



# Preface

---

This preface describes who should read this document, how it is organized, and its conventions. The preface also tells you how to obtain Cisco documents, as well as how to obtain technical assistance.

## Audience

This guide is for experienced network administrators who are responsible for configuring and maintaining Catalyst 4500 Series Switches.

## Organization

This guide is organized into the following chapters:

Chapter	Title	Description
Chapter 1	<a href="#">Product Overview</a>	Presents an overview of the Cisco IOS software for the Catalyst 4500 series switches.
Chapter 2	<a href="#">Command-Line Interfaces</a>	Describes how to use the CLI.
Chapter 3	<a href="#">Configuring the Switch for the First Time</a>	Describes how to perform a baseline configuration of the switch.
Chapter 3	<a href="#">Administering the Switch</a>	Describes how to administer the switch.
Chapter 3	<a href="#">Configuring Virtual Switching Systems</a>	Describes how to configure Virtual Switching Systems
Chapter 3	<a href="#">Configuring the Cisco IOS In-Service Software Upgrade Process</a>	Describes how to configure the IOS ISSU process on the switch.
Chapter 3	<a href="#">Configuring the Cisco IOS XE In Service Software Upgrade Process</a>	Describes how to configure the IOS XE ISSU process on the switch.
Chapter 3	<a href="#">Configuring Interfaces</a>	Describes how to configure non-layer-specific features on Fast Ethernet, Gigabit Ethernet, and 10-Gigabit Ethernet interfaces.
Chapter 3	<a href="#">Checking Port Status and Connectivity</a>	Describes how to check module and interface status.

<b>Chapter</b>	<b>Title</b>	<b>Description</b>
Chapter 10	<a href="#">Configuring Supervisor Engine Redundancy Using RPR and SSO on Supervisor Engine 6-E and Supervisor Engine 6L-E</a>	Describes how to configure RPR and SSO on Supervisor Engines 6-E and 6L-E.
Chapter 3	<a href="#">Configuring Supervisor Engine Redundancy Using RPR and SSO on Supervisor Engine 9-E, 8L-E, 8-E, 7-LE, and 7-E</a>	Describes how to configure RPR and SSO on Supervisor Engines 7-E, 7L-E, and 8-E.
Chapter 3	<a href="#">Configuring Cisco NSF with SSO Supervisor Engine Redundancy</a>	Describes how to configure supervisor engine redundancy using Cisco nonstop forwarding (NSF) with stateful switchover (SSO).
Chapter 3	<a href="#">Environmental Monitoring and Power Management</a>	Describes how to configure power management and environmental monitoring features.
Chapter 3	<a href="#">Configuring Power over Ethernet</a>	Describes how to configure Power over Ethernet (PoE).
Chapter 3	<a href="#">Configuring Cisco Catalyst 4500 Series Switches with Cisco Network Assistant</a>	Describes how to install and configure Network Assistant and Embedded CiscoView.
Chapter 3	<a href="#">Configuring VLANs, VTP, and VMPS</a>	Describes how to configure VLANs, VTP, and VMPS.
Chapter 3	<a href="#">Configuring IP Unnumbered Interface</a>	Describes how to configure IP Unnumbered support.
Chapter 3	<a href="#">Configuring Layer 2 Ethernet Interfaces</a>	Describes how to configure interfaces to support Layer 2 features, including VLAN trunks.
Chapter 3	<a href="#">Configuring EVC-Lite</a>	Describes how to enable EVC-Lite.
Chapter 3	<a href="#">Configuring SmartPort Macros</a>	Describes how to configure SmartPort macros.
Chapter 3	<a href="#">Configuring Cisco IOS Auto Smartport Macros</a>	Describes how to configure Auto SmartPort Macros
Chapter 3	<a href="#">Configuring STP and MST</a>	Describes how to configure the Spanning Tree Protocol (STP) and the Multiple Spanning Tree (MST) protocol and explains how they work.
Chapter 3	<a href="#">Configuring Flex Links and MAC Address-Table Move Update</a>	Describes how to how to configure Flex Links on a switch.
Chapter 3	<a href="#">Configuring Resilient Ethernet Protocol</a>	Describes how to configure Resilient Ethernet Protocol (REP).
Chapter 3	<a href="#">Configuring Optional STP Features</a>	Describes how to configure the spanning-tree PortFast, UplinkFast, BackboneFast, and other STP features
Chapter 3	<a href="#">Configuring EtherChannel and Link State Tracking</a>	Describes how to configure Layer 2 and Layer 3 EtherChannel port bundles.
Chapter 3	<a href="#">Configuring IGMP Snooping and Filtering, and MVR</a>	Describes how to configure Internet Group Management Protocol (IGMP) snooping and Multicast VLAN Registration (MVR).

