



Release Notes for Cisco Catalyst 4224 Access Gateway Switch for Cisco IOS Release 12.2(2)YC



Note

Cisco IOS Release 12.2(2)YC was deferred by CSCdy01975. For more information, see the [“Important Notes” section on page 4](#).

October 24, 2002



Note

You can find the most current Cisco IOS documentation on Cisco.com. This set of electronic documents may contain updates and modifications made after the hard-copy documents were printed.

These release notes for the Cisco Catalyst 4224 Access Gateway Switch describe the software features provided in Cisco IOS Release 12.2(2)YC. These release notes are updated as needed.

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Introduction

The Cisco Catalyst 4224 Access Gateway Switch is an Ethernet switching router that provides Voice over IP (VoIP) gateway and IP telephony services. It is designed to be part of a centralized Cisco CallManager application.

System Requirements

This section describes the system requirements for Cisco IOS Release 12.2(2)YC and includes the following sections:

- [Memory Requirements, page 2](#)
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Memory Requirements

Table 1 Minimum Memory Recommendations for the Cisco Catalyst 4224 Access Gateway Switch

Platforms	Image Name	Software Image	Flash Memory Recommended	DRAM Memory Recommended	Runs From
Cisco c4224	IP Plus (standard)	c4224-isx3-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / FW	c4224-io3sx3-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / IPsec 56	c4224-isx356i-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / IPsec 56 / FW	c4224-io3sx356i-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / 3DES	c4224-ik2sx3-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / 3DES / FW	c4224-ik2o3sx3-mz	32 MB Flash	64 MB DRAM	RAM

Table 2 Minimum Memory Recommendations for the Cisco Catalyst 4224 Access Gateway Switch—Crypto Images

Platforms	Image Name	Crypto Software Image	Flash Memory Recommended	DRAM Memory Recommended	Runs From
Cisco c4224	IP Plus / FW / 3DES	c4224-ik2o3sx3-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / FW / IPSEC 56	c4224-io3sx356i-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / FW / IPX / SNA / IPSEC 56	c4224-a3inro3sx356i-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / FW / IPX / SNA / 3DES	c4224-a3inrk2o3sx3-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / 3DES	c4224-ik2sx3-mz	32 MB Flash	64 MB DRAM	RAM
	IP Plus / IPSEC 56	c4224-isx356i-mz	32 MB Flash	64 MB DRAM	RAM

Hardware Supported

- Cisco Catalyst 4224 Access Gateway Switch

Determining the Software Version

To determine the version of Cisco IOS software running on your Cisco Catalyst 4224 Access Gateway Switch, log in to the Cisco Catalyst 4224 Access Gateway Switch and enter the **show version** command in user EXEC mode:

```
Router> show version
Cisco Internetwork Operating System Software
IOS (tm) 12.1(5) Software (c4224-isx3-mz), Version 12.2(2)YC, RELEASE SOFTWARE
```

New and Changed Information

The following sections list the new hardware and software features in Cisco IOS Release 12.2(2)YC.

New Hardware Features in Cisco IOS Release 12.2(2)YC

Cisco IOS Release 12.2(2)YC supports the Catalyst 4224 Access Gateway Switch.

New Software Features in Cisco IOS Release 12.2(2)YC

The following new features are supported in this release:

- Low Latency Queuing (LLQ). LLQ combines the use of a Priority Queue (PQ) with a class-based weighted fair queuing (CBWFQ) scheme. Classes are defined with classification admission schemes. Traffic flows have access to either the PQ, one of the class-based queues, or a default weighted fair queue. LLQ, the recommended queuing scheme for allow-speed links, allows up to 64 traffic classes with the ability to specify such parameters as priority queuing behavior for voice, a minimum bandwidth for Systems Network Architecture (SNA) data, and Cisco AVVID control protocols and weighted fair queuing for other traffic types.
- Frame Relay Traffic Shaping (FRTS). In Frame-Relay networks, where the physical access speed varies between two endpoints, traffic shaping is used to prevent excessive delay from congested network interface buffers caused by these speed mismatches. Traffic shaping is a tool that meters the transmit rate of frames from a source router to a destination router. This metering is typically done at a value that is lower than the line or circuit rate of the transmitting interface. The metering is done at this rate to account for the circuit speed mismatches that are common in current multiple-access, non-broadcast networks.

