



Preface

This preface describes who should read the *Cisco 7600 Series Router Cisco IOS Software Configuration Guide*, Release 12.2SR, how it is organized, and its document conventions.

Audience

This guide is for experienced network administrators who are responsible for configuring and maintaining Cisco 7600 series routers.

Document Revision History

The Document Revision History records technical changes to this document. The table shows the Cisco IOS software release number and document revision number for the change, the date of the change, and a brief summary of the change.

Release No.	Revision	Date	Change Summary
12.2(33)SRE3	OL-10113-11	January 2011	Updated the section Recommended Rate-Limiter Configuration with the restrictions.
12.2(33)SRD5	OL-10113-10	October 2010	- Updated Configuring PFC QoS, Configuring Denial of Service Protection, IP Subscriber Awareness over Ethernet, and Configuring Traffic Storm Control. - Added troubleshooting information for Multicast in Chapter 28, “Troubleshooting.”, Chapter 30, “Troubleshooting.” - Added troubleshooting information for MPLS VPN in Chapter 24, “Troubleshooting.” - Added troubleshooting information for MLS QoS in Configuring PFC QoS. - Updated the Configuring Denial of Service Protection restrictions.
12.2(33)SRE1	OL-10113-09	May 2010	Updated the section Configuring LACP 1:1 Redundancy with Fast-Switchover and updated the table under Configuring VLANs in chapter 14.
12.2(33)SRE1	OL-10113-09	April 2010	Added Usage Guidelines to Configure Protocol Flow Filter in Chapter 47, “Configuring NetFlow and NDE.”
12.2(33)SRE1	OL-10113-09	April 2010	Extended support for Private Host for VPLS in Chapter 35, “Configuring Private Hosts,” and Bridged Routing Encapsulation on Automatic Protection Service Group in in Chapter 14, “Configuring VLANs”.

Release No.	Revision	Date	Change Summary
12.2(33)SRD4	OL-10113-08	February 2010	Support for the following features were introduced: • Private Host for VPLS in Chapter 35, “Configuring Private Hosts.” • Bridged Routing Encapsulation on Automatic Protection Service Group in Chapter 14, “Configuring VLANs” • Restrictions on UDLD configurations • Updated a new command mls qos recirc untrust.
12.2(33)SRE	OL-10113-07	February 2010	Added a new section on Scalable EoMPLS and Port-mode EoMPLS and corresponding sample configurations in Chapter 24, “Configuring Multiprotocol Label Switching on the PFC,” .
12.2(33)SRE	OL-10113-07	January 2010	Updated the NSF Benefits and Restrictions section in the chapter Configuring NSF with SSO Supervisor Engine Redundancy.
12.2(33)SRE	OL-10113-07	December 2009	Updated the priority-queue queue-limit interface command under Configuring PFC QoS chapter.
12.2(33)SRE	OL-10113-07	November 2009	Support for the following features were introduced: • IPv4 Multicast Support on Multicast Forwarding Information Base (MFIB) • Multicast MFIB Bi-Dir, MVPN and P2P • ISSU - IPv4 Multicast • ISSU for IP Multicast
12.2(33)SRD2	OL-10113-06	May 2009	Added support for ARP Scale to 512k.

Release No.	Revision	Date	Change Summary
12.2(33)SRD	OL-10113-05	October 2008	Added chapter on Using the Mini Protocol Analyzer
12.2(33)SRC	OL-10113-04	December 31, 2007	Support for the following features was introduced: • IEEE 802.1x with DHCP • VTP v3 • LACP 1-1 redundancy with fast switchover • Switch Port Analyzer (SPAN)—Input packets with don't learn option • SPAN egress session increase • SPAN destination port support on Etherchannels • Call Home

Organization

This guide is organized as follows:

Chapter	Title	Description
Chapter 1	Product Overview	Presents an overview of the Cisco 7600 series routers.
Chapter 2	Configuring the Router for the First Time	Describes how to configure the router for the first time.
Chapter 3	Configuring a Supervisor Engine 720	Describes how to configure a Supervisor Engine 720.
Chapter 4	Configuring a Route Switch Processor 720	Describes how to configure the Route Switch Processor 720 (RSP720).
Chapter 5	Configuring NSF with SSO Supervisor Engine Redundancy	Describes how to configure NSF with SSO supervisor engine redundancy.
Chapter 6	ISSU and eFSU on Cisco 7600 Series Routers	Describes the In Service Software Upgrade (ISSU) and enhanced Fast Software Upgrade (eFSU) processes, which enable you to upgrade Cisco IOS software while the router is running.
Chapter 7	Configuring RPR and RPR+ Supervisor Engine Redundancy	Describes how to configure RPR and RPR+ supervisor engine redundancy.
Chapter 8	Configuring Interfaces	Describes how to configure non-layer-specific features on LAN interfaces.
Chapter 9	Configuring a Supervisor Engine 32	Describes how to configure Supervisor Engine 32.

