introduced in previous Cisco IOS 11.2 P releases:

- Web Cache Control Protocol—Release 11.2(10)P
- Cisco IOS WCCP Support—Release 11.2(10)P
- FDDI Frames-Per-Token Limit—Release 11.2(11)P

## Important Notes

### Product Number Change

Beginning with Cisco IOS Release 12.0(7)XK, Cisco changed the product numbers you use to order a specific Cisco IOS software image. In short, Cisco will remove the periods separating the release train, maintenance release, and build number. The following table provides some examples.

Old Product Number	New Product Number	Release	Image Description
S364AR1K2-12.0.7XK=	S364AR1K2-12007XK=	Cisco IOS Release 12.0(7) XK	Cisco 3640 series IOS Enterprise/SNA SW PLUS IPSEC 3DES
S26CP-12.0.7XK=	S26CP-12007XK=	Cisco IOS Release 12.0(7) XK	Cisco 2600 series IOS IP Plus

## Caveats

Caveats describe unexpected behavior in Cisco IOS software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. Severity 3 caveats are moderate caveats, and only select severity 3 caveats are included in the caveats document.

For information on caveats in Cisco IOS Release 11.2 P, refer to the *Caveats for Cisco IOS Release 11.2 P* located on Cisco.com and the Documentation CD-ROM.

All caveats in Cisco IOS Release 11.2 are also in Cisco IOS Release 11.2 P.

For information on caveats in Cisco IOS Release 11.2, refer to the “Caveats” section in the *Cross-Platform Release Notes for Cisco IOS Release 11.2* on Cisco.com and the Documentation CD-ROM. These release notes list severity 1 and 2 caveats affecting all maintenance releases.

**Note**

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

## Related Documentation

The following sections describe the documentation available for the Cisco 4000 series. These documents consist of hardware and software installation guides, Cisco IOS configuration and command references, system error messages, feature modules, and other documents.

Documentation is available as printed manuals or electronic documents, except for feature modules, which are only available online on Cisco.com and the Documentation CD-ROM.

Use these release notes with these documents:

- Release-Specific Documents, page 12
- Platform-Specific Documents, page 13
- Feature Modules, page 13
- Cisco IOS Software Documentation Set, page 13

## Release-Specific Documents

The following documents are specific to Release 11.2 and are located on Cisco.com and the Documentation CD-ROM:

- *Release Notes for Cisco IOS Release 11.2*

On Cisco.com at:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Release Notes for Cisco IOS Release 11.2**

On the Documentation CD-ROM at:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Release Notes for Cisco IOS Release 11.2**

- Product bulletins, field notices, and other release-specific documents on Cisco.com at:

**Technical Documents**

- *Caveats for Cisco IOS Release 11.2 P*

On Cisco.com at:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Product Specific Release Notes for Cisco IOS Release 11.2: Caveats for Release 11.2 P**

On the Documentation CD-ROM at:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Product Specific Release Notes for Cisco IOS Release 11.2: Caveats for Release 11.2 P**

**Note**

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

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## Platform-Specific Documents

The following documents are specific to the Cisco 4000 series:

- *Cisco 4000 Series Hardware Installation and Maintenance*
- *Cisco 4000 Series Installation Guide*
- *Redundant Power Systems*
- *Regulatory Compliance and Safety Information*
- *Cisco 4000 Series Configuration Notes*

On Cisco.com at:

**Technical Documents: Documentation Home Page: Access Servers and Access Routers: Modular Access Routers: Cisco 4000 Series (4000/4500/4700/4000-M/4500-M/4700-M)**

On the Documentation CD-ROM at:

**Cisco Product Documentation: Access Servers and Access Routers: Modular Access Routers: Cisco 4000 Series (4000/4500/4700/4000-M/4500-M/4700-M)**

## Feature Modules

Feature modules describe new features supported by Release 11.2 P and are updates to the Cisco IOS documentation set. A feature module consists of a brief overview of the feature, benefits, configuration tasks, and a command reference. As updates, feature modules are available online only. The feature module information is included in the next printing of the Cisco IOS documentation set.

On Cisco.com at:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Feature Guide for Cisco IOS Release 11.2 P**

On the Documentation CD-ROM at:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Feature Guide for Cisco IOS Release 11.2 P**

## Cisco IOS Software Documentation Set

The Cisco IOS software documentation set consists of the Cisco IOS configuration guides, Cisco IOS command references, and several other supporting documents, which 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, and Cisco IOS software functionality and contain comprehensive configuration examples. Chapters in a command reference provide complete command syntax information. Each configuration guide can be used with its corresponding command reference.