Limitations and Restrictions

The following MIBs are supported:

- SNMP MIB-II
- ENTITY-MIB
- IF-MIB
- BRIDGE-MIB

The following Cisco proprietary MIBs are supported:

- CISCO-PROCESS-MIB
- CISCO-MEMORY-POOL-MIB
- CISCO-CDP-MIB

The following MIB will be supported later:

- CISCO-STACK-MIB

Important Notes

Cisco IOS Releases 12.2(2)YC and 12.2(2)YC1 were deferred due to caveat CSCdy01975. The software solution for these deferred images is Cisco IOS Release 12.2(2)YC3, which is available on Cisco.com.

To increase network availability, Cisco recommends that you upgrade affected Cisco IOS images with the suggested replacement software images. Cisco will discontinue manufacturing shipment of affected Cisco IOS images. Any pending order will be substituted by the replacement software images.



Note

Please be aware that failure to upgrade the affected Cisco IOS images may result in network downtime.

The terms and conditions that governed your rights and obligations and those of Cisco, with respect to the deferred images, will apply to the replacement images.

Bug Fixes in Cisco IOS Release 12.2(2)YC

The following reported bugs have been fixed or resolved in Cisco IOS Release 12.2(2)YC:

- CSCdw65903

Description: An error can occur with management protocol processing. Please use the following URL for further information:

<http://www.cisco.com/cgi-bin/bugtool/onebug.pl?bugid=CSCdw65903>

- CSCdv44139

Description: BRI L1 not coming up after first call.

- CSCdw03796

Description: Cannot set fast switching on VLAN interface.

- CSCdw05334
Description: Memory leak causes system to crash.
- CSCdw10788
Description: FastSwitch & CEF do not work on BRI/PRI interface and console hangs.
- CSCdv48137
Description: Configuration lost after reload of the box.
- CSCdw16622
Description: Monitor session configuration does not appear in *sh* run.
- CSCdw23661
Description: Fax from 4224 to 2600 fails on tunnelling when fast switching is enabled.
- CSCdw72875
Description: Catalyst 4224 crash occurs when applying service policy on multilink group.
- CSCds82435
Description: Net3: non-conformance regarding INFORMATION message.
- CSCdv82848
Description: Invalid memory action (free) at interrupt level.
- CSCdw73000
Description: RTS/CTS de-asserted on Serial Interfaces.
- CSCdu63189
Description: Extraneous error messages.
- CSCdw32483
Description: HSRP stops routing on reactivation.
- CSCdw35964
Description: Debug DSP is an ambiguous command.
- CSCdw37411
Description: Show only valid impedances under voice-port.
- CSCdw24120
Description: Broadcom driver changes for SNA.
- CSCdw25153
Description: c4224: *dls*w support for c4224.
- CSCdw40809
Description: c4224: *makefile* change to support *ibd* features.
- CSCdu26813
Description: IPSEC does not forward packets to encryption hardware when CEF is enabled.
- CSCdv68263
Description: No windowing of *h245* delays audio cutover in high roundtrip network.
- CSCds90984
Description: FXO line interface enhancements for Middle East.

- CSCdw41317
Description: L1 and L2 for BRI ISDN does not come up when test starts.
- CSCdv29787
Description: Terminating router is crashing with T1 calls (LLQ+MLPPP+cRTP).
- CSCdv66918
Description: Call transfer not working when originating end initiates call transfer.
- CSCdv69322
Description: No_RING_DESCRIPTOR & DSP_TIMEOUT errors occur with cRTP+Fast Switching.
- CSCdw39666
Description: R16 register value does not match the country code.
- CSCdw30820
Description: Layer 2 interfaces lose connectivity with vlan interface.
- CSCdw32659
Description: Fix build problem in *evvbu_integration* branch.
- CSCdw54938
Description: Traceback messages occur when BRI is configured for data.
- CSCdw18274
Description: Cat4224v loses sync with NTP master.
- CSCdu65008
Description: CDAPI disconnecting call for unknown reason.
- CSCdw16630
Description: Egress span is broken on cat4224[C.
- CSCdw41022
Description: cRTP not working when CEF/FAST switching is enabled.
- CSCdu82132
Description: Router crashes with bus error at *hdsprm_htsp_tsp_map*.
- CSCdw02819
Description: isdn busy dsl 0 b-channel 17-31 lost with reboot.
- CSCdu84602
Description: IP Phone one-way audio occurs during conference over NAT with overload.
- CSCdw41329
Description: SNMP v2 objects not fully implemented on interfaces.
- CSCdv68263
Description: No windowing of *h245* delays audio cutover in high-roundtrip network.
- CSCdw37411
Description: Show only valid impedances under voice-port.

