



Preface

Audience

The *Catalyst 2950 and Catalyst 2955 Switch Software Configuration Guide* is for the network manager responsible for configuring the Catalyst 2950 and the Catalyst 2955 switches, hereafter referred to as the *switches*. Before using this guide, you should be familiar with the concepts and terminology of Ethernet and local area networking.

Purpose

This guide provides information about configuring and troubleshooting a switch or switch clusters. It includes descriptions of the management interface options and the features supported by the switch software. The Catalyst 2950 switch is supported by either the standard software image (SI) or the enhanced software image (EI). The Catalyst 2955 and 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 802.1W Rapid Spanning Tree Protocol (RSTP), and the IEEE 802.1S Multiple STP (MSTP), and Remote Switched Port Analyzer (RSPAN). The cryptographic EI provides support for the Secure Shell Protocol (SSH). For a list of switches that support the SI and the EI, see [Table 1-1](#) in [Chapter 1, “Overview.”](#)

The Catalyst 2955 switch also supports an additional set of features that are described in [Chapter 3, “Configuring Catalyst 2955 Switch Alarms.”](#) The switch has facilities to process alarms related to the temperature, power supply conditions, and status of the Ethernet ports.

Use this guide with other documents for information about these topics:

- **Requirements**—This guide assumes that you have met the hardware and software requirements and cluster compatibility requirements described in the release notes.
- **Start-up information**—This guide assumes that you have assigned switch IP information and passwords by using the browser setup program described in the switch hardware installation guide.
- **Cluster Management Suite (CMS) information**—This guide provides an overview of the CMS web-based, switch management interface. For information about CMS requirements and the procedures for browser and plug-in configuration and accessing CMS, refer to the release notes. For CMS field-level window descriptions and procedures, refer to the CMS online help.

- Cluster configuration—This guide provides information about planning for, creating, and maintaining switch clusters. Because configuring switch clusters is most easily performed through CMS, this guide does not provide the command-line interface (CLI) procedures. For the cluster commands, refer to the command reference for this release.
- CLI command information—This guide provides an overview for using the CLI. For complete syntax and usage information about the commands that have been specifically created or changed for the switches, refer to the command reference for this release.

This guide does not describe system messages you might encounter or how to install your switch. For more information, refer to the *Catalyst 2950 and Catalyst 2955 Desktop Switch System Message Guide* for this release, to the *Catalyst 2950 Desktop Switch Hardware Installation Guide*, and to the *Catalyst 2955 Switch Hardware Installation Guide*.

**Note**

This guide does not repeat the concepts and CLI procedures provided in the standard Cisco IOS Release 12.1 documentation. For information about the standard Cisco IOS Release 12.1 commands, refer to the Cisco IOS documentation set available from the Cisco.com home page at **Service and Support > Technical Documents**. On the Cisco Product Documentation home page, select Release 12.1 from the Cisco IOS Software drop-down list.

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

**Tip**

Means *the following will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information.

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 xxx.

- *Release Notes for the Catalyst 2950 and Catalyst 2955 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, refer to the release notes on Cisco.com for the latest information.

For hardware information for the Catalyst 2950 and Catalyst 2955 switches, refer to these documents:

- *Catalyst 2950 Desktop Switch Hardware Installation Guide* (order number DOC-7811157=)
- *Catalyst 2955 Hardware Installation Guide* (order number DOC-7814944=)

For software information for the Catalyst 2950 and Catalyst 2955 switches, refer to these documents:

- *Catalyst 2950 and Catalyst 2955 Desktop Switch Software Configuration Guide* (order number DOC-7811380=)
- *Catalyst 2950 and Catalyst 2955 Desktop Switch Command Reference* (order number DOC-7811381=)
- *Catalyst 2950 and Catalyst 2955 Desktop Switch System Message Guide* (order number DOC-7814233=)

For information about software releases earlier than Cisco IOS Release 12.1(14)EA1 for the Catalyst 2950 LRE switches, refer to these documents:

- *Catalyst 2950 Desktop Switch Software Configuration Guide* (order number DOC-7814982=)
- *Catalyst 2950 Desktop Switch Command Reference* (order number DOC-7814984=)
- *Catalyst 2950 Desktop Switch System Message Guide* (order number DOC-7814981=)
- *Release Notes for the Catalyst 2950 LRE Switch* (not orderable but available on Cisco.com)

For other information about related products, refer to these documents:

- *1000BASE-T Gigabit Interface Converter Installation Notes* (not orderable but is available on Cisco.com)
- *Catalyst GigaStack Gigabit Interface Converter Hardware Installation Guide* (order number DOC-786460=)
- *Cisco LRE CPE Hardware Installation Guide* (order number DOC-7811469=)
- Cluster Management Suite (CMS) online help (available only from the switch CMS software)
- *CWDM Passive Optical System Installation Note* (not orderable but is available on Cisco.com)

- *Installation Notes for the Catalyst Family Small-Form-Factor Pluggable Modules* (order number DOC-7815160=)
- *Installation and Warranty Notes for the Cisco LRE 48 POTS Splitter* (order number DOC-7812250=)

Obtaining Documentation

Cisco provides several ways to obtain documentation, 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 on the World Wide Web at this URL:

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

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco websites can be accessed from 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 may have shipped with your product. The Documentation CD-ROM is updated regularly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual or quarterly subscription.

Registered Cisco.com users can order a single Documentation CD-ROM (product number DOC-CONDOCCD=) through the Cisco Ordering tool:

http://www.cisco.com/en/US/partner/ordering/ordering_place_order_ordering_tool_launch.html

All users can order monthly or quarterly subscriptions through the online Subscription Store:

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

Ordering Documentation

You can find instructions for ordering documentation at this URL:

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

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/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, 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. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can e-mail your comments 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

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com 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

To obtain customized information and service, you can self-register on Cisco.com at this URL:

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

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The type of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration. There is little or no impact to your business operations.
- Priority level 3 (P3)—Operational performance of the network is impaired, but most business operations remain functional. You and Cisco are willing to commit resources during normal business hours to restore service to satisfactory levels.
- Priority level 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively impacted by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.
- Priority level 1 (P1)—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.

Cisco TAC Website

The Cisco TAC website provides online documents and tools to help troubleshoot and resolve technical issues with Cisco products and technologies. To access the Cisco TAC website, 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 website. Some services on the Cisco TAC website require 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://tools.cisco.com/RPF/register/register.do>

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

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

If you have Internet access, we recommend that you open P3 and P4 cases online so that you can fully describe the situation and attach any necessary files.

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 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.

Obtaining Additional Publications and Information

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

- 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://www.cisco.com/en/US/products/products_catalog_links_launch.html

- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access *Packet* magazine at this URL:

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

- iQ Magazine is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. 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/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html

