



Release Notes for Cisco 3600 Series for Cisco IOS Release 12.0

January 2, 2001

These release notes for Cisco 3600 series support Cisco IOS Release 12.0, up to and including Release 12.0(15). These release notes are updated as needed to describe new features, memory recommendations, 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 12.0(15), see *Caveats for Cisco IOS Release 12.0* that accompanies these release notes. The caveats document is updated for every maintenance release and is located on Cisco Connection Online (CCO) and the Documentation CD-ROM.

Use these release notes with *Cross-Platform Release Notes for Cisco IOS Release 12.0* on CCO and the Documentation CD-ROM.

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Introduction

The Cisco 3600 series includes the Cisco 3620 and Cisco 3640 routers. As modular solutions, the Cisco 3620 and Cisco 3640 enable corporations to increase dial-up intensity and take advantage of current and emerging WAN technologies and networking capabilities. The Cisco 3600 series routers are fully supported by Cisco IOS software, which includes dial-up connectivity, LAN-to-LAN routing, data and access security, WAN optimization, and multimedia features.

System Requirements

This section describes the system requirements for Release 12.0(15) and includes the following sections:

- Memory Recommendations, page 2
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Memory Recommendations

Table 1 describes the feature set memory recommendations for the Cisco 3600 series for Cisco IOS Release 12.0(15).

Table 1 *Memory Recommendations for the Cisco 3600 Series*

| Feature Set by Platform | Image Name | Flash Memory | DRAM Memory | Runs from | |
|-------------------------|-------------------------------|-----------------|-------------|-----------|-----|
| Cisco 3620 | IP | c3620-i-mz | 4 MB | 24 MB | RAM |
| | IP Plus | c3620-is-mz | 8 MB | 32 MB | RAM |
| | IP Plus 40 | c3620-is40-mz | 8 MB | 32 MB | RAM |
| | IP Plus IPSec 56 | c3620-is56i-mz | 8 MB | 32 MB | RAM |
| | IP/IPX/AT/DEC | c3620-d-mz | 8 MB | 24 MB | RAM |
| | IP/IPX/AT/DEC Plus | c3620-ds-mz | 8 MB | 32 MB | RAM |
| | Enterprise Plus | c3620-js-mz | 8 MB | 48 MB | RAM |
| | Enterprise Plus IPSec 56 | c3620-js56i-mz | 8 MB | 48 MB | RAM |
| | Enterprise/APPN Plus | c3620-ajs-mz | 16 MB | 48 MB | RAM |
| | Enterprise/APPN Plus IPSec 56 | c3620-ajs56i-mz | 16 MB | 48 MB | RAM |

Table 1 Memory Recommendations for the Cisco 3600 Series (continued)

| Feature Set by Platform | | Image Name | Flash Memory | DRAM Memory | Runs from |
|-------------------------|-------------------------------|-----------------|--------------|-------------|-----------|
| Cisco 3640 | IP | c3640-i-mz | 4 MB | 24 MB | RAM |
| | IP Plus | c3640-is-mz | 8 MB | 32 MB | RAM |
| | IP Plus 40 | c3640-is40-mz | 8 MB | 32 MB | RAM |
| | IP Plus IPsec 56 | c3640-is56i-mz | 8 MB | 32 MB | RAM |
| | IP/IPX/AT/DEC | c3640-d-mz | 8 MB | 24 MB | RAM |
| | IP/IPX/AT/DEC Plus | c3640-ds-mz | 8 MB | 32 MB | RAM |
| | Enterprise Plus | c3640-js-mz | 8 MB | 48 MB | RAM |
| | Enterprise Plus IPsec 56 | c3640-js56i-mz | 8 MB | 48 MB | RAM |
| | Enterprise/APPN Plus | c3640-ajs-mz | 16 MB | 48 MB | RAM |
| | Enterprise/APPN Plus IPsec 56 | c3640-ajs56i-mz | 16 MB | 48 MB | RAM |

Hardware Supported

Cisco IOS Release 12.0(15) supports the Cisco 3600 series routers:

- Cisco 3620
- Cisco 3640

For detailed descriptions of the new hardware features for Release 12.0(15), refer to the *Cross-Platform Release Notes for Cisco IOS Release 12.0*.