- CSCdw87501
Description: Change crypto image names.
- CSCdw85548
Description: DSP not allocated when DATA BRI is configured.
- CSCdw88033
Description: Support for QDM in Catalyst 4224.
- CSCdw71678
Description: ISDN SYNC.

Caveats

This section lists unresolved caveats that apply to this release of the Cisco Catalyst 4224 Access Gateway Switch. Caveats describe unexpected behavior or defects in the switch and its related software.

- CSCdw22242
Description: Mcast traffic is ignored on ingress to *dot1q* trunk
Workaround: None.



Note

If you have an account with Cisco.com, you can use Bug Navigator II to find caveats of any severity for any release. To reach Bug Navigator II, log in to Cisco.com and click **Software Center: Cisco IOS Software: Bug Toolkit: Bug Navigator II**. Another option is to go to <http://www.cisco.com/support/bugtools/>.

Related Documentation

The following sections describe the documentation available for the Cisco Catalyst 4224 Access Gateway Switch. These documents consist of hardware and software installation guides, Cisco IOS configuration guides and command references, system error messages, and other documents.

Use these release notes with these documents:

- [Platform-Specific Documents, page 7](#)
- [Cisco IOS Software Documentation Set, page 8](#).

Platform-Specific Documents

These documents are available for the Cisco Catalyst 4224 Access Gateway Switch on Cisco.com and on the Documentation CD-ROM:

- *Catalyst 4224 Access Gateway Switch Software Configuration Guide*
- *Catalyst 4224 Access Gateway Switch Hardware Installation Guide*
- *Regulatory Safety and Compliance Information for Catalyst 4200 Series Access Gateway Switch*

On Cisco.com at:

Products & Services: Switches: Cisco Catalyst 4200 Series Switches

On the Documentation CD-ROM or CCO at:

Cisco Product Documentation: Catalyst Switches: Catalyst 4224

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. The Cisco IOS software documentation set is shipped with your order in electronic form on the Documentation CD-ROM, unless you specifically ordered the printed versions.



Note

You can find the most current Cisco IOS documentation on Cisco.com.

On Cisco.com at:

Products & Services: IOS Software: Cisco IOS Software Releases 12.2

On the Documentation CD-ROM or CCO at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.2: Configuration Guides and Command References

Documentation Modules

Each module in the Cisco IOS documentation set consists of one or more configuration guides and one or more corresponding command references. 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. Use each configuration guide with its corresponding command reference.

Cisco IOS Release 12.2 Documentation Set Contents

[Table 3](#) lists the contents of the Cisco IOS Release 12.2 software documentation set. These documents are available in electronic form and in printed form if ordered.

