

Applicable to UC System Release 8.5(1)

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Introduction

This page provides configuration information for a Cisco Unified Customer Voice Portal (Unified CVP) Post-Routed comprehensive call model using SIP signaling within a Cisco Unified Communications deployment. The Unified CVP comprehensive call flow model combines the Call Director and the VRU-only call flow models. It provides initial prompt and collect, self service IVR, queuing, and VoIP switching among Cisco Unified Contact Center Enterprise (Unified CCE) and TDM agents.

The intended audience should be able to perform system-level configuration of Cisco Unified Communications components and deployments and be familiar with the Cisco Unified Communications family of products.

TIP: Search for related test cases in [System Test Results for Contact Center](#).

The configuration information is based primarily on testing performed in the Unified CVP Post-Routed Call Flow test bed (Test Bed 3) during Cisco Unified Communications system releases.

This topic does not contain detailed step-by-step procedures; for detailed information about installing, configuring, and administering Unified CVP, refer to Unified CVP documentation (see Related Documentation).

Design

For information on design considerations and guidelines for deploying Unified CVP 8.x releases, see the [Cisco Unified Customer Voice Portal \(CVP\) 8.x Solution Reference Network Design \(SRND\)](#).

For information on specific deployments and sites where Unified CVP system testing was performed, see Unified CVP Post-Routed Call Flow test bed (Test Bed 3) in [Tested Deployments and Site Models](#).