Table 2 lists the supported interfaces for Cisco IOS Release 12.0(15) for the Cisco 3600 Series.

Table 2 Supported Interfaces for Cisco IOS Release 12.0 for the Cisco 3600 Series

| Interface, Network Module, or Data Rate | | Platforms Supported |
|---|--|---|
| Dial Access Network Modules | 16- and 32-port asynchronous network module | All Cisco 3600 series |
| | 6- to 30-port integrated digital modems network module | All Cisco 3600 series |
| | 8- or 16-port integrated analog network module | All Cisco 3600 series |
| LAN Interfaces | 1- and 4-port Ethernet (AUI and 10BaseT) | All Cisco 3600 series |
| | 4/16 Mbps Token Ring | All Cisco 3600 series |
| | Fast Ethernet (100BaseTX and 100BaseFX) | All Cisco 3600 series |
| Voice/Fax Interfaces and Network Modules¹ | 1- and 2-port voice/fax network module | All Cisco 3600 series with voice/fax network module |
| | 2-port E&M voice interface card | All Cisco 3600 series |
| | 2-port FXO voice interface card | All Cisco 3600 series with voice/fax network module |
| | 2-port FXS voice interface card | All Cisco 3600 series with voice/fax network module |

Table 2 Supported Interfaces for Cisco IOS Release 12.0 for the Cisco 3600 Series (continued)

| Interface, Network Module, or Data Rate | Platforms Supported | |
|---|--|-----------------------|
| WAN Data Rates | 48/56/64 kbps | All Cisco 3600 series |
| | 1.544/2.048 Mbps | All Cisco 3600 series |
| | Up to 8 Mbps on 4-port serial network module | All Cisco 3600 series |
| | 52 Mbps max using High-Speed Serial Interface (HSSI) network module | All Cisco 3600 series |
| WAN Interfaces and Network Modules² | 1- and 2-port channelized T1 and E1 network module | All Cisco 3600 series |
| | 1-port ATM-25 network modules for the Cisco 3600 series | All Cisco 3600 series |
| | 1-port BRI with NT or S/T WAN interface card | All Cisco 3600 series |
| | 1-port HSSI network module | All Cisco 3600 series |
| | 4- and 8-port BRI network module with NT1 | All Cisco 3600 series |
| | 4- and 8-port BRI network module with S/T interface | All Cisco 3600 series |
| | 4- and 8-port synchronous/asynchronous | All Cisco 3600 series |
| | 4-port serial | All Cisco 3600 series |
| | 56/64 kbps DSU/CSU | All Cisco 3600 series |
| | T1 WAN interface card for Cisco 3600, Cisco 2600, and Cisco 1600 series | All Cisco 3600 series |
| | T1 with integrated DSU/CSU for the Cisco 3600, Cisco 2600, and Cisco 1600 series | All Cisco 3600 series |

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

Determining the Software Version

To determine the version of Cisco IOS software running on your Cisco 3600 series, log in to the Cisco 3600 series and enter the **show version EXEC** command:

```
router>show version
Cisco Internetwork Operating System Software
IOS (tm) 3600 series Software (c3620-i-mz), Version 12.0(15), RELEASE SOFTWARE
```

Upgrading to a New Software Release

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

http://www.cisco.com/warp/public/cc/cisco/mkt/ios/prodlit/957_pp.htm

On CCO at:

Software Center: Cisco IOS Software: Product Bulletins: Software

Feature Set Tables

The Cisco IOS software is packaged in feature sets consisting of software images—depending on the platform. Each feature set contains a specific set of Cisco IOS features.

Table 3 lists the Cisco IOS software feature sets available for Cisco IOS Release 12.0(15).

