



Preface

This preface describes the objectives and organization of this document and explains how to find additional information on related products and services. This preface contains the following sections:

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Objectives

This document describes the SPA interface processors (SIPs) and shared port adapters (SPAs) that are supported on the Cisco 7600 series routers. This document also describes how to install the supported SIPs and SPAs and how to troubleshoot the installation.

Document Revision History

[Table 1](#) 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.

Table 1 Document Revision History

Release No.	Revision	Date	Change Summary
12.2 (33) SRE	OL-5052-12	Novemeber 2009	<p>Added support for:</p> <ul style="list-style-type: none"> • STM1 Electrical SFP to SPA-1ChOC3-CE-ATM and SPA-1xCHSTM1/OC3 on 7600 to Modular Optics Compatibility, page 6 • XFP-10F-MM-SR for 10GE SPAs on the SIP400 and SIP-600 to Modular Optics Compatibility, page 6 • X2-DWDM and X2-10GB-LRM/ZR support on RSP720-10GE to Modular Optics Compatibility, page 6 • RSP720-10GE on Cisco 7600-SSC-400 to SPA Services Cards, page 2
12.2 (33) SRD 2	OL-5052-11	May 2009	<ul style="list-style-type: none"> • Added support for FTS-9734-1 and FTS-9734-2 to Chapter 1, “SIP and SPA Product Overview.”
12.2 (33) SRD 1	OL-5052-10	February 2009	<ul style="list-style-type: none"> • Added support for 1-Port Channelized STM-4/OC-12 SPA
12.2 (33) SRD	OL-5052-10	July 2008	<ul style="list-style-type: none"> • Added support for BX-SFP, DWDM-SFP, DWDM-XFP and CWDM-SFP modules for features 8731-1, 8767-1, 8768-1, 8769-1and 8730-1 in Supported BX SFP Modules, Supported DWDM-XFP Modules and Supported DWDM-SFP Modules and Supported CWDM-SFP Modules , Chapter 1 • Added Support for 4-Port Fast Ethernet SPA and 8-Port Fast Ethernet SPA on SIP-400 in - Table 1-2SIP and SPA Compatibility Table for Ethernet SPAs • Updated Chapter 4, Preparing to Install a SIP or a Shared Port Adapter , section Required Tools and Equipment to add Torque specification • Updated Chapter 6, Installing and Removing a Shared Port Adaptor, section SIP Installation and Removal, Step 5 • Added Chapter 6, Section Installing a SPA in a SIP ,Step 4 and caution note at the same location.
12.2(33)SRC 1	OL-5052-09	May 2008	<ul style="list-style-type: none"> • Added support for DWDM-XFP modules in Supported DWDM-XFP Modules , Chapter 1

Table 1 Document Revision History

12.2(33)SRC	OL-5052-08		<ul style="list-style-type: none"> • Added SFP-GE-T support • Added the following SPA support to the SIP-400: <ul style="list-style-type: none"> – SPA-1X10GE-L-V2 – SPA-2XCT3/DS0 – SPA-4XCT3/DS0 – SPA-2XT3/E3 – SPA-4XT3/E3 – SPA-8XCHT1/E1 – SPA-2CHT3-CE-ATM – SPA-1XCHSTM1/OC3
—	OL-5052-07A	June 2007	Added cabling information for the 24-Port Channelized T1/E1 ATM CEoP SPA.
12.2(33)SRB1	OL-5052-07	June 2007	Added support for XFP-10GZR-OC192LR.
12.2(33)SRB	OL-5052-06	February 2006	Added support for the 1-Port Channelized OC-3 STM1 ATM CEoP SPA and 24-Port Channelized T1/E1 ATM CEoP SPA.
12.2(33)SRA	OL-5052-05	June 2006	Added support for 1-Port OC-48c/STM-16 POS SPA, 1-Port Channelized STM-1/OC-3 SPA , 4-Port and 8-Port Fast Ethernet SPA, and 2-Port and 4-Port OC-48c/STM-16 POS SPA.
12.2(18)SXF2	OL-5052-04	January 2006	Added support for 1-Port OC-192c/STM-64 POS/RPR VSR Optics SPA.
12.2(18)SXF	OL-5052-03	September 2005	Added support for Cisco 7600 SIP-600, 1-Port OC-192c/STM-64 POS/RPR SPA, 1-Port OC-48c/STM-16 ATM SPA, 1-Port 10-Gigabit Ethernet SPA, 5-Port Gigabit Ethernet SPA, 2-Port Gigabit Ethernet SPA and 1-Port OC-48c/STM-16 ATM SPA, and 1-Port OC-192c/STM-64 POS/RPR XFP SPA.
12.2(18)SXE2	OL-5052-02	June 2005	Added support for IPsec VPN SPA, and Cisco 7600 SSC-400.
12.2(18)SXE	OL-5052-01	April 2005	First release.