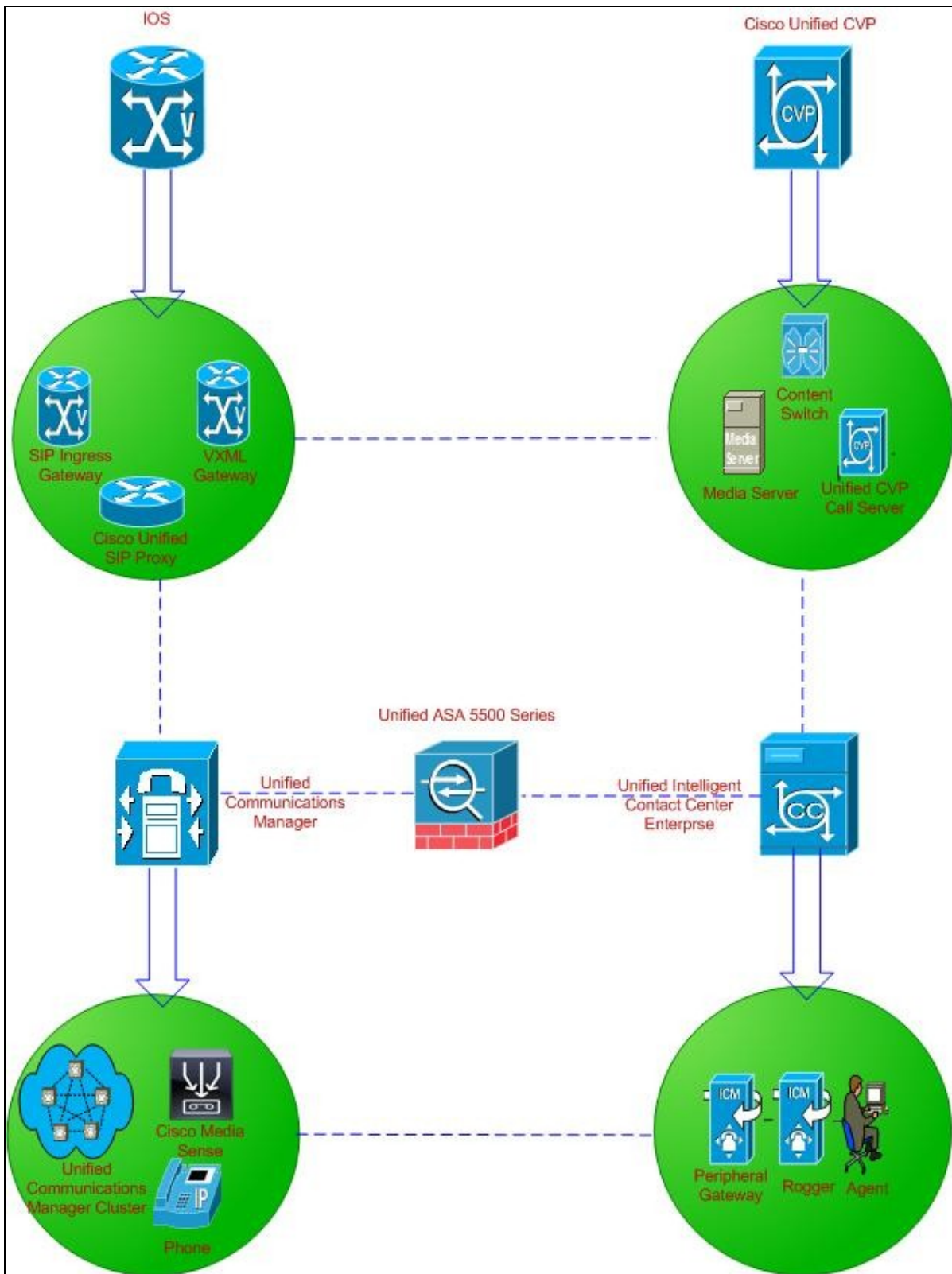
Topologies

This section provides information about the Unified CVP comprehensive call flow. During Cisco Unified Communications system testing, various Unified CVP system components including Unified CVP Call

Server, Cisco Unified Intelligent Contact Management Enterprise (Unified ICME) system, Ingress Gateway, Unified CVP VXML Gateway, and CAD and CTI OS server and desktop software were installed and tested in several sites in the Unified CVP Post-Routed call flow test bed.

