Preface

Revised: August 23, 2013; OL-29367-04

This document provides design considerations and guidelines for deploying Cisco Unified Communications and Collaboration solutions, including Cisco Unified Communications Manager 9.*x*, Cisco TelePresence Video Communication Server, and other components of Cisco Unified Communications and Collaboration systems.

This document has evolved from a long line of Solution Reference Network Design (SRND) guides produced by Cisco over the past decade. As Cisco's voice, video, and data communications technologies have developed and grown over time, the SRND has been revised and updated to document those technology advancements. This latest version of the SRND includes Cisco's full spectrum of collaboration technologies such as TelePresence, WebEx, and support for a wide range of end-user devices. As Cisco continues to develop and enhance collaboration technologies, this SRND will continue to evolve and be updated to provide the latest guidelines, recommendations, and best practices for designing collaboration solutions.

This document should be used in conjunction with other documentation available at the following locations:

- For other Solution Reference Network Design (SRND) documents:

  http://www.cisco.com/go/ucsrnd

- For more information about the Cisco Unified Communications System:

  http://www.cisco.com/go/unified-techinfo

  http://www.cisco.com/en/US/products/sw/voicesw/index.html

- For more information about Cisco Unified Communications Manager:

  http://www.cisco.com/en/US/products/sw/voicesw/ps556/tsd_products_support_series_home.html

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

- For information on Cisco TelePresence Video Communication Server:

  http://www.cisco.com/en/US/products/ps11337/tsd_products_support_series_home.html

  http://www.cisco.com/en/US/products/ps7060/index.html

- For other Cisco design guides:

  http://www.cisco.com/go/designzone

- For all Cisco products and documentation:

  http://www.cisco.com

New or Changed Information for This Release

> **Note** Unless stated otherwise, the information in this document applies to Release 9.*x* of the Cisco Unified Communications System and Release 7.*x* of the Cisco TelePresence Video Communication Server.

Within each chapter of this guide, new and revised information is listed in a section titled *What's New in This Chapter.*

Although much of the content in this document is similar to previous releases of the *Cisco Unified Communications System SRND*, it has been reorganized extensively to reflect more accurately the architecture of the Cisco Unified Communications and Collaboration System. Cisco recommends that you review this entire document, starting with the Introduction, page 1-1, to become familiar with the technology and the system architecture.

Revision History

This document may be updated at any time without notice. You can obtain the latest version of this document online at:

http://www.cisco.com/go/ucsrnd

Visit this Cisco.com website periodically and check for documentation updates by comparing the revision date of your copy with the revision date of the online document.

The following table lists the revision history for this document.

Revision Date	Document Part Number	Comments
August 23, 2013	OL-29367-04	Periodic update of various chapters. For details, in each chapter see *What's New in This Chapter.*
June 28, 2013	OL-29367-03	Periodic update of various chapters. For details, in each chapter see *What's New in This Chapter.*
May 24, 2013	OL-29367-02	Periodic update of various chapters. For details, in each chapter see *What's New in This Chapter.*
April 2, 2013	OL-29367-01	Complete reorganization and revision of this document to include information on Cisco TelePresence and Collaboration technologies, in addition to updates for Cisco Unified Communications System Release 9.1. For details, in each chapter see *What's New in This Chapter.*
October 31, 2012	OL-27282-04	Periodic update of various chapters. For details, in each chapter see *What's New in This Chapter.*
September 28, 2012	OL-27282-03	Periodic update of various chapters. For details, in each chapter see *What's New in This Chapter.*
August 31, 2012	OL-27282-02	Periodic update of various chapters. For details, in each chapter see *What's New in This Chapter.*
June 28, 2012	OL-27282-01	Initial version of this document for Cisco Unified Communications System Release 9.0.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at:
http://www.cisco.com/en/US/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 deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

Cisco Product Security Overview

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute, or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

Further information regarding U.S. export regulations may be found at:

http://www.access.gpo.gov/bis/ear/ear_data.html

Conventions

This document uses the following conventions:

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x	y	z }	Required 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.
courier font	Terminal sessions and information the system displays appear in courier font.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the 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.

Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Warning **IMPORTANT SAFETY INSTRUCTIONS**

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.

SAVE THESE INSTRUCTIONS

Warning **Statements using this symbol are provided for additional information and to comply with regulatory and customer requirements.**