<b>Chapter</b>	<b>Title</b>	<b>Description</b>
Chapter 3	<a href="#">Configuring IPv6 Multicast Listener Discovery Snooping</a>	Describes how to configure IPv6 MLD Snooping.
Chapter 3	<a href="#">Configuring 802.1Q Tunneling, VLAN Mapping, and Layer 2 Protocol Tunneling</a>	Describes how to configure 802.1Q and Layer 2 protocol Tunneling.
Chapter 3	<a href="#">Configuring CDP</a>	Describes how to configure the Cisco Discovery Protocol (CDP).
Chapter 3	<a href="#">Configuring LLDP, LLDP-MED, and Location Service</a>	Describes how to configure Link Layer Discovery Protocol (LLDP).
Chapter 3	<a href="#">Configuring UDLD</a>	Describes how to configure the UniDirectional Link Detection (UDLD) protocol.
Chapter 3	<a href="#">Configuring Unidirectional Ethernet</a>	Describes how to configure Unidirectional Ethernet
Chapter 3	<a href="#">Configuring Layer 3 Interfaces</a>	Describes how to configure interfaces to support Layer 3 features.
Chapter 3	<a href="#">Configuring Cisco Express Forwarding</a>	Describes how to configure Cisco Express Forwarding (CEF) for IP unicast traffic.
Chapter 3	<a href="#">Configuring Unicast Reverse Path Forwarding</a>	Describes how to configure Unicast Reverse Path Forwarding.
Chapter 3	<a href="#">Configuring IP Multicast</a>	Describes how to configure IP Multicast Multilayer Switching (MMLS).
Chapter 3	<a href="#">Configuring ANCP Client</a>	Describes how to configure ANCP.
Chapter 3	<a href="#">Configuring Bidirection Forwarding Detection</a>	Describes how to configure Bidirectional Forwarding Detection
Chapter 3	<a href="#">Configuring Campus Fabric</a>	Describes how to configure Campus Fabric
Chapter 3	<a href="#">Configuring Policy-Based Routing</a>	Describes how to configure policy-based routing.
Chapter 3	<a href="#">Configuring VRF-lite</a>	Describes how to configure multiple VPN routing/forwarding (multi-VRF) instances in customer edge (CE) devices.
Chapter 3	<a href="#">Configuring Quality of Service</a>	Describes how to configure quality of service (QoS).
Chapter 3	<a href="#">Configuring Voice Interfaces</a>	Describes how to configure voice interfaces.
Chapter 3	<a href="#">Configuring Private VLANs</a>	Describes how to set up and modify private VLANs.
Chapter 3	<a href="#">Configuring MACsec Encryption</a>	Describes how to configure MACsec encryption.
Chapter 3	<a href="#">Configuring 802.1X Port-Based Authentication</a>	Describes how to configure 802.1X port-based authentication.
Chapter 3	<a href="#">X.509v3 Certificates for SSH Authentication</a>	Describes how to configure server and user certificate profiles for a digital certificate
Chapter 3	<a href="#">Configuring the PPPoE Intermediate Agent</a>	Describes how to configure PPPoE Intermediate Agent.
Chapter 3	<a href="#">Configuring Web-Based Authentication</a>	Describes how to configure web-based authentication.

<b>Chapter</b>	<b>Title</b>	<b>Description</b>
Chapter 3	<a href="#">Auto Identity</a>	Provides a set of built-in policies at global configuration and interface configuration modes
Chapter 3	<a href="#">Configuring Port Security</a>	Describes how to configure port security and trunk port security.
Chapter 3	<a href="#">Configuring Auto Security</a>	Describes how to configure auto security.
Chapter 3	<a href="#">Configuring Control Plane Policing and Layer 2 Control Packet QoS</a>	Describes how to protect your Catalyst 4500 series switch using control plane policing (CoPP).
Chapter 3	<a href="#">Configuring Dynamic ARP Inspection</a>	Describes how to configure Dynamic ARP Inspection.
Chapter 3	<a href="#">Configuring the Cisco IOS DHCP Server</a>	Describes how to configure the Cisco IOS DHCP server
Chapter 3	<a href="#">Configuring DHCP Snooping, IP Source Guard, and IPSG for Static Hosts</a>	Describes how to configure DHCP snooping and IP Source Guard.
Chapter 3	<a href="#">DHCPv6 Options Support</a>	Describes the supported DHCP IPv6 options.
Chapter 3	<a href="#">Configuring Network Security with ACLs</a>	Describes how to configure ACLs, VACLs, and MACLS.
Chapter 3	<a href="#">Support for IPv6</a>	Describes the support for IPv6 on the switch.
Chapter 3	<a href="#">IPv6 Addressing and Basic Connectivity</a>	Describes the support for IPv6 on the switch.
Chapter 3	<a href="#">Port Unicast and Multicast Flood Blocking</a>	Describes how to configure unicast flood blocking.
Chapter 3	<a href="#">Configuring Storm Control</a>	Describes how to configure storm control suppression.
Chapter 3	<a href="#">Configuring SPAN and RSPAN</a>	Describes how to configure the Switched Port Analyzer (SPAN).
Chapter 3	<a href="#">Configuring ERSPAN</a>	Describes how to configure Encapsulated Remote Switched Port Analyzer (ERSPAN)
Chapter 3	<a href="#">Configuring Wireshark</a>	Describes how to configure Wireshark, the Ethernet Analyzer on the Catalyst 4500 series switch.
Chapter 3	<a href="#">Configuring Enhanced Object Tracking</a>	Describes how to configure Enhanced Object Tracking
Chapter 3	<a href="#">Configuring System Message Logging</a>	Describes how to configure system message logging.
Chapter 3	<a href="#">Onboard Failure Logging (OBFL)</a>	Describes how to enable OBFL.
Chapter 3	<a href="#">Configuring SNMP</a>	Describes how to configure the Simple Network Management Protocol (SNMP).
Chapter 3	<a href="#">Configuring Flexible NetFlow</a>	Describes how to configure Flexible NetFlow,
Chapter 3	<a href="#">Configuring Ethernet OAM and CFM</a>	Describes how to configure Ethernet OAM and CFM.
Chapter 3	<a href="#">Configuring Y.1731 (AIS and RDI)</a>	Describes how to configure Y.1731.