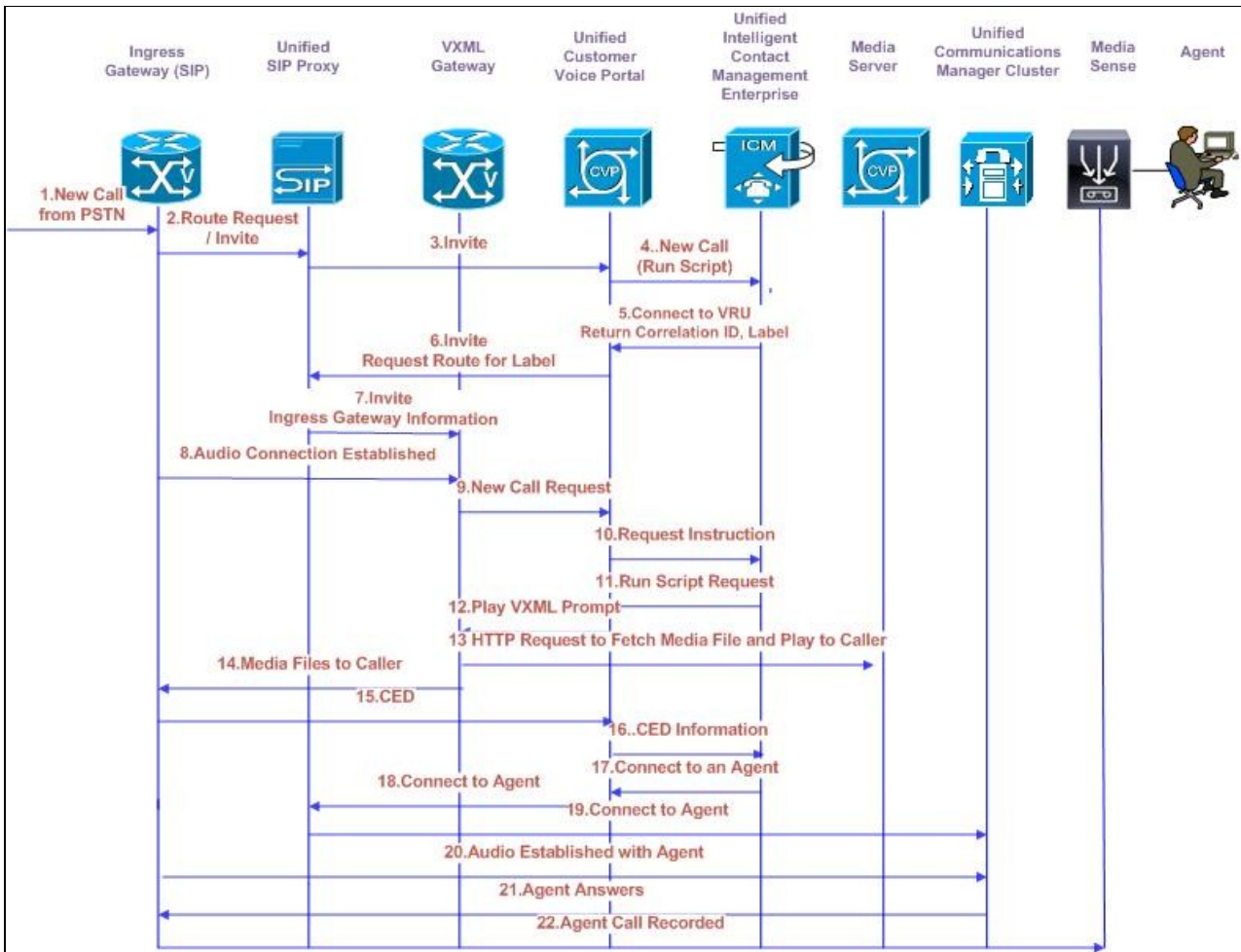
Component Deployment

The following provides a non-site specific overview of the components deployed in Test Bed 3 that participated in the Unified CVP comprehensive call flow using SIP. Security is implemented using Unified 5500 Series Adaptive Security Appliance to provide firewall and policy enforcement services and intrusion protection systems. Cisco Security Agent is implemented as core endpoint security on all the servers. Infrastructure components include routers, switches, and gateways.



Call Flow Diagram

The following is a graphical representation of the Unified CVP Post-Routed comprehensive call flow using SIP:



Configuration

This section provides the high-level tasks and related information for configuring a Unified CVP Post-Routed comprehensive call flow model using SIP. The following tables provide this information:

- **Configuration Tasks:** List of high-level configuration tasks
- **System Test Specifics:** System test variations from default values documented in the product documentation.
- **More Information:** Links to product documentation for detailed configuration information related to the high-level tasks.

NOTE: Default and recommended values specified in the product documentation were used during system testing, unless otherwise noted in the **System Test Specifics** column.

Table 1: Unified CVP Call Server, Unified SIP Proxy Server and SIP Gateway Configuration

Configuration Tasks	System Test Specifics	For More Information, see: <i>Configuration and Administration Guide for Cisco Unified Customer Voice Portal Release</i>
1. Configure the SIP Proxy on the Unified CVP Call Server.		Part: Introduction to Cisco Unified Customer Voice Portal (Unified CVP) Configuration Chapter: High-level Configuration Instructions for Call

		<p>Flow Models</p> <p>Section: Unified CVP Comprehensive (SIP/H.323) Call Flow Models > Configuration Instructions for the Unified CVP Comprehensive Call Flow Model Using SIP for Both ICME and ICMH</p>
2. Configure SIP Proxy on Unified Communications Manager.		<p>Part: Introduction to Cisco Unified Customer Voice Portal (Unified CVP) Configuration</p> <p>Chapter: High-level Configuration Instructions for Call Flow Models</p> <p>Section: Unified CVP Comprehensive (SIP/H.323) Call Flow Models > Configuration Instructions for the Unified CVP Comprehensive Call Flow Model Using SIP for Both ICME and ICMH</p>
3. Configure Unified SIP Proxy.		<p>Part: Configuration Detail of Non-Unified CVP Components</p> <p>Chapter: Configuring the SIP Devices.</p> <p>Section: Configuring a SIP Proxy Server</p>
4. Configure the Ingress (SIP) and Unified CVP VXML Gateways.		<p>Part: Introduction to Cisco Unified Customer Voice Portal (Unified CVP) Configuration</p> <p>Chapter: High-level Configuration Instructions for Call Flow Models</p> <p>Section: Unified CVP Comprehensive (SIP/H.323) Call Flow Models > Configuration Instructions for the Unified CVP Comprehensive Call Flow Model Using SIP for Both ICME and ICMH</p> <p>Section: Ingress Gateway Configuration: Example Gateway Settings,</p> <p>Section: VoiceXML Gateway Configuration: Example Gateway Settings</p>
5. Configure the ECC variables on the Unified ICME system.		<p>Part: Introduction to Cisco Unified Customer Voice Portal (Unified CVP) Configuration</p> <p>Chapter: High-level Configuration Instructions for Call Flow Models</p> <p>Section: Common Unified ICMH Configuration for Unified CVP Switch Leg > Common Unified ICME/ICMH Configuration: Define Unified CVP ECC Variables</p>
6. Configure the Speech Server.		<p>Part: Configuration Detail of Non-Unified CVP Components</p> <p>Chapter: Configuring High Availability for Unified CVP</p> <p>Section: Configuring a Speech Server.</p>
7. Configure the Media Server.		<p>Part: Configuration Detail of Non-Unified CVP Components</p> <p>Chapter: Configuring the Media Servers</p> <p>Section: Configuring a Media Server</p>

