



# About Cisco IOS XR Software Documentation, Release 3.4

---

This document describes the Cisco IOS XR software documentation and its objectives, audience, organization, and conventions. It also provides sources for obtaining documentation, technical assistance, and additional publications and information from Cisco Systems. The document sections are:

- [Changes to This Document, page 1](#)
- [Documentation Objectives, page 2](#)
- [Audience, page 2](#)
- [Organization of the Cisco IOS XR Software Release Documentation, page 2](#)
- [Command References, page 2](#)
- [Configuration Guides, page 5](#)
- [Craft Works Interface Documents, page 7](#)
- [Supporting Documents, page 7](#)
- [Document Conventions, page 9](#)
- [Obtaining Documentation, page 10](#)
- [Documentation Feedback, page 11](#)
- [Cisco Product Security Overview, page 11](#)
- [Product Alerts and Field Notices, page 12](#)
- [Obtaining Technical Assistance, page 12](#)
- [Obtaining Additional Publications and Information, page 14](#)

## Changes to This Document

*Table 1*      *Changes to This Document*

Revision	Date	Change Summary
OL-10958-01	October 2006	Initial release of this document.

# Documentation Objectives

Cisco IOS XR software documentation describes the tasks and commands that are necessary to configure and maintain a router that is using Cisco IOS XR software.

## Audience

The Cisco IOS XR software documentation is intended primarily for users who configure and maintain routers but who might be unfamiliar with the tasks, relationship between tasks, or Cisco IOS XR software commands necessary to perform particular tasks. The Cisco IOS XR software documentation is also for users who are experienced with Cisco IOS XR software and need to know about new features, configuration options, and characteristics of Release 3.4 software.

## Organization of the Cisco IOS XR Software Release Documentation

The Cisco IOS XR documentation set provides configuration guides, command references, and other supporting documents. It differs from other Cisco software major releases in these respects:

- Documents are delivered online, in PDF and HTML formats, and are not orderable as printed books.
- Cisco IOS XR Release 3.4 provides online documents for each technology area.
- All command references present commands in alphabetic order.

## Master Index

The master index of CLI commands is an online index through which you can navigate and find the description for a CLI command. The master index is linked to the command references and provides a quick way for you to find a command when you know the command name.

## Documents

The following types of documents support Cisco IOS XR Software Release 3.4:

- [Command References, page 2](#)
- [Configuration Guides, page 5](#)
- [Craft Works Interface Documents, page 7](#)
- [Supporting Documents, page 7](#)

## Command References

The following command references support Cisco IOS XR software. (For a list of debug command references, see [“Supporting Documents”](#).)

Table 2 Command References

Document Title	Description
<i>Cisco IOS XR Interface and Hardware Component Command Reference</i>	This reference provides command syntax and usage guidelines for the commands you use to configure physical and virtual interfaces and additional hardware component types. This document also includes commands that apply to Packet over SONET (POS)—which includes Synchronous Digital Hierarchy (SDH)—SONET/SDH, automatic protection switching (APS), Ethernet, null and loopback virtual interfaces, Tunnel-IPSec (but not Tunnel-TE, which is covered in <i>Cisco IOS XR MPLS Command Reference</i> ), VLANs, bidirectional forwarding detect (BFD), BFD over VLAN bundles (on Cisco IOS XR in the current release), Netflow, and dense wave-division multiplexing (DWDM). This command reference also describes the commands that apply to the shared port adapter (SPA) and the SPA interface processor (SIP).
<i>Cisco IOS XR IP Addresses and Services Command Reference</i>	This reference provides command syntax and usage guidelines for the commands for the following technologies: Address Resolution Protocol (ARP), access control lists (ACLs), Cisco Express Forwarding (CEF), Dynamic Host Configuration Protocol (DHCP), local packet transport services (LPTS), network IPv4 and IPv6 stacks, prefix lists, quality of service (QoS), and transport stacks.
<i>Cisco IOS XR Modular Quality of Service Command Reference</i>	This reference describes the commands used to display and configure quality of service (QoS) in Cisco IOS XR software.
<i>Cisco IOS XR Multicast Command Reference</i>	This reference provides command syntax and usage guidelines for the multicast routing protocols that include Protocol Independent Multicast (PIM), Internet Group Management Protocol (IGMP), and Multicast Source Discovery Protocol (MSDP).
<i>Cisco IOS XR Multiprotocol Label Switching Command Reference</i>	This reference provides command syntax and usage guidelines for the following Multiprotocol Label Switching (MPLS) facilities: Label Distribution Protocol (LDP), MPLS Resource Reservation Protocol (RSVP), MPLS Forwarding; MPLS Traffic Engineering (MPLS-TE), Generalized MPLS (GMPLS), and MPLS Optical-UNI (MPLS O-UNI).
<i>Cisco IOS XR Routing Command Reference</i>	This reference provides command syntax and usage guidelines to configure and monitor Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS), Open Shortest First Path (OSPF), Open Shortest First Path Version 3 (OSPFv3), Enhanced Interior Gateway Routing Protocol (EIGRP), Routing Information Protocol (RIP), Routing Information Base (RIB) routing protocols, and static routing.
<i>Cisco IOS XR Session Border Controller Command Reference</i>	This reference provides command syntax and usage guidelines for Session Border Controller (SBC) applications.

