



Preface

Audience

This guide is for the networking professional using the Cisco IOS command-line interface (CLI) to manage the Catalyst 2950 and 2955 switches, hereafter referred to as *the switches*. Before using this guide, you should have experience working with the Cisco IOS and be familiar with the concepts and terminology of Ethernet and local area networking.

Purpose

The Catalyst 2950 switch is supported by either the standard software image (SI) or the enhanced software image (EI). The Catalyst 2955 and the Catalyst 2950 Long-Reach Ethernet (LRE) switches are supported only by the EI. The EI provides a richer set of features, including access control lists (ACLs), enhanced quality of service (QoS) features, extended-range VLANs, the IEEE 802.1s Multiple STP, Remote Switched Port Analyzer (RSPAN), and unicast MAC address filtering.

This guide provides the information you need about the commands that have been created or changed for use with the Catalyst 2950 family of switches. For information about the standard Cisco IOS Release 12.1 commands, see the Cisco IOS documentation set available from the Cisco.com home page by selecting **Service and Support > Technical Documents**. On the Cisco Product Documentation home page, select **Release 12.1** from the Cisco IOS Software drop-down list.

This guide does not provide procedures for configuring your switch. For detailed configuration procedures, see the software configuration guide for this release.

This guide does not describe system messages you might encounter. For more information, see the system message guide for this release.

Conventions

This guide uses these conventions to convey instructions and information:

Command descriptions use these conventions:

- Commands and keywords are in **boldface** text.
- Arguments for which you supply values are in *italic*.
- Square brackets ([]) mean optional elements.

- Braces ({ }) group required choices, and vertical bars (|) separate the alternative elements.
- Braces and vertical bars within square brackets ([{ | }]) mean a required choice within an optional element.

Interactive examples use these conventions:

- Terminal sessions and system displays are in `screen` font.
- Information you enter is in **boldface screen** font.
- Nonprinting characters, such as passwords or tabs, are in angle brackets (<>).

Notes, cautions, and tips use these conventions and symbols:



Note

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



Caution

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

Related Publications

These documents provide complete information about the switch and are available from this URL:

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat2950/index.htm>

You can order printed copies of documents with a DOC-xxxxxx= number from the Cisco.com sites and from the telephone numbers listed in the “[Obtaining Documentation](#)” section on page xvii.

- *Release Notes for the Catalyst 2955, Catalyst 2950, and Catalyst 2940 Switches* (not orderable but available on Cisco.com)



Note

Switch requirements and procedures for initial configurations and software upgrades tend to change and therefore appear only in the release notes. Before installing, configuring, or upgrading the switch, see the release notes on Cisco.com for the latest information.

For information about the switch, see these documents:

- *Catalyst 2950 and Catalyst 2955 Switch Software Configuration Guide* (order number DOC-7811380=)
- *Catalyst 2950 and Catalyst 2955 Switch Command Reference* (order number DOC-7811381=)
- *Catalyst 2950 and Catalyst 2955 Switch System Message Guide* (order number DOC-7814233=)
- Device manager online help (available on the switch)
- *Catalyst 2950 Switch Hardware Installation Guide* (not orderable but available on Cisco.com)
- *Catalyst 2950 Switch Getting Started Guide* (order number DOC-7816521=)
- *Regulatory Compliance and Safety Information for the Catalyst 2950 Switch* (order number DOC-7816625=)
- *Catalyst 2955 Hardware Installation Guide* (order number DOC-7814944=)

For information about related products, see these documents:

- *Getting Started with Cisco Network Assistant* (not orderable but available on Cisco.com)
- *Release Notes for Cisco Network Assistant* (not orderable but available on Cisco.com)
- *Catalyst GigaStack Gigabit Interface Converter Hardware Installation Guide* (order number DOC-786460=)
- *CWDM Passive Optical System Installation Note* (not orderable but is available on Cisco.com)
- *1000BASE-T Gigabit Interface Converter Installation Notes* (not orderable but is available on Cisco.com)
- *Cisco LRE CPE Hardware Installation Guide* (order number DOC-7811469=)
- *Installation and Warranty Notes for the Cisco LRE 48 POTS Splitter* (order number DOC-7812250=)
- *Installation Notes for the Catalyst Family Small-Form-Factor Pluggable Modules* (order number DOC-7815160=)

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

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

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

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

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpck/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:
<http://www.cisco.com/en/US/partner/ordering/index.shtml>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can send your comments about technical documentation to bug-doc@cisco.com.

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

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

The Cisco Technical Support 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, 365 days a year at this URL:

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

Access to all tools on the Cisco Technical Support 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>

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 automatically provides recommended solutions. If your issue is not resolved using the recommended resources, your service request will be assigned to a Cisco TAC 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 TAC 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)—Your 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 operation 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 your network is impaired, but 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.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

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

- The Cisco *Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:

<http://cisco.com/univercd/cc/td/doc/pcat/>

- *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 Cisco Systems technical user magazine for maximizing Internet and networking investments. 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 access Packet magazine at this URL:

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

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

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

- *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>

- 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>