Table 1: Unified CVP Call Server, Unified SIP Proxy Server and SIP Gateway Configuration

Table 2: Unified CVP Components in Unified Intelligent Contact Management Enterprise System: VRU PG, Agents, Skill Groups, and Unified ICME Scripting Configuration

Configuration Tasks	System Test Specifics	For More Information, see: <i><u>Configuration Guide for Cisco Unified ICM/Contact Center Enterprise and Hosted</u></i>
1. Configure the Network VRUs and the Network VRU Labels.		Chapter: Network IVRs/VRUs Section: Configuring Network VRUs and VRU Scripts > Configuring Network VRUs
2. Set the adequate number of Correlation IDs (minimum/ maximum).		Chapter: Network IVRs/VRUs Section: Configuring Network VRUs and VRU Scripts > How to Set the Default Network VRU and Range of Correlation Numbers
3. Configure the appropriate Agent Desk Settings (for each Skill Group) and associate with the PG.		Chapter: Configuring Peripherals and Trunk Groups Section: Configuring a PG > PG Explorer Tab Descriptions > Peripheral Tab
4. Configure the Unified CVP VRU and Unified Communications Manager PGs with the appropriate number of routing clients for each Unified CVP Call Server and Unified Communications Manager NOTE: Use the VRU configured in step 1 as the Network VRU in the routing client configured under PG configuration.		Chapter: Configuring Peripherals and Trunk Groups Section: Configuring a PG <i><u>Upgrade Guide for ICM and CTI OS for Cisco Unified Contact Center Enterprise</u></i> Chapter: Unified CCE 8.5(1) Overview Chapter: Deployment Sequence for Upgrading ICM and CTI OP Components
5. Configure the Network Trunk Groups and Trunks for the Unified CVP VRU PG.		Chapter: Configuring Peripherals and Trunk Groups Section: Configuring Trunk Groups and Trunks
6. Configure Call Types. NOTE: Specify unique call type Name and Customer associated with the call type in List Tools > Call Type List in the ICM Configuration Manager.		Chapter: How Routing Works Section: Targets > Determine Call Type <i><u>Upgrade Guide for ICM and CTI OS for Cisco Unified Contact Center Enterprise</u></i> Chapter: Unified CCE 8.5(1) Overview Section: New Features/Changes Overview
7. Configure inbound Dialed Numbers for each Unified CVP routing client. Associate the Dialed Numbers with their respective Call Types.		Chapter: Configuring Routing Clients Section: Configuring Dialed Number/Script Selectors > Dialed Number/Script Selector List Tab Descriptions
8. Configure the Network VRU Scripts.		

Table 2: Unified CVP Components in Unified Intelligent Contact Management Enterprise System: VRU PG, Ag

		Chapter: Network IVRs/VRUs Section: Accessing VRUs in Cisco Unified Intelligent Contact Management Scripts > Network VRU Script Configuration
9. Develop routing scripts for the Unified CVP Call Types.		Chapter: Configuring Routing Clients Section: Configuring Dialed Number/Script Selectors > Dialed Number/Script Selector List Tab Descriptions
10. Configure Agents and Supervisors.		Chapter: Configuring Skill Targets Section: Agents > How to Create an Agent Section: Agents > Agent Explorer Tab Descriptions <i>Upgrade Guide for ICM and CTI OS for Cisco Unified Contact Center Enterprise</i> Chapter: Unified CCE 8.5(1) Overview
11. Configure the Skill Groups and associate Agent IDs with them.		Chapter: Configuring Skill Targets Section: Skill Groups > Skill Group Explorer
12. Add a Route to each Skill Group.		Chapter: Configuring Skill Targets Section: Skill Groups > How to Define a Skill Group and/or Its Associated Records
13. Configure Services and associate each Service to the appropriate Skill Group.		Chapter: Configuring Skill Targets Section: Services > Service Explorer Section: Skill Groups > Mapping Skill Groups to Services
14. Add a Route to the Service.		Chapter: Configuring Routes and Routing Targets Section: Route Configuration > How to Define or Modify a Route
15. Configure all the endpoints as Device Targets using Agent Targeting Rules.		Chapter: Configuring Peripherals and Trunk Groups Section: Configuring Agent Targeting Rules
16. Define Labels for the Device Targets and associate them with the corresponding routing clients.		Chapter: Configuring Routes and Routing Targets Section: Labels