Chapter	Title	Description
Chapter 3	<a href="#">Configuring Call Home</a>	Describes how to configure Call Home.
Chapter 3	<a href="#">Configuring Cisco IOS IP SLA Operations</a>	Describes how to configure Cisco IOS IP SLA operations.
Chapter 3	<a href="#">ROM Monitor</a>	Describes how to configure Remote Network Monitoring (RMON).
Chapter 3	<a href="#">Performing Diagnostics</a>	Describes various types of diagnostics on the Catalyst 4500 series switch.
Chapter 3	<a href="#">Configuring WCCP Version 2 Services</a>	Describes how to configure the Catalyst 4500 series switches to redirect traffic to cache engines (web caches) using the Web Cache Communication Protocol (WCCP), and describes how to manage cache engine clusters (cache farms).
Chapter 3	<a href="#">Configuring MIB Support</a>	Describes how to configure SNMP and MIB support.
Chapter 3	<a href="#">Configuring Easy Virtual Networks</a>	Describes how to configure Easy Virtual Networks (EVNs)
Chapter 3	<a href="#">ROM Monitor</a>	Describes the ROM Monitor.
Appendix A	<a href="#">Acronyms and Abbreviations</a>	Defines acronyms and abbreviations used in this book.

## Conventions

This document uses the following typographical conventions:

Convention	Description
<b>boldface font</b>	Commands, command options, and keywords are in <b>boldface</b> .
<i>italic font</i>	Command arguments for which you supply values are in <i>italics</i> .
[ ]	Command elements in square brackets are optional.
{ x   y   z }	Alternative keywords in command lines are grouped in braces and separated by vertical bars.
[ x   y   z ]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A unquoted set of characters. Do not use quotation marks around the string because the string will include the quotation marks.
screen font	System displays are in <i>screen font</i> .
<b>boldface screen font</b>	Information you must enter verbatim is in <b>boldface screen font</b> .
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .
→	This pointer highlights an important line of text in an example.

Convention	Description
^	Represents the key labeled Control—for example, the key combination ^D in a screen display means hold down the Control key while you press the D key.
< >	Nonprinting characters such as passwords are in angle brackets.

Notes use the following conventions:



**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

Cautions use the following conventions:



**Caution**

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

## Related Documentation

Refer to the following documents for additional information about Catalyst 4500 Series Switches:

- Catalyst 4500 Series Switch Documentation Home  
[http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd_products_support_series_home.html)

## Hardware Documents

Installation guides and notes including specifications and relevant safety information are available at the following URLs:

### Cisco Catalyst 4500E Series Switches

- *Catalyst 4500 E-series Switches Installation Guide*  
<http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/catalyst4500e/installation/guide/Eseries.html>
- For information about individual switching modules and supervisors, refer to the *Catalyst 4500 Series Module Installation Guide* at:  
[http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/configuration/notes/OL\\_25315.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/configuration/notes/OL_25315.html)
- Installation notes for specific supervisor engines or for accessory hardware are available at:  
[http://www.cisco.com/en/US/products/hw/switches/ps4324/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_installation_guides_list.html)
- *Regulatory Compliance and Safety Information for the Catalyst 4500 Series Switches*  
[http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/regulatory/compliance/78\\_13233.html](http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/regulatory/compliance/78_13233.html)

