



## Preface

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This preface explains the objectives, intended audience, and organization of this *Cisco CRS Carrier Routing System 4-Slot Line Card Chassis System Description*, commonly referred to as the system description in this document, and presents the conventions that convey additional information. This preface includes the following sections:

- [Objective, page i](#)
- [Audience, page i](#)
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- [Changes to This Document, page iii](#)
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## Objective

This system description describes the Cisco CRS 4-Slot Line Card Chassis from a high level. It provides background information and basic theory of operation for anyone wanting to understand the routing system. It describes the major assemblies that comprise the line card chassis. It can be read as a supplement to the site planning guide, installation documents, and software documents. This system description focuses on the hardware elements of the line card chassis and is not a planning, installation, or configuration guide.

## Audience

This guide is intended for general audiences who want an overview of the Cisco CRS 4-Slot Line Card Chassis and its major components.

## Document Organization

This system description contains the following chapters and appendixes:

- [Cisco CRS 4-Slot Line Card Chassis Overview](#) provides an overview of the line card chassis.
- [Chassis Power System](#) provides a detailed physical description of the line card chassis power system.
- [Chassis Cooling System](#) provides an overview of the line card chassis cooling system.
- [Switch Fabric](#) provides an overview of the switch fabric. It also describes the switch fabric cards.
- [Line Cards, Physical Layer Interface Modules, and Shared Port Adapters Overview](#) provides an overview of the MSC, FP, and LSP line cards, PLIMs, and SPAs.
- [Route Processor](#) provides an overview of route processor (RP) cards.
- [Cisco CRS 4-Slot Line Card Chassis System Specifications](#) provides hardware specifications for the major line card chassis components.

## Document Conventions

This guide uses the following conventions:



### Note

Means *>reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.



### Caution

Means *>reader be careful*. You are capable of doing something that might result in equipment damage or loss of data.

## Warning Definition

<b>Warning</b>	<p><b>IMPORTANT SAFETY INSTRUCTIONS</b></p> <p><b>Note</b> This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071</p> <p><b>SAVE THESE INSTRUCTIONS</b></p>
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See *Cisco CRS Carrier Routing System Regulatory Compliance and Safety Information* for translations of warnings and information about the compliance and safety standards with which the Cisco CRS routing system conforms.

## Related Cisco CRS Documentation

For a complete listing of Cisco CRS planning, installation, and configuration documents, see the following publications:

- [Cisco CRS Carrier Routing System 4-Slot Line Card Chassis Site Planning Guide](#)
- [Cisco CRS Carrier Routing System 4-Slot Line Card Chassis System Description](#)
- [Cisco CRS Carrier Routing System 4-Slot Line Card Chassis Installation Guide](#)
- [Cisco CRS Carrier Routing System Hardware Documentation Guide](#)
- [Cisco CRS Carrier Routing System Ethernet Physical Layer Interface Module \(PLIM\) Installation Note](#)
- [Cisco CRS Carrier Routing System Packet-over-SONET Physical Layer Interface Module \(PLIM\) Installation Note](#)
- [Cisco CRS Carrier Routing System Regulatory Compliance and Safety Information](#)

See the [Obtaining Documentation, Obtaining Support, and Security Guidelines](#), on page iv for information on obtaining these and other publications.

## Changes to This Document

The following table lists the technical changes made to this document since it was first printed.

**Table 1: Changes to This Document**

Date	Change Summary
April 2012	Added Alarm Port section with pin outs to Chapter 6 to fix caveat.
August 2011	Minor editorial change to Figure 1-1 to fix caveat.
July 2011	Added information about the CRS-LSP Label Switch Processor (LSP) card to the following sections: <ul style="list-style-type: none"> <li>• <a href="#">Cisco CRS 4-Slot Line Card Chassis Overview</a></li> <li>• <a href="#">Line Cards, Physical Layer Interface Modules, and Shared Port Adapters Overview</a></li> </ul>
April 2011	Added information about new performance route processor (PRP) cards (Cisco product IDs: CRS-8-PRP-6G, CRS-8-PRP-12G). Minor editorial changes were also made.

Date	Change Summary
October 2010	Added information about the new MSC-140 and FP-140 line cards, QQ123-140G switch fabric card, 20-port and 14-port 10-GE XFP PLIMs, and the 1-port 100-GE CFP PLIM. Minor editorial and technical changes were also made.
July 2009	Module updates.
March 2008	Minor editorial changes.
June 2007	The revision includes general technical corrections.
March 2007	Added description of DC power in <a href="#">Chassis Power System</a> . Also updated <a href="#">Cisco CRS 4-Slot Line Card Chassis System Specifications</a> with DC power specifications.
November 2006	Initial release of this document.

## 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>