



# 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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## Changes to This Document

[Table 1](#) provides a list of the changes to this document.

**Table 1** *Changes to This Document*

Release No.	Revision	Date	Change Summary
4.3.0	OL-17438-04	December 2012	Provides descriptions and installation instructions for the 1-Port 10-Gigabit Ethernet WAN PHY SPA
4.1.1	OL-17438-03	December 2011	Provides descriptions and installation instructions for the following SPAs: <ul style="list-style-type: none"> <li>• 1-Port Channelized OC-3 ATM CEoP SPA</li> <li>• 1-Port 10-Gigabit Ethernet DWDM SPA</li> </ul>
4.0.1	OL-17438-02	December 2010	Provides descriptions and installation instructions for the 24-Port Channelized T1/E1 ATM CEoP SPA.
3.8.0	OL-17438-01	March 2009	Provides information about FRF.12 and MFR feature support for 1-Port Channelized STM-4/OC-12 SPA
3.7.0	Rev. E0	June 30, 2008	Provides descriptions and installation instructions for the following SPAs: <ul style="list-style-type: none"> <li>• 1-Port and 3-Port Clear Channel OC-3 ATM SPA</li> <li>• 1-Port Clear Channel OC-12 ATM SPA</li> <li>• 2-Port Channelized T3/E3 ATM CEoP SPA</li> </ul>

**Table 1 Changes to This Document**

<b>Release No.</b>	<b>Revision</b>	<b>Date</b>	<b>Change Summary</b>
3.6.0	Rev. D1	November 19, 2007	Provides descriptions and installation instructions for the following SPAs: <ul style="list-style-type: none"> <li>• 8-Port Channelized T1/E1 SPA</li> <li>• 1-Port Channelized STM-16/OC-48 SPA</li> </ul>
3.5.1	Rev. C1	October 24, 2007	Provides descriptions and installation instructions for the following SPAs: <ul style="list-style-type: none"> <li>• 4-port OC3/STM4 POS SPA</li> <li>• 8-port OC3/STM4 POS SPA</li> <li>• 2-port OC12/STM4 POS SPA</li> <li>• 4-port OC12/STM4 POS SPA</li> <li>• 8-port OC12/STM4 POS SPA</li> <li>• 1-port OC48/STM16 POS/RPR SPA</li> <li>• 1-port Channelized OC12 to DS0 SPA</li> <li>• 1-port Channelized OC48 to DS3 SPA</li> <li>• 1-port Channelized STM1/OC3 to DS0 SPA</li> </ul>
3.4.1	Rev. B1	January 31, 2007	Provides descriptions and installation instructions for the following SPA: <ul style="list-style-type: none"> <li>• 2-Port Gigabit Ethernet SPA (SPA-2X1GE-V2)</li> </ul>
3.4.0	Rev. B0	October 30, 2006	Provides descriptions and installation instructions for the following SPAs: <ul style="list-style-type: none"> <li>• 8-Port Fast Ethernet SPA (SPA-8X1FE-TX-V2)</li> <li>• 1-Port 10-Gigabit Ethernet SPA (SPA-1X10GE-L-V2)</li> <li>• 5-Port Gigabit Ethernet SPA (SPA-5x1GE-V2)</li> <li>• 10-Port Gigabit Ethernet SPA (SPA-10X1GE-V2)</li> </ul>

**Table 1** *Changes to This Document*

<b>Release No.</b>	<b>Revision</b>	<b>Date</b>	<b>Change Summary</b>
3.3	Rev. A1	May 15, 2006	Provides descriptions and installation instructions for the following SIPs and SPAs: <ul style="list-style-type: none"><li>• Cisco XR 12000 SIP-401</li><li>• Cisco XR 12000 SIP-501</li><li>• Cisco XR 12000 SIP-601</li><li>• 2-Port and 4-Port Channelized T3 SPA</li><li>• 2-Port and 4-Port Clear Channel T3/E3 SPA</li><li>• 8-Port FastEthernet SPA</li><li>• 2-Port OC-48 POS/RPR SPA</li></ul>
3.2	Rev. A0	April 14, 2005	Initial release and 1st publication. Provides descriptions and installation instructions for the following SIPs and SPAs: <ul style="list-style-type: none"><li>• Cisco XR 12000 SIP-600</li><li>• 1-Port 10-Gigabit Ethernet SPA</li><li>• 5-Port Gigabit Ethernet SPA</li><li>• 10-Port Gigabit Ethernet SPA</li><li>• 1-Port OC-192/STM-64 POS/RPR SPA</li></ul>

## Objectives

This document describes the shared port adapters (SPAs) and SPA Interface Processors (SIPs) that are supported on Cisco XR 12000 Series Routers. This document also describes how to install the supported SIPs and SPAs and how to troubleshoot the installation.

## Organization

This document contains the following chapters:

<b>Section</b>	<b>Title</b>	<b>Description</b>
Chapter 1	<a href="#">Overview: Cisco XR 12000 Series Router SPA Interface Processors</a>	Provides a SIP/SPA compatibility summary. For each supported SIP, provides a summary of SIP characteristics and a SIP overview.
Chapter 2	<a href="#">Overview: Cisco XR 12000 Series Router Shared Port Adapters</a>	For each supported SPA, provides a summary of SPA characteristics and a SPA overview.
Chapter 3	<a href="#">Preparing to Install a Shared Port Adapter or a SPA Interface Processor</a>	Describes the required tools, equipment, and safety guidelines for installing SIPs and SPAs.
Chapter 4	<a href="#">Installing and Removing a SPA Interface Processor</a>	Describes the procedures for installing and removing a SIP on a Cisco 12000 Series Router.

Section	Title	Description
Chapter 5	<a href="#">Installing and Removing a Shared Port Adapter</a>	Describes the procedures for installing and removing a SPA on a Cisco 12000 Series Router. It also describes how to verify the SIP and SPA installation.
Chapter 6	<a href="#">Troubleshooting the Installation</a>	Provides information for troubleshooting the installation of SIPs and SPAs.

## Related Documentation

This section refers you to other documentation that also might be useful as you configure your Cisco XR 12000 Series Router. The documentation listed below is available online.

- *Cisco IOS XR Getting Started Guide*
- Cisco IOS XR configuration guides and command references
- *Cisco IOS XR Command Modes Reference*
- *Cisco IOS XR Diagnostics*
- *Cisco IOS XR Software Craft Works Interface Guide*
- *Cisco IOS XR XML API Guide*
- *Cisco IOS XR ROM Monitor Guide*
- *Upgrading from Cisco IOS to Cisco IOS XR Software on the Cisco XR 12000 Series Router*
- *Converting Cisco IOS Configurations to Cisco IOS XR Configurations*
- *Cisco IOS XR Security Guide*
- *Cisco IOS XR System Error Message Reference Guide*
- *Cisco XR 12000 Series Router Chassis Installation Guide*
- *Release Notes for Cisco IOS XR Software*
- *Regulatory Compliance and Safety Information for Cisco XR 12000 Series Routers*

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). The RSS feeds are a free service.