## Cisco Catalyst 4500-X Series Switches

- Catalyst 4500-X hardware installation information is available at:  
[http://www.cisco.com/en/US/products/ps12332/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps12332/prod_installation_guides_list.html)
- *Regulatory Compliance and Safety Information for the Cisco Catalyst 4500-X Series Switches*  
[http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500x/regulatory\\_compliance/OL\\_26538.html](http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500x/regulatory_compliance/OL_26538.html)

## Software Documentation

Software release notes, configuration guides, command references, and system message guides are available at the following URLs:

- Cisco 4500-X release notes are available at:  
[http://www.cisco.com/en/US/products/ps12332/prod\\_release\\_notes\\_list.html](http://www.cisco.com/en/US/products/ps12332/prod_release_notes_list.html)
- Catalyst 4500E release notes are available at:  
[http://www.cisco.com/en/US/products/hw/switches/ps4324/prod\\_release\\_notes\\_list.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_release_notes_list.html)

Software documents for the Catalyst 4500 E-Series and Catalyst 4500-X Series switches are available at the following URLs:

- *Catalyst 4500 Series Software Configuration Guide*  
[http://www.cisco.com/en/US/products/hw/switches/ps4324/products\\_installation\\_and\\_configuration\\_guides\\_list.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/products_installation_and_configuration_guides_list.html)
- *Catalyst 4500 Series Software Command Reference*  
[http://www.cisco.com/en/US/products/hw/switches/ps4324/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_command_reference_list.html)
- *Catalyst 4500 Series Software System Message Guide*  
[http://www.cisco.com/en/US/products/hw/switches/ps4324/products\\_system\\_message\\_guides\\_list.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/products_system_message_guides_list.html)

## Cisco IOS Documentation

Platform-independent Cisco IOS documentation may also apply. These documents and tools are available at the following URLs:

<b>Cisco IOS XE 3E</b>	
Cisco IOS XE Configuration Guides	<a href="http://www.cisco.com/c/en/us/support/ios-nx-os-software/ios-xe-3e/products-installation-and-configuration-guides-list.html">http://www.cisco.com/c/en/us/support/ios-nx-os-software/ios-xe-3e/products-installation-and-configuration-guides-list.html</a>
<b>Cisco IOS 12.4</b>	
Cisco IOS Configuration Guides	<a href="http://www.cisco.com/en/US/products/ps6350/products_installation_and_configuration_guides_list.html">http://www.cisco.com/en/US/products/ps6350/products_installation_and_configuration_guides_list.html</a>

Cisco IOS Command References	<a href="http://www.cisco.com/en/US/products/ps6350/prod_command_reference_list.html">http://www.cisco.com/en/US/products/ps6350/prod_command_reference_list.html</a>
Cisco IOS System Messages	<a href="http://www.cisco.com/en/US/products/ps6350/products_system_message_guides_list.html">http://www.cisco.com/en/US/products/ps6350/products_system_message_guides_list.html</a>
<b>Tools</b>	
Command Lookup	<a href="http://tools.cisco.com/Support/CLILookup/cltSearchAction.do">http://tools.cisco.com/Support/CLILookup/cltSearchAction.do</a>

## Commands in Task Tables

Commands listed in task tables show only the relevant information for completing the task and not all available options for the command. For a complete description of a command, refer to the command reference guide.

## Notices

The following notices pertain to this software license.

### OpenSSL/Open SSL Project

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

### License Issues

The OpenSSL toolkit stays under a dual license; that is, both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact [openssl-core@openssl.org](mailto:openssl-core@openssl.org).

#### OpenSSL License:

Copyright © 1998-2007 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.



3. All advertising materials mentioning features or use of this software must display the following acknowledgment: “This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)”.
4. The names “OpenSSL Toolkit” and “OpenSSL Project” must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact [openssl-core@openssl.org](mailto:openssl-core@openssl.org).
5. Products derived from this software may not be called “OpenSSL” nor may “OpenSSL” appear in their names without prior written permission of the OpenSSL Project.
6. Redistributions of any form whatsoever must retain the following acknowledgment:  
“This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)”.

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT “AS IS” AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)). This product includes software written by Tim Hudson ([tjh@cryptsoft.com](mailto:tjh@cryptsoft.com)).

**Original SSLeay License:**

Copyright © 1995-1998 Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)). All rights reserved.

This package is an SSL implementation written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).

The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson ([tjh@cryptsoft.com](mailto:tjh@cryptsoft.com)).

Copyright remains Eric Young’s, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. All advertising materials mentioning features or use of this software must display the following acknowledgement:  
“This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)”.  
The word ‘cryptographic’ can be left out if the routines from the library being used are not cryptography-related.
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: “This product includes software written by Tim Hudson (tjh@cryptsoft.com)”.

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The license and distribution terms for any publicly available version or derivative of this code cannot be changed, that is, this code cannot be copied and put under another distribution license [including the GNU Public License].

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.