Table 2 *Command References*

Document Title	Description
<i>Cisco IOS XR System Management Command Reference</i>	This reference has command syntax and usage guidelines for the following: software package management, Network Time Protocol (NTP), process management, memory management, terminal services, secure domain router (SDR), hardware redundancy and node administration, Cisco Discovery Protocol (CDP), SNMP server, boot, clock, configuration management, distributed route processor (DRP), file system, and manageability.
<i>Cisco IOS XR System Monitoring Command Reference</i>	This reference has command syntax and usage guidelines for the following: alarm logs and logging correlation, IP Service Level Agreements (IP SLAs), fault management, logging services, performance management, OnBoard Fault Logging (OBFL), and statistics services.
<i>Cisco IOS XR System Security Command Reference</i>	This reference provides command syntax and usage guidelines for the following areas: Internet Key Exchange (IKE); IP Security (IPSec); Public Key Infrastructure (PKI); Secure Shell (SSH); Secure Socket Layer (SSL); authentication, authorization, and accounting (AAA); Software Authentication Manager (SAM); and secret keys and key chain management.

# Configuration Guides

The following configuration guides support Cisco IOS XR software:

**Table 3** Configuration Guides

Document Title	Description
<i>Cisco IOS XR Interface and Hardware Component Configuration Guide</i>	This guide provides interface configuration and management information and describes a variety of global interfaces: Packet over SONET (POS)—which also applies to Synchronous Digital Hierarchy (SDH), SONET/SDH, automatic protection switching (APS), Ethernet, null and loopback virtual interfaces, Tunnel-IPSec (but not Tunnel-TE, which is covered in <i>Cisco IOS XR MPLS Configuration Guide</i> ), VLANs, Bidirectional Forwarding Detection (BFD), BFD over VLAN bundles (on Cisco IOS XR in the current release), and management. It contains the information on how to configure the shared port adapter (SPA) and the SPA interface processor (SIP). SIPs and SPAs are carrier cards and port adapters that increase modularity, flexibility, and scalability across the Cisco Systems routers. This document also includes configuration guidance for using Netflow and dense wave-division multiplexing (DWDM).
<i>Cisco IOS XR IP Addresses and Services Configuration Guide</i>	This guide provides concepts and configuration tasks for the following technologies: ARP, access control lists (ACLs), Cisco Express Forwarding (CEF), DHCP, local packet transport service (LPTS), network IPv4 and IPv6 stacks, prefix lists, QoS, and transport stacks.
<i>Cisco IOS XR Modular Quality of Service Configuration Guide</i>	This guide describes the Cisco IOS XR Quality of Service (QoS) feature for prioritizing traffic flows and providing preferential forwarding for higher-priority packets. The QoS techniques described include allocating bandwidth, improving loss characteristics, avoiding and managing network congestion, metering network traffic, and setting traffic-flow priorities across the network.
<i>Cisco IOS XR Multicast Configuration Guide</i>	This guide provides concepts and configuration tasks for the following technologies: PIM, IGMP, and MSDP.
<i>Cisco IOS XR Multiprotocol Label Switching Configuration Guide</i>	This guide provides concepts and configuration tasks for the following Multiprotocol Label Switching (MPLS) facilities: Label Distribution Protocol (LDP), MPLS Resource Reservation Protocol (RSVP), MPLS Forwarding, MPLS Traffic Engineering (MPLS-TE), and MPLS Optical-UNI (MPLS O-UNI).
<i>Cisco IOS XR Routing Configuration Guide</i>	This guide provides concepts and configuration tasks for the following technologies: BGP, EIGRP, IS-IS, OSPF, RIP, RIB protocols, routing policy language, and static routing.
<i>Cisco IOS XR Session Border Controller Configuration Guide</i>	This guide describes the tasks that support Session Border Controller (SBC) applications.