Chapter	Title	Description
Chapter 10	Configuring LAN Ports for Layer 2 Switching	Describes how to configure LAN interfaces to support Layer 2 features, including VLAN trunks.
Chapter 11	Configuring Flex Links	Describes how to configure Flex Links.
Chapter 12	Configuring EtherChannels	Describes how to configure Layer 2 and Layer 3 EtherChannel port bundles.
Chapter 13	Configuring VTP	Describes how to configure the VLAN Trunking Protocol (VTP).
Chapter 14	Configuring VLANs	Describes how to configure VLANs.
Chapter 15	Configuring Private VLANs	Describes how to configure private VLANs.
Chapter 16	Configuring Cisco IP Phone Support	Describes how to configure Cisco IP Phone support.
Chapter 17	Configuring IEEE 802.1Q Tunneling	Describes how to configure IEEE 802.1Q tunneling.
Chapter 18	Configuring Layer 2 Protocol Tunneling	Describes how to configure Layer 2 protocol tunneling.
Chapter 19	Configuring STP and MST	Describes how to configure the Spanning Tree Protocol (STP) and Prestandard IEEE 802.1s Multiple Spanning Tree (MST).
Chapter 20	Configuring Optional STP Features	Describes how to configure optional STP features.
Chapter 21	Configuring Layer 3 Interfaces	Describes how to configure LAN interfaces to support Layer 3 features.
Chapter 22	IP Subscriber Awareness over Ethernet	Describes how to configure the IP Subscriber Awareness over Ethernet feature, which provides IP session termination and aggregation on the router.
Chapter 23	Configuring UDE and UDLR	Describes how to configure unidirectional Ethernet (UDE) and unidirectional link routing (UDLR).
Chapter 24	Configuring Multiprotocol Label Switching on the PFC	Describes how to configure Multiprotocol Label Switching (MPLS) on the PFC.
Chapter 25	Configuring IPv4 Multicast VPN Support	Describes how to configure IPv4 Multicast Virtual Private Network (MVPN).
Chapter 26	Configuring IP Unicast Layer 3 Switching	Describes how to configure IP unicast Layer 3 switching.
Chapter 27	Configuring IPv6 Multicast PFC3 and DFC3 Layer 3 Switching	Describes how to configure IPv6 Multicast Multilayer Switching (MMLS).
Chapter 28	Configuring IPv4 Multicast Layer 3 Switching	Describes how to configure IPv4 Multicast Multilayer Switching (MMLS).
Chapter 29	Configuring MLDv2 Snooping for IPv6 Multicast Traffic	Describes how to configure Multicast Listener Discovery version 2 (MLDv2) snooping.
Chapter 30	Configuring IGMP Snooping for IPv4 Multicast Traffic	Describes how to configure Internet Group Management Protocol (IGMP) snooping.
Chapter 31	Configuring PIM Snooping	Describes how to configure protocol independent multicast (PIM) snooping.