Table 3 *Cisco IOS Release 12.2 Documentation Set*

Books	Major Topics
<ul style="list-style-type: none"> • <i>Cisco IOS Configuration Fundamentals Configuration Guide</i> • <i>Cisco IOS Configuration Fundamentals Command Reference</i> 	Cisco IOS User Interfaces File Management System Management
<ul style="list-style-type: none"> • <i>Cisco IOS Bridging and IBM Networking Configuration Guide</i> • <i>Cisco IOS Bridging and IBM Networking Command Reference, Volume 1 of 2</i> • <i>Cisco IOS Bridging and IBM Networking Command Reference, Volume 2 of 2</i> 	Transparent Bridging SRB Token Ring Inter-Switch Link Token Ring Route Switch Module RSRB DLSW+ Serial Tunnel and Block Serial Tunnel LLC2 and SDLC IBM Network Media Translation SNA Frame Relay Access NCIA Client/Server Airline Product Set DSPU and SNA Service Point SNA Switching Services Cisco Transaction Connection Cisco Mainframe Channel Connection CLAW and TCP/IP Offload CSNA, CMPC, and CMPC+ TN3270 Server
<ul style="list-style-type: none"> • <i>Cisco IOS Dial Technologies Configuration Guide</i> • <i>Cisco IOS Dial Technologies Command Reference</i> 	Dial Access Modem and Dial Shelf Configuration and Management ISDN Configuration Signaling Configuration Point-to-Point Protocols Dial-on-Demand Routing Dial Backup Dial Related Addressing Service Network Access Solutions Large-Scale Dial Solutions Cost-Control Solutions Internetworking Dial Access Scenarios
<ul style="list-style-type: none"> • <i>Cisco IOS Interface Configuration Guide</i> • <i>Cisco IOS Interface Command Reference</i> 	LAN Interfaces Serial Interfaces Logical Interfaces
<ul style="list-style-type: none"> • <i>Cisco IOS IP Configuration Guide</i> • <i>Cisco IOS IP Command Reference, Volume 1 of 3: Addressing and Services</i> • <i>Cisco IOS IP Command Reference, Volume 2 of 3: Routing Protocols</i> • <i>Cisco IOS IP Command Reference, Volume 3 of 3: Multicast</i> 	IP Addressing IP Services IP Routing Protocols IP Multicast
<ul style="list-style-type: none"> • <i>Cisco IOS AppleTalk and Novell IPX Configuration Guide</i> • <i>Cisco IOS AppleTalk and Novell IPX Command Reference</i> 	AppleTalk Novell IPX

Table 3 Cisco IOS Release 12.2 Documentation Set (continued)

Books	Major Topics
<ul style="list-style-type: none"> • <i>Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Configuration Guide</i> • <i>Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Command Reference</i> 	Apollo Domain Banyan VINES DECnet ISO CLNS XNS
<ul style="list-style-type: none"> • <i>Cisco IOS Voice, Video, and Fax Configuration Guide</i> • <i>Cisco IOS Voice, Video, and Fax Command Reference</i> 	Voice over IP Call Control Signaling Voice over Frame Relay Voice over ATM Telephony Applications Trunk Management Fax, Video, and Modem Support
<ul style="list-style-type: none"> • <i>Cisco IOS Quality of Service Solutions Configuration Guide</i> • <i>Cisco IOS Quality of Service Solutions Command Reference</i> 	Packet Classification Congestion Management Congestion Avoidance Policing and Shaping Signaling Link Efficiency Mechanisms
<ul style="list-style-type: none"> • <i>Cisco IOS Security Configuration Guide</i> • <i>Cisco IOS 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 Supported AV Pairs
<ul style="list-style-type: none"> • <i>Cisco IOS Switching Services Configuration Guide</i> • <i>Cisco IOS Switching Services Command Reference</i> 	Cisco IOS Switching Paths NetFlow Switching Multiprotocol Label Switching Multilayer Switching Multicast Distributed Switching Virtual LANs LAN Emulation
<ul style="list-style-type: none"> • <i>Cisco IOS Wide-Area Networking Configuration Guide</i> • <i>Cisco IOS Wide-Area Networking Command Reference</i> 	ATM Frame Relay SMDS X.25 and LAPB
<ul style="list-style-type: none"> • <i>Cisco IOS Mobile Wireless Configuration Guide</i> • <i>Cisco IOS Mobile Wireless Command Reference</i> 	General Packet Radio Service

Table 3 *Cisco IOS Release 12.2 Documentation Set (continued)*

Books	Major Topics
<ul style="list-style-type: none"> • <i>Cisco IOS Terminal Services Configuration Guide</i> • <i>Cisco IOS Terminal Services Command Reference</i> 	ARA LAT NASI Telnet TN3270 XRemote X.28 PAD Protocol Translation
<ul style="list-style-type: none"> • <i>Cisco IOS Configuration Guide Master Index</i> • <i>Cisco IOS Command Reference Master Index</i> • <i>Cisco IOS Debug Command Reference</i> • <i>Cisco IOS Software System Error Messages</i> • <i>New Features in 12.2-Based Limited Lifetime Releases</i> • <i>New Features in Release 12.2 T</i> • <i>Release Notes</i> (Release note and caveat documentation for 12.2-based releases and various platforms) 	

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped 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 through an annual subscription.

Ordering Documentation

You can order Cisco documentation in these ways:

- Registered Cisco.com users (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 Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

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

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: 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 online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

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Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages

- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

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

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

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

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

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

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

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

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

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