**Table 3**      **Configuration Guides**

Document Title	Description
<i>Cisco IOS XR System Management Configuration Guide</i>	This guide has configuration tasks and concepts for the following technologies: upgrading and managing Cisco IOS XR software packages, Upgrading Field-Programmable Devices (FPD) software, Network Time Protocol (NTP), process placement, physical and virtual terminals, Secure Domain Routers (SDRs), managing the router hardware, Cisco Discovery Protocol (CDP), and SNMP.
<i>Cisco IOS XR System Monitoring Configuration Guide</i>	This guide has configuration tasks and concepts for the following technologies: alarm logs and logging correlation, IP Service Level Agreements (IP SLAs), fault management, logging services, performance management, and OnBoard Fault Logging (OBFL.)
<i>Cisco IOS XR System Security Configuration Guide</i>	This guide provides concepts and configuration tasks for the following technologies: IKE, IPSec, PKI, SSH, SSL, AAA, key chain management, and SAM. It also defines a task ID and provides guidance on the use of task IDs for commands that require them.

# Craft Works Interface Documents

The following Craft Works Interface documents support Cisco IOS XR software:

- *Cisco Craft Works Interface Quick Start Guide*—This guide provides a brief overview of the Craft Works Interface (CWI) and describes procedures for setting up the router and CWI and for establishing a connection between the CWI and the router.
- *Cisco Craft Works Interface User Guide*—This guide shows you how to use CWI to manage Cisco devices. CWI provides a user-friendly interface that combines graphical, spreadsheet, text editing, and command-line interface (CLI) features to manage Cisco devices.

## Supporting Documents

The following documents support the Cisco IOS XR software documentation:

**Table 4**      *Supporting Documents*

Document Title	Description
<i>Cisco CRS-1 Carrier Routing System Single-Shelf to Multishelf Software Upgrade Guide</i>	This guide describes the software aspects of upgrading from a single-shelf Cisco CRS-1 router to a multishelf Cisco CRS-1 router.
<i>Cisco IOS, Cisco IOS XR, and Catalyst Operating System Software Release Notes</i>	These release notes provide instructions for finding release notes for Cisco IOS software, Cisco IOS XR software, and Cisco Catalyst Operating System Software. The instructions apply to viewing and obtaining DVDs. In addition, other useful sources are identified, such as for obtaining technical assistance.
<i>Cisco IOS XR Diagnostics</i>	This book describes how to configure and run the online and offline field diagnostics. These diagnostics can contribute to high network availability by allowing you to test and verify hardware operation in a live, operational network.
<i>Cisco IOS XR Getting Started Guide</i>	This guide provides an introduction to the Cisco IOS XR software command-line interface (CLI) and describes the initial router configuration tasks for standalone and multishelf routers.
<i>Cisco IOS XR ROM Monitor Guide</i>	This guide presents configuration information and examples for using the ROM Monitor mode of the Cisco IOS XR software, including the following subjects: ROM Monitor overview and basic procedures, router recovery with ROM Monitor, managing configuration files in ROM Monitor, password recovery in ROM Monitor Mode, upgrading and downgrading ROM Monitor Software on Cisco CRS-1 Routers, upgrading and downgrading boothelper and ROM Monitor on Cisco XR 12000 Series Routers.

**Table 4**      **Supporting Documents**

Document Title	Description
<i>Release Notes for Cisco IOS XR Software Release 3.4</i>	These release notes describe new, changed, and unique characteristics of this Release.
<i>Upgrading from Cisco IOS to Cisco IOS XR Software on the Cisco 12000 Series Router</i>	This guide describes how to upgrade a router from Cisco IOS software to Cisco IOS XR software. It covers two cases: that of a router with one route processor (RP) and that of a router with dual RPs.

# Document Conventions

Cisco IOS XR documentation uses the following conventions:

Convention	Description
^ or Ctrl	The ^ and Ctrl symbols represent the Control key. For example, the key combination ^D or Ctrl-D means hold down the Control key while you press the D key. Keys are indicated in capital letters but are not case sensitive.
<i>string</i>	A string is a nonquoted set of characters shown in italics. For example, when setting an SNMP <i>community</i> string to <i>public</i> , do not use quotation marks around the string or the string will include the quotation marks.

Command syntax descriptions use the following conventions:

Convention	Description
<b>bold</b>	Bold text indicates commands and keywords that you enter literally as shown.
<i>italics</i>	Italic text indicates arguments for which you supply values.
[x]	Square brackets enclose an optional element (keyword or argument).
	A vertical line indicates a choice within an optional or required set of keywords or arguments.
[x   y]	Square brackets enclose keywords or arguments separated by a vertical line to show optional choices.
{x   y}	Braces enclosing keywords or arguments separated by a vertical line indicate a required choice.

