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:

Changes to This Document

This table lists the technical changes made to this document since it was first created.

Table 1: Changes to This Document

Date	Summary
March 2014	Adds support for the following SPA: • SPA-8XCHT1/E1-V2 8-Port Channelized T1/E1 SPA

May 2013	Adds description for the following SIP and SPAs:
	
	• A9K-SIP-700-8G
	
	  Cisco ASR 9000 SIP-700
	
	• SPA-2CHT3-CE-ATM
	
	  2-Port Channelized T3/E3 ATM CEoP SPA
	
	• SPA-24CHT1-CE-ATM
	
	  24-Port Channelized T1/E1/J1 CEoP SPA

Date	Summary
December 2012	Adds descriptions and installation instructions for the following SPAs: • SPA-2XSTM1/OC3/STM4/OC12 2-Port OC-3 STM-1/OC-12 STM-4 POS SPA • SPA-4XSTM1/OC3/STM4/OC12 4-Port OC-3 STM-1/OC-12 STM-4 POS SPA • SPA-4XOC-48/STM-16 POS/RPR 4-Port OC-48/STM-16 POS/RPR SPA
December 2011	Adds descriptions and installation instructions for the following SPAs: • SPA-1/3XOC3ATM 1-Port and 3-Port Clear Channel OC-3 ATM SPA • SPA-1XOC12ATM 1-Port Clear Channel OC-12 ATM SPA • SPA-1xOC3-CE-ATM 1-Port Channelized OC-3 ATM CEoP SPA
April 2011	Adds descriptions and installation instructions for the following SPAs: • SPA-4XCT3/DS0 4-Port Channelized T3 to DS0 • SPA-8XCHT1/E1 8-Port Channelized T1/E1 SPA

Date	Summary
December 2010	Adds descriptions and installation instructions for the following SPAs: • SPA-2XT3E3 • SPA-4XT3E3 2-port and 4-Port Clear Channel T3/E3 SPA • SPA-1XCHSTM1/OC3 1-Port Channelized OC-3/STM-1 SPA • SPA-4XOC3 4-Port OC-3/STM-1 POS SPA • SPA-8XOC3 8-Port OC-3/STM-1 POS SPA
September 2010	Adds descriptions and installation instructions for the following SPAs: • SPA-1XCHOC48/DS3 1-Port Channelized OC48/STM16 DS3 SPA • SPA-2XOC48POS/RPR 2-Port OC-48/STM16 SPA • SPA-8XOC12-POS 8-Port OC12/STM4 SPA • SPA-OC192POS-XFP 1-Port OC-192/STM-64 POS/RPR SPA
December 2009	Initial release and first publication. Provides descriptions and installation instructions for the following SIPs and SPAs: • Cisco ASR 9000 SIP-700 • 2-Port Channelized OC-12/DS0 SPA

Objectives

This document describes the shared port adapters (SPAs) and SPA Interface Processors (SIPs) that are supported on Cisco ASR 9000 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:

Title	Description
Overview: Cisco ASR 9000 Series Router SPA Interface Processors	Provides a SIP/SPA compatibility summary. For each supported SIP, provides a summary of SIP characteristics and a SIP overview.
Overview: Cisco ASR 9000 Series Router Shared Port Adapters	For each supported SPA, provides a summary of SPA characteristics and a SPA overview.
Preparing to Install a Shared Port Adapter or a SPA Interface Processor	Describes the required tools, equipment, and safety guidelines for installing SIPs and SPAs.
Installing and Removing a SPA Interface Processor	Describes the procedures for installing and removing a SIP on a Cisco ASR 9000 Series Router.
Installing and Removing a Shared Port Adapter	Describes the procedures for installing and removing a SPA on a Cisco ASR 9000 Series Router. It also describes how to verify the SIP and SPA installation.
Troubleshooting the Installation	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 ASR 9000 Series Router.

The documentation listed below is available online.

- *Cisco IOS XR Getting Started Guide for the Cisco ASR 9000 Series Router*

- *Cisco configuration guides and command references for the Cisco ASR 9000 Series Router*

- *Cisco IOS XR Diagnostics for the Cisco ASR 9000 Series Router*

- *Cisco IOS XR ROM Monitor Guide for the Cisco ASR 9000 Series Router*

- *Cisco IOS XR Security Guide for the Cisco ASR 9000 Series Router*

- *Cisco IOS XR System Error Message Reference Guide for the Cisco ASR 9000 Series Router*

- *Cisco ASR 9000 Series Router Chassis Installation Guide*

- *Release Notes for Cisco IOS XR Software for the Cisco ASR 9000 Series Router*

- *Regulatory Compliance and Safety Information for Cisco ASR 9000 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*, at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation as an RSS feed and delivers content directly to your desktop using a reader application. The RSS feeds are a free service, and Cisco currently supports RSS Version 2.0.