Organization

This document contains the following chapters:

Chapter	Title	Description
Chapter 1	SIP and SPA Product Overview	Provides an introduction to SPA interface processors (SIPs) and shared port adapters (SPAs).
Chapter 2	Overview: Cisco 7600 Series SIPs	Provides a SIP/SPA compatibility summary. For each supported SIP, provides a summary of SIP characteristics and a SIP overview.
Chapter 2	Overview: Cisco 7600 Series Router Shared Port Adapters	For each supported SPA, provides a summary of SPA characteristics and a SPA overview..
Chapter 3	Preparing to Install a SIP or a Shared Port Adapter	Describes the required tools, equipment, and safety guidelines for installing SIPs and SPAs
Chapter 4	Installing and Removing a SIP	Describes the procedures for installing and removing a SIP on a Cisco 7600 series router.
Chapter 5	Installing and Removing a Shared Port Adapter	Describes the procedures for installing and removing a SPA on a Cisco 7600 series router. It also describes how to verify the SIP and SPA installation.
Chapter 6	Troubleshooting the Installation	Provides information for troubleshooting the installation of SIPs and SPAs. It also describes helpful debug commands and error messages.

Related Documentation

This section refers you to other documentation that also might be useful as you configure your Cisco 7600 series router. The documentation listed below is available online.

Cisco 7600 Series Router Documentation

As you configure your Cisco 7600 series router, you should also refer to the following companion publication for important hardware installation information:

- *Cisco 7600 Series Ethernet Services 20G Line Card Hardware Installation Guide*

An overview of the Cisco 7600 series router features, benefits, and applications can be found in the *Cisco 7600 Series Internet Router Essentials* document located at the following URL:

http://www.cisco.com/en/US/products/hw/routers/ps368/products_quick_start09186a0080092248.html

Some of the following other Cisco 7600 series router publications might be useful to you as you configure your Cisco 7600 series router.

- *Cisco 7600 Series Cisco IOS Software Configuration Guide*
http://www.cisco.com/en/US/products/hw/routers/ps368/products_installation_and_configuration_guides_list.html
- *Cisco 7600 Series Cisco IOS Command Reference*
http://www.cisco.com/en/US/products/hw/routers/ps368/prod_command_reference_list.html

- *Cisco 7600 Series Cisco IOS System Message Guide*
http://www.cisco.com/en/US/products/hw/routers/ps368/products_system_message_guides_list.html
- Cisco 7600 Series Internet Router MIB Specifications Guide
http://www.cisco.com/en/US/products/hw/routers/ps368/prod_technical_reference_list.html

Several other publications are also related to the Cisco 7600 series router. For a complete reference of related documentation, refer to the *Cisco 7600 Series Routers Documentation Roadmap* located at the following URL:

http://www.cisco.com/en/US/products/hw/routers/ps368/products_documentation_roadmaps_list.html

Other Cisco IOS Software Publications

Your router and the Cisco IOS software running on it contain extensive features. You can find documentation for Cisco IOS software features at the following URL:

http://www.cisco.com/en/US/products/sw/iosswrel/tsd_products_support_category_home.html

Cisco IOS Release 12.2SR Software Publications

Documentation for Cisco IOS Release 12.2SR, including command reference and system error messages, can be found at the following URL:

http://www.cisco.com/en/US/products/ps6922/tsd_products_support_series_home.html

Document Conventions

Within the SIP and SPA software configuration guides, the term *router* is generally used to refer to a variety of Cisco products (for example, routers, access servers, and switches). Routers, access servers, and other networking devices that support Cisco IOS software are shown interchangeably within examples. These products are used only for illustrative purposes; that is, an example that shows one product does not necessarily indicate that other products are not supported.

This 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
bold	Bold text indicates commands and keywords that you enter exactly 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 enclosing keywords or arguments separated by a vertical line indicate an optional choice.
{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.
bold screen	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 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 that may not be contained in this manual.



Tip

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

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>