Table 3 Feature Sets Supported by the Cisco 3600 Series

| Feature Set | Feature Set Matrix Term | Software Image | Platforms | |
|--------------------------------------|-------------------------------|-----------------------------|------------------------------------|--------------------------|
| IP Standard | IP | Basic ¹ | c3620-i-mz c3640-i-mz | Cisco 3620 Cisco 3640 |
| | IP Plus | Plus ² | c3620-is-mz c3640-is-mz | Cisco 3620 Cisco 3640 |
| | IP Plus 40 | Plus, Plus 40 ³ | c3620-is40-mz c3640-is40-mz | Cisco 3620 Cisco 3640 |
| | IP Plus IPsec 56 | Plus, IPsec 56 ⁴ | c3620-is56i-mz c3640-is56i-mz | Cisco 3620 Cisco 3640 |
| IP/IPX/AppleTalk/DEC Standard | IP/IPX/AppleTalk/DEC | Basic | c3620-d-mz c3640-d-mz | Cisco 3620 Cisco 3640 |
| | IP/IPX/AppleTalk/DEC Plus | Basic, Plus | c3620-ds-mz c3640-ds-mz | Cisco 3620 Cisco 3640 |
| Enterprise Standard | Enterprise Plus | Plus | c3620-js-mz c3640-js-mz | Cisco 3620 Cisco 3640 |
| | Enterprise Plus IPsec 56 | Plus, IPsec 56 | c3620-js56i-mz c3640-js56i-mz | Cisco 3620 Cisco 3640 |
| Enterprise/APPN Standard | Enterprise/APPN Plus | Plus | c3620-ajs-mz c3640-ajs-mz | Cisco 3620 Cisco 3640 |
| | Enterprise/APPN Plus IPsec 56 | Plus, IPsec 56 | c3620-ajs56i-mz c3640-ajs56i-mz | Cisco 3620 Cisco 3640 |
| Service Provider Standard | Service Provider | Basic | c3620-p-mz c3640-p-mz | Cisco 3620 Cisco 3640 |

1. This feature set is offered in the basic feature set.
2. This feature set is offered in the Plus feature set.
3. This feature set is offered in the encryption feature sets which consist of 40-bit (Plus 40) data encryption feature sets.
4. This feature set 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 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 may be denied or subject to delay due to United States government regulations. When applicable, purchaser/user must obtain local import and use authorizations for all encryption strengths. Please contact your sales representative or distributor for more information, or send an e-mail to export@cisco.com.

Table 4, Table 5, Part 1, and Table 5, Part 2 list the features and feature sets supported by the Cisco 3600 series in Cisco IOS Release 12.0(15). All tables use 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.

To determine the features that are available with each feature set for the entire Cisco 3600 series, see Table 4. To determine the additional features that are available with each feature set for the Cisco 3640 only, see Table 5, Part 1, and Table 5, Part 2.

**Note**

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

Table 4 Feature List by Feature Set for the Cisco 3600 Series

| Features | Feature Set | | | | | | | | | |
|---|-------------|---------|------------|------------------|---------------|--------------------|-----------------|--------------------------|----------------------|-------------------------------|
| | IP | IP Plus | IP Plus 40 | IP Plus IPsec 56 | IP/IPX/AT/DEC | IP/IPX/AT/DEC Plus | Enterprise Plus | Enterprise Plus IPsec 56 | Enterprise/APPN Plus | Enterprise/APPN Plus IPsec 56 |
| IBM Support | | | | | | | | | | |
| Bridging Code Rework | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RIF Passthru in DLSw+ | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| IP Routing | | | | | | | | | | |
| IP Type of Service and Precedence for GRE Tunnels (GRE VPN) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| OSPF Point to Multipoint | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Management | | | | | | | | | | |
| Cisco IOS File System | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Entity MIB | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Expression MIB | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Conditionally Triggered Debugging | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| SNMP Inform Request | No | No | No | No | No | No | Yes | Yes | Yes | Yes |
| SNMP Manager | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Multimedia | | | | | | | | | | |
| Protocol-Independent Multicasts (PIM) Version 2 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Scalability | | | | | | | | | | |
| Airline Product Set (ALPS) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Vendor-Proprietary RADIUS Attributes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Authenticating ACLs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Table 4 Feature List by Feature Set for the Cisco 3600 Series (continued)