On Cisco.com at:

**Technical Documents:** Documentation Home Page: **Cisco IOS Software Configuration: Cisco IOS Release 11.2: Cisco IOS Release 11.2 Configuration Guides/Command References or Command Reference Master Index**

On the Documentation CD-ROM at:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.2: Cisco IOS Release 11.2 Configuration Guides/Command References or Command Reference Master Index**

## Cisco IOS Release 11.2 Documentation Set

Table 5 describes the contents of the Cisco IOS Release 11.2 P software documentation set, which is available in electronic form and in printed form upon request.



**Note**

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

On Cisco.com at:

**Technical Documents:** Documentation Home Page: **Cisco IOS Software Configuration: Cisco IOS Release 11.2**

On the Documentation CD-ROM at:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.2**

**Table 5 Cisco IOS Release 11.2 P Software Documentation Set**

<b>Books</b>	<b>Chapter Topics</b>
<ul style="list-style-type: none"> <li><i>Configuration Fundamentals Configuration Guide</i></li> <li><i>Configuration Fundamentals Command Reference</i></li> </ul>	Configuration Fundamentals Overview Cisco IOS User Interfaces File Management Interface Configuration System Management
<ul style="list-style-type: none"> <li><i>Network Protocols Configuration Guide, Part 1</i></li> <li><i>Network Protocols Command Reference, Part 1</i></li> </ul>	IP Addressing IP Services IP Routing Protocols
<ul style="list-style-type: none"> <li><i>Network Protocols Configuration Guide, Part 2</i></li> <li><i>Network Protocols Command Reference, Part 2</i></li> </ul>	AppleTalk Novell IPX

**Table 5 Cisco IOS Release 11.2 P Software Documentation Set (continued)**

<b>Books</b>	<b>Chapter Topics</b>
<ul style="list-style-type: none"> <li>• <i>Network Protocols Configuration Guide, Part 3</i></li> <li>• <i>Network Protocols Command Reference, Part 3</i></li> </ul>	Apollo Domain Banyan VINES DECnet ISO CLNS XNS
<ul style="list-style-type: none"> <li>• <i>Wide-Area Networking Configuration Guide</i></li> <li>• <i>Wide-Area Networking Command Reference</i></li> </ul>	Wide-Area Networking Overview ATM Frame Relay SMDS X.25 and LAPB
<ul style="list-style-type: none"> <li>• <i>Security Configuration Guide</i></li> <li>• <i>Security Command Reference</i></li> </ul>	AAA Security Services Security Server Protocols Traffic Filtering Network Data Encryption Passwords and Privileges Neighbor Router Authentication IP Security Options
<ul style="list-style-type: none"> <li>• <i>Dial Solutions Configuration Guide</i></li> <li>• <i>Dial Solutions Command Reference</i></li> </ul>	Business Applications and Scenarios Dial-In Port Setup Dial-In Terminal Services and Remote Note Configuration Dial Authentication Dial-on-Demand Routing (DDR) Dial Backup Dial-Out Modem Pooling Large-Scale Dial Solutions Dial-Related Addressing Services (NAT/Easy IP) Cost-Control Solutions Network Traffic over ISDN Channels X.25 over ISDN Virtual Private Dialup Networks

**Table 5 Cisco IOS Release 11.2 P Software Documentation Set (continued)**

Books	Chapter Topics
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Switching Services Configuration Guide</i></li> <li>• <i>Cisco IOS Switching Services Command Reference</i></li> </ul>	Switching Paths for IP Networks NetFlow Switching Virtual LAN (VLAN) Routing LAN Emulation
<ul style="list-style-type: none"> <li>• <i>Configuration Fundamentals Configuration Guide</i></li> <li>• <i>Configuration Fundamentals Command Reference</i></li> </ul>	Transparent Bridging Source-Route Bridging Remote Source-Route Bridging DLSw+ STUN and BSTUN LLC2 and SDLC IBM Network Media Translation DSPU and SNA Service Point Support SNA Frame Relay Access Support APPN NCIA Client/Server Topologies IBM Channel Attach
<ul style="list-style-type: none"> <li>• <i>Network Protocols Configuration Guide, Part 1</i></li> <li>• <i>Network Protocols Command Reference, Part 1</i></li> </ul>	



**Note**

*Cisco Management Information Base (MIB) User Quick Reference* is no longer published. For the latest list of MIBs supported by Cisco, see *Cisco Network Management Toolkit* on Cisco.com at: **Software Center: Network Mgmt Products: Cisco Network Management Toolkit: Cisco MIB.**

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### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at <http://www.cisco.com>. Translated documentation can be accessed at [http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml).

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<http://www.cisco.com/go/subscription>
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## Technical Assistance Center

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### Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

### Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

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- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.

P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.



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This document is to be used in conjunction with the documents listed in the “Related Documentation” section on page 12.

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