Chapter	Title	Description
Chapter 32	Configuring Network Security	Describes how to configure network security features that are unique to the Cisco 7600 series routers.
Chapter 33	Understanding Cisco IOS ACL Support	Describes how Cisco 7600 series routers support Cisco IOS ACLs.
Chapter 34	Configuring VLAN ACLs	Describes how to configure VLAN ACLs.
Chapter 35	Private Hosts (Using PACLs)	Describes how to use port-based ACLs to configure the Private Hosts feature, which provides Layer 2 isolation between hosts on the same VLAN.
Chapter 36	Configuring Denial of Service Protection	Describes how to configure denial of service protection.
Chapter 37	Configuring DHCP Snooping	Describes how to configure DHCP snooping.
Chapter 38	Configuring Dynamic ARP Inspection	Describes how to configure dynamic ARP inspection.
Chapter 39	Configuring Traffic Storm Control	Describes how to configure traffic storm control.
Chapter 40	Unknown Unicast Flood Blocking	Describes how to configure unknown unicast flood blocking.
Chapter 41	Configuring PFC QoS	Describes how to configure quality of service (QoS).
Chapter 43	Configuring MPLS QoS on the PFC	Describes how to configure MPLS QoS.
Chapter 42	Configuring PFC QoS Statistics Data Export	Describes how to configure PFC QoS statistics data export.
Chapter 44	Configuring IEEE 802.1X Port-Based Authentication	Describes how to configure IEEE 802.1X port-based authentication.
Chapter 45	Configuring Port Security	Describes how to configure port security.
Chapter 46	Configuring UDLD	Describes how to configure the UniDirectional Link Detection (UDLD) protocol.
Chapter 47	Configuring NetFlow and NDE	Describes how to configure NetFlow statistics collection and NetFlow Data Export (NDE).
Chapter 48	Configuring Local SPAN, RSPAN, and ERSPAN	Describes how to configure the Switch Port Analyzer (SPAN).
Chapter 49	Configuring SNMP IfIndex Persistence	Describes how to configure SNMP ifIndex persistence.
Chapter 50	Power Management and Environmental Monitoring	Describes how to configure power management and environmental monitoring features.
Chapter 51	Configuring Online Diagnostics	Describes how to configure online diagnostics and run diagnostic tests.
Chapter 52	Configuring Web Cache Services Using WCCP	Describes how to configure the Web Cache Communication Protocol (WCCP).
Chapter 53	Using the Top N Utility	Describes how to use the Top N utility.
Chapter 54	Using the Layer 2 Traceroute Utility	Describes how to use the Layer 2 traceroute utility.

Chapter	Title	Description
Chapter 55	Configuring Call Home	Describes how to configure the Call Home feature.
Chapter 56	Using the Mini Protocol Analyzer	Describes how to configure the Mini Protocol Analyzer.
Appendix A	Online Diagnostic Tests	Provides recommendations for how to use the online diagnostic tests.
Appendix B	Acronyms	Defines the acronyms used in this publication.

Related Documentation

The following publications are available for the Cisco 7600 series routers:

- *Cisco 7600 Series Router Installation Guide*
- *Cisco 7600 Series Router Module Installation Guide*
- *Cisco 7600 Series Router Cisco IOS Command Reference*
- *Cisco 7600 Series Router Cisco IOS System Message Guide*
- *Release Notes for Cisco IOS Release 12.2SX on the Supervisor Engine 720, Supervisor Engine 32, and Supervisor Engine 2*
- *Cisco IOS Configuration Guides and Command References*—Use these publications to help you configure Cisco IOS software features not described in the Cisco 7600 series router publications:
 - *Configuration Fundamentals Configuration Guide*
 - *Configuration Fundamentals Command Reference*
 - *Bridging and IBM Networking Configuration Guide*
 - *Bridging and IBM Networking Command Reference*
 - *Interface Configuration Guide*
 - *Interface Command Reference*
 - *Network Protocols Configuration Guide, Part 1, 2, and 3*
 - *Network Protocols Command Reference, Part 1, 2, and 3*
 - *Security Configuration Guide*
 - *Security Command Reference*
 - *Switching Services Configuration Guide*
 - *Switching Services Command Reference*
 - *Voice, Video, and Home Applications Configuration Guide*
 - *Voice, Video, and Home Applications Command Reference*
 - *Software Command Summary*
 - *Software System Error Messages*
 - *Debug Command Reference*
 - *Internetwork Design Guide*
 - *Internetwork Troubleshooting Guide*
 - *Configuration Builder Getting Started Guide*

The Cisco IOS Configuration Guides and Command References are located at this URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/index.htm>

- For information about MIBs, go to this URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

Conventions

This document uses the following conventions:

Convention	Description
boldface font	Commands, command options, and keywords are in boldface .
<i>italic</i> font	Arguments for which you supply values are in <i>italics</i> .
[]	Elements in square brackets are optional.
{ x y z }	Alternative keywords 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 nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
screen font	Terminal sessions and information the system displays are in <i>screen font</i> .
boldface screen font	Information you must enter is in boldface screen font .
<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.
^	The symbol ^ 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.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, 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>