| Features | Feature Set | | | | | | | | | |
|--|-------------|---------|------------|------------------|-----------------|----------------------|-----------------|--------------------------|-----------------------|--------------------------------|
| | IP | IP Plus | IP Plus 40 | IP Plus IPsec 56 | IP/IPX/ AT/ DEC | IP/IPX/ AT/ DEC Plus | Enterprise Plus | Enterprise Plus IPsec 56 | Enterprise/ APPN Plus | Enterprise/ APPN Plus IPsec 56 |
| Automated Double Authentication | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Certificate Authority Interoperability | No | No | No | Yes | No | No | No | Yes | No | Yes |
| Internet Key Exchange Security Protocol | No | No | Yes | Yes | No | No | No | Yes | No | Yes |
| IPsec Network Security | No | No | No | Yes | No | No | No | Yes | No | Yes |
| MS-CHAP Support | No | No | No | No | No | No | Yes | Yes | Yes | Yes |
| Named Method Lists for AAA Authentication and Accounting | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Subblock Phase 1 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Switching | | | | | | | | | | |
| Enhanced ATM VC Configuration and Management | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| WAN Optimization | | | | | | | | | | |
| DRP Server Agent | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| WAN Services | | | | | | | | | | |
| Always On/Dynamic ISDN (AO/DI) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Dialer Watch | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Microsoft Point-to-Point Compression (MPPC) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| MS Callback | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| X.25 over ISDN D Channel | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Multiple ISDN Switch Types | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| National ISDN Switch Types | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Stackable Home Gateway | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |

Table 5, Part 1 Feature List by Feature Set for the Cisco 3640 Routers (Only)

| Features | Feature Set | | | | | | |
|---|-------------|---------|------------|------------------|---------------|--------------------|----------------------|
| | IP | IP Plus | IP Plus 40 | IP Plus IPSec 56 | IP/IPX/AT/DEC | IP/IPX/AT/DEC Plus | IP/System Controller |
| IP Routing | | | | | | | |
| IP Type of Service and Precedence for GRE Tunnels (GRE VPN) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| OSPF Point to Multipoint | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Management | | | | | | | |
| Cisco IOS File System | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Disk Logging | No | No | No | No | No | No | Yes |
| Entity MIB | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Expression MIB | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| FTP Server | No | No | No | No | No | No | Yes |
| Health Monitor | No | No | No | No | No | No | Yes |
| Performance Data Collection | No | No | No | No | No | No | Yes |
| Conditionally Triggered Debugging | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Shelf Discovery/ Auto configuration | No | No | No | No | No | No | Yes |
| SNMP Manager | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| System Controller/5300 | No | No | No | No | No | No | Yes |
| Virtual Console | No | No | No | No | No | No | Yes |
| VPDN MIB and Syslog Facility | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Table 5, Part 2 **Feature List by Feature Set for the Cisco 3640 Series Routers (Only)**

| Features | Feature Set | | | |
|---|-----------------|--------------------------|----------------------|-------------------------------|
| | Enterprise Plus | Enterprise Plus IPSec 56 | Enterprise/APPN Plus | Enterprise/APPN Plus IPSec 56 |
| IP Routing | | | | |
| IP Type of Service and Precedence for GRE Tunnels (GRE VPN) | Yes | Yes | Yes | Yes |
| OSPF Point to Multipoint | Yes | Yes | Yes | Yes |
| Management | | | | |
| Cisco IOS File System | Yes | Yes | Yes | Yes |
| Disk Logging | No | No | Yes | No |
| Entity MIB | Yes | Yes | Yes | Yes |
| Expression MIB | Yes | Yes | Yes | Yes |
| FTP Server | No | No | Yes | No |
| Health Monitor | No | No | Yes | No |
| Performance Data Collection | No | No | Yes | No |
| Conditionally Triggered Debugging | Yes | Yes | Yes | Yes |
| Shelf Discovery/Autoconfiguration | No | No | Yes | No |
| SNMP Manager | Yes | Yes | Yes | Yes |
| System Controller/5300 | No | No | Yes | No |
| Virtual Console | No | No | Yes | No |

New and Changed Information

The following sections list the new hardware and software features supported by the Cisco 3600 series for Release 12.0(15).