Nested sets of square brackets or braces indicate optional or required choices within optional or required elements. For example:

Convention	Description
[x {y   z}]	Braces and a vertical line within square brackets indicate a required choice within an optional element.

Examples use the following conventions:

Convention	Description
screen	Examples of information displayed on the screen are set in Courier font.
<b>bold screen</b>	Examples of text that you must enter are set in Courier bold font.
< >	Angle brackets enclose text that is not printed to the screen, such as passwords.
!	An exclamation point at the beginning of a line indicates a comment line. (Exclamation points are also displayed by the Cisco IOS XR software for certain processes.)
[ ]	Square brackets enclose default responses to system prompts.

The following conventions are used to attract the attention of the reader:



**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



**Note**

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.



**Timesaver**

Means the *described action saves time*. You can save time by performing the action described in the paragraph.

## Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

### Cisco.com

You can access the most current Cisco documentation at this URL:

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

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

### Product Documentation DVD

The Product Documentation DVD is a library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

<http://www.cisco.com/univercd/home/home.htm>

The Product Documentation DVD is created monthly and is released in the middle of the month. DVDs are available singly or by subscription. Registered Cisco.com users can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

## Ordering Documentation

You must be a registered Cisco.com user to access Cisco Marketplace. Registered users may order Cisco documentation at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

If you do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

## Documentation Feedback

You can provide feedback about Cisco technical documentation on the Cisco Technical Support & Documentation site area by entering your comments in the feedback form available in every online document.

## Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

From this site, you will find information about how to do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

[http://www.cisco.com/en/US/products/products\\_psirt\\_rss\\_feed.html](http://www.cisco.com/en/US/products/products_psirt_rss_feed.html)

## Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For emergencies only—[security-alert@cisco.com](mailto:security-alert@cisco.com)

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For nonemergencies—[psirt@cisco.com](mailto:psirt@cisco.com)

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT to find other means of encrypting the data before sending any sensitive material.

## Product Alerts and Field Notices

Modifications to or updates about Cisco products are announced in Cisco Product Alerts and Cisco Field Notices. You can receive Cisco Product Alerts and Cisco Field Notices by using the Product Alert Tool on Cisco.com. This tool enables you to create a profile and choose those products for which you want to receive information.

To access the Product Alert Tool, you must be a registered Cisco.com user. (To register as a Cisco.com user, go to this URL: <http://tools.cisco.com/RPF/register/register.do>) Registered users can access the tool at this URL: <http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

## Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

## Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day at this URL:

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

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

**Note**

Use the **Cisco Product Identification Tool** to locate your product serial number before submitting a request for service online or by phone. You can access this tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This tool offers three search options: by product ID or model name; by tree view; or, for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

**Tip**

Displaying and Searching on Cisco.com

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing F5.

To find technical information, narrow your search to look in technical documentation, not the entire Cisco.com website. On the Cisco.com home page, click the **Advanced Search** link under the Search box and then click the **Technical Support & Documentation** radio button.

To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

## Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411

Australia: 1 800 805 227

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

## Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of the network is impaired while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

## Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco channel product offerings. To order and find out more about the *Cisco Product Quick Reference Guide*, go to this URL:

<http://www.cisco.com/go/guide>

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:
- Cisco Press publishes a wide range of general networking, training, and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the magazine for Cisco networking professionals. Each quarter, *Packet* delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can subscribe to *Packet* magazine at this URL:

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

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:

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

- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:  
<http://www.cisco.com/en/US/products/index.html>
- Networking Professionals Connection is an interactive website where networking professionals share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:  
<http://www.cisco.com/discuss/networking>
- “What’s New in Cisco Documentation” is an online publication that provides information about the latest documentation releases for Cisco products. Updated monthly, this online publication is organized by product category to direct you quickly to the documentation for your products. You can view the latest release of “What’s New in Cisco Documentation” at this URL:  
<http://www.cisco.com/univercd/cc/td/doc/abtunecd/136957.htm>
- World-class networking training is available from Cisco. You can view current offerings at this URL:  
<http://www.cisco.com/en/US/learning/index.html>

CCVP, the Cisco logo, and the Cisco Square Bridge logo are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, BPX, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0709R)

Copyright © 2006 Cisco Systems, Inc. All rights reserved.

Text Part Number: OL-10958-01