New Hardware Features in Release 12.0(15)

There are no new hardware features supported by the Cisco 3600 series in Cisco IOS Release 12.0(15).

New Software Features in Release 12.0(15)

There are no new software features supported by the Cisco 3600 series in Cisco IOS Release 12.0(15).

Limitations and Restrictions

MIBs

Old Cisco Management Information Bases (MIBs) will be replaced in a future release. Currently, OLD-CISCO-* MIBs are being converted into more scalable MIBs—without affecting existing Cisco IOS products or NMS applications. You can update from deprecated MIBs to the replacement MIBs as shown in Table 6.

Table 6 *Deprecated and Replacement MIBs*

| Deprecated MIB | Replacement |
|--------------------------|----------------------------------|
| OLD-CISCO-APPLETALK-MIB | RFC1243-MIB |
| OLD-CISCO-CHASSIS-MIB | ENTITY-MIB |
| OLD-CISCO-CPUK-MIB | In development |
| OLD-CISCO-DECNET-MIB | In development |
| OLD-CISCO-ENV-MIB | CISCO-ENVMON-MIB |
| OLD-CISCO-FLASH-MIB | CISCO-FLASH-MIB |
| OLD-CISCO-INTERFACES-MIB | IF-MIB CISCO-QUEUE-MIB |
| OLD-CISCO-IP-MIB | In development |
| OLD-CISCO-MEMORY-MIB | CISCO-MEMORY-POOL-MIB |
| OLD-CISCO-NOVELL-MIB | NOVELL-IPX-MIB |
| OLD-CISCO-SYS-MIB | (Compilation of other OLD* MIBs) |
| OLD-CISCO-SYSTEM-MIB | CISCO-CONFIG-COPY-MIB |
| OLD-CISCO-TCP-MIB | CISCO-TCP-MIB |
| OLD-CISCO-TS-MIB | In development |
| OLD-CISCO-VINES-MIB | CISCO-VINES-MIB |
| OLD-CISCO-XNS-MIB | In development |

Important Notes

Caveat CSCdr91706 and IOS HTTP Vulnerability

A defect in multiple releases of Cisco IOS software will cause a Cisco router or switch to halt and reload if the IOS HTTP service is enabled, browsing to `http://router-ip/anytext?/` is attempted, and the enable password is supplied when requested. This defect can be exploited to produce a denial of service (DoS) attack.

The vulnerability, identified as Cisco bug ID CSCdr91706, affects virtually all mainstream Cisco routers and switches running Cisco IOS software releases 12.0 through 12.1, inclusive. This is not the same defect as CSCdr36952.

The vulnerability has been corrected and Cisco is making fixed releases available for free to replace all affected IOS releases. Customers are urged to upgrade to releases that are not vulnerable to this defect as shown in detail below.

This vulnerability can only be exploited if the enable password is known or not set.

You are strongly encouraged to read the complete advisory, which is available at

<http://www.cisco.com/warp/public/707/ioshttpserverquery-pub.shtml>.

Product Number Change

Beginning with Cisco IOS Release 12.0(7)XK, Cisco changed the product numbers used 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 |
|--------------------|--------------------|-----------------------------|-------------------------------|
| S362CP-12.0.13= | S362CP-12013= | Cisco IOS Release 12.0(13) | Cisco 3620 Series IOS IP Plus |
| 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 12.0, see *Caveats for Cisco IOS Release 12.0* which lists severity 1 and 2 caveats and select severity 3 caveats for Release 12.0 and is located on CCO and the Documentation CD-ROM.

Related Documentation

The following sections describe the documentation available for the Cisco 3600 series. These documents consist of hardware and software installation guides, Cisco IOS configuration and command references, system error messages, and other documents.

Documentation is available as printed manuals or electronic documents.

Use these release notes with these documents:

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

Release-Specific Documents

The following documents are specific to Release 12.0 and are located on CCO and the Documentation CD-ROM:

- *Cross-Platform Release Notes for Cisco IOS Release 12.0*

On CCO at:

Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.0:

On the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.0: Release Notes: Cross-Platform Release Notes

- Product bulletins, field notices, and other release-specific documents on CCO at:

Technical Documents

- Caveats for Cisco IOS Release 12.0

As a supplement to the caveats listed in “Caveats” in these release notes, see *Caveats for Cisco IOS Release 12.0* and *Caveats for Cisco IOS Release 12.0 T*, which contains caveats applicable to all platforms for all maintenance releases of Release 12.0.

On CCO at:

Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.0: Caveats

On the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.0: Caveats



Note

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

Platform-Specific Documents

These documents are available for the Cisco 3600 series on CCO and the Documentation CD-ROM:

- *Cisco 3620 Router Installation and Configuration Guide*
- *Cisco 3640 Router Installation and Configuration Guide*
- *Network Module Hardware Installation Guide*
- *Update to Network Module Hardware Installation Guide and Software Configuration Guide*
- *WAN Interface Cards Hardware Installation Guide*
- *Update to WAN Interface Cards Hardware Installation Guide*
- *Cisco 3600 Series Configuration Notes*
- *Regulatory Compliance and Safety Information for the Cisco 3600 Series*

On CCO at:

Technical Documents: Documentation Home Page: Cisco Product Documentation: Access Servers and Access Routers: Modular Access Routers: Cisco 3600 Series

On the Documentation CD-ROM at:

Cisco Product Documentation: Access Servers and Access Routers: Modular Access Routers: Cisco 3600 Series

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, Cisco IOS software functionality, and contain comprehensive configuration examples. Chapters in a command reference provide complete command syntax information. Use each configuration guide 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.

On CCO at:

Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.0: Configuration Guides and Command References

On the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.0: Configuration Guides and Command References

Release 12.0 Documentation Set

Table 7 describes the contents of the Cisco IOS Release 12.0 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 CCO and the Documentation CD-ROM. These electronic documents may contain updates and modifications made after the hard-copy documents were printed.

On CCO at:

Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.0

On the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.0

Table 7 Cisco IOS Software Release 12.0 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>Bridging and IBM Networking Configuration Guide</i> • <i>Bridging and IBM Networking Command Reference</i> | 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>Dial Solutions Configuration Guide</i> • <i>Dial Solutions Command Reference</i> | X.25 over ISDN Appletalk Remote Access Asynchronous Callback, DDR, PPP, SLIP Bandwidth Allocation Control Protocol ISDN Basic Rate Service ISDN Caller ID Callback PPP Callback for DDR Channelized E1 and T1 Dial Backup for Dialer Profiles Dial Backup Using Dialer Watch Dial Backup for Serial Lines Peer-to-Peer DDR with Dialer Profiles DialOut Dial-In Terminal Services Dial-on-Demand Routing (DDR) Dial Backup Dial-Out Modem Pooling Large-Scale Dial Solutions Cost-Control Solutions Virtual Private Dialup Networks Dial Business Solutions and Examples |
| <ul style="list-style-type: none"> • <i>Cisco IOS Interface Configuration Guide</i> • <i>Cisco IOS Interface Command Reference</i> | Interface Configuration Overview LAN Interfaces Logical Interfaces Serial Interfaces |

Table 7 Cisco IOS Software Release 12.0 Documentation Set (continued)

| Books | Chapter Topics |
|--|--|
| <ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 1</i> • <i>Network Protocols Command Reference, Part 1</i> | IP Overview IP Addressing and 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> | Network Protocols Overview Apollo Domain Banyan VINES DECnet ISO CLNS XNS |
| <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 Switching Services Configuration Guide</i> • <i>Cisco IOS Switching Services Command Reference</i> | Switching Services Switching Paths for IP Networks Virtual LAN (VLAN) Switching and Routing |
| <ul style="list-style-type: none"> • <i>Wide-Area Networking Configuration Guide</i> • <i>Wide-Area Networking Command Reference</i> | Wide-Area Network Overview ATM Frame Relay SMDS X.25 and LAPB |
| <ul style="list-style-type: none"> • <i>Voice, Video, and Home Applications Configuration Guide</i> • <i>Voice, Video, and Home Applications Command Reference</i> | Voice over IP Voice over Frame Relay Voice over ATM Voice over HDLC Frame Relay-ATM Internetworking Synchronized Clocks Video Support Universal Broadband Features |

Table 7 Cisco IOS Software Release 12.0 Documentation Set (continued)

| Books | Chapter Topics |
|--|--|
| <ul style="list-style-type: none"> • <i>Quality of Service Solutions Configuration Guide</i> • <i>Quality of Service Solutions Command Reference</i> | Policy-Based Routing QoS Policy Propagation via BGP Committed Access Rate Weighted Fair Queueing Custom Queueing Priority Queueing Weighted Random Early Detection Scheduling Signaling RSVP Packet Drop Frame Relay Traffic Shaping Link Fragmentation RTP Header Compression |
| <ul style="list-style-type: none"> • <i>Cisco IOS Release 12.0 Command Reference Master Index</i> • <i>Cisco IOS Release 12.0 Configuration Guide Master Index</i> • <i>Cisco IOS Software Command Summary</i> • <i>Dial Solutions Quick Configuration Guide</i> • <i>System Error Messages</i> • <i>Debug Command Reference</i> | |



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 Connection Online. From CCO, click on the following path: **Software Center: Network Mgmt Products: Cisco Network Management Toolkit: Cisco MIB.**

Service and Support

For service and support for a product purchased from a reseller, contact the reseller, who offers a wide variety of Cisco service and support programs described in “Service and Support” of *Cisco Information Packet* that shipped with your product.

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

If you have a CCO login account, you can access the following URL, which contains links and 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 Web browser to CCO and click on this path: **Products & Technologies: Products: Technical Tips.**

The following sections are provided from the Technical Tips page:

- **Access Dial Cookbook**—Contains common configurations or recipes for configuring various access routes and dial technologies.
- **Field Notices**—Notifies you of any critical issues regarding Cisco products and includes problem descriptions, safety or security issues, and hardware defects.
- **Frequently Asked Questions**—Describes the most frequently asked technical questions about Cisco hardware and software.
- **Hardware**—Provides technical tips related to specific hardware platforms.
- **Hot Tips**—Describes popular tips and hints gathered from the Cisco Technical Assistance Center (TAC). Most of these documents are available from the TAC Fax-on-demand service. To reach Fax-on-demand and receive documents at your fax machine from the United States, call 888-50-CISCO (888-502-4726). From other areas, call 650-596-4408.
- **Internetworking Features**—Lists tips on using Cisco IOS software features and services.
- **Sample Configurations**—Provides actual configuration examples that are complete with topology and annotations.
- **Software Products**—Contains Cisco IOS Software Bulletins, Cisco TCP/IP Suite 100, General Cisco IOS, Internet/Intranet Applications and Software, Network Management, Network Protection Software Tips, and WAN Switching Products and Software.
- **Special Collections**—Lists other helpful documents, including Case Studies, References & Request for Comments (RFCs), and Security Advisories.

Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.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 is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

Documentation Feedback

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

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, for your convenience many documents contain a response card behind the front cover. Otherwise, you can mail your comments to the following address:

Cisco Systems, Inc.
Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

Cisco.com provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through Cisco.com, you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

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>

P1 and P2 level problems are defined as follows:

- 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.

This document is to be used in conjunction with documents mentioned in the “Related Documentation” section on page 11.

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