Table 3: Unified Communications Manager Components, CAD Server and Desktop, and CTI OS Server and Desktop Configuration

General Configuration Tasks	System Test Specifics	For More Information, see
1. Create user accounts and associate them with the JTAPI phones.		<i>Installation and Configuration Guide, Cisco Unified Contact Center Enterprise</i>

Table 3: Unified Communications Manager Components, CAD Server and Desktop, and CTI OS Server and D

		<p>Chapter: Installing and Configuring Unified Communications Manager for Cisco Unified Contact Center Enterprise Section: About the Unified CM Administration Utility > Unified CM Configuration Tasks</p> <p><u><i>Agent Greeting and Whisper Announcements Features Configuration Guide Cisco Unified Contact Center Enterprise</i></u> Section: Configuration Requirements</p>
2. Configure Unified Communications Manager components, including agent phones and associations for Unified CVP.		<p><u><i>Installation and Configuration Guide, Cisco Unified Contact Center Enterprise</i></u> Chapter: Installing and Configuring Unified Communications Manager for Unified Contact Center Enterprise Section: About the Unified CM Administration Utility > Unified CM Configuration Tasks Section: How to Configure Unified CM for Unified CVP</p> <p><u><i>Agent Greeting and Whisper Announcements Features Configuration Guide Cisco Unified Contact Center Enterprise</i></u> Section: Configuration Requirements</p>
3. Use the Cisco Agent Desktop (CAD) Configuration Setup utility to configure CAD services.		<p><u><i>Cisco CAD Installation Guide, Cisco Unified Contact Center Enterprise and Hosted Release</i></u> Chapter: Installing CAD 8.5 Applications Section: CAD Configuration Setup Utility</p>
4. Install and configure the CTI OS Server.		<p><u><i>CTI OS System Manager's Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted</i></u> Chapter: CTI OS Server Installation <u><i>Upgrade Guide for ICM and CTI OS for Cisco Unified Contact Center Enterprise</i></u> Chapter: Deployment Sequence for Upgrading ICM and CTI OS Components Chapter: Upgrading CTI OS to 8.5(1)</p>
5. Install and configure CTI OS Agents.		<p><u><i>CTI OS System Manager's Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted</i></u> Chapter: CTI Toolkit Desktop Client Installation <u><i>Upgrade Guide for ICM and CTI OS for Cisco Unified Contact Center Enterprise</i></u> Chapter: Unified CCE8.5(1) Overview</p>

Table 3: Unified Communications Manager Components, CAD Server and Desktop, and CTI OS Server and D

<p>6. Add a Call Control Service Connection for Cisco MediaSense.</p> <p>Note: The Call Control Service in Cisco MediaSense is referred to as a SIP Trunk in Unified Communications Manager UI and documentation.</p>		<p><u><i>Installation and Administration Guide for Cisco MediaSense</i></u> Note: Cisco's media capture platform Cisco MediaSense is referred to as Cisco Unified Media Capture Platform (Unified MCP) in this legacy document.</p> <p>Chapter: Using the Unified MCP Administration Section: Configuring Unified MCP with Unified CM > Provisioning Unified CM for Unified MCP > Configuring the Call Control Service Connection</p>
<p>7. Add a Route Group List and Route Pattern for MediaSense.</p>		<p><u><i>Installation and Administration Guide for Cisco MediaSense</i></u> Chapter: Using the Unified MCP Administration Section: Configuring Unified MCP with Unified CM > Provisioning Unified CM for Unified MCP > Configuring the Call Control Service Connection</p>
<p>8. Add a Recording profile and associate with the Agent Phone.</p>		<p><u><i>Installation and Administration Guide for Cisco MediaSense</i></u> Chapter: Using the Unified MCP Administration Section: Configuring Unified MCP with Unified CM > Provisioning Unified CM for Unified MCP > Configuring the Call Control Service Connection</p>
<p>9. Update Service Parameters for MediaSense.</p>		<p><u><i>Installation and Administration Guide for Cisco MediaSense</i></u> Chapter: Using the Unified MCP Administration Section: Configuring Unified MCP with Unified CM > Provisioning Unified CM for Unified MCP > Configuring the Call Control Service Connection</p>

Table 4: Cisco MediaSense Configuration

<p>General Configuration Tasks</p>	<p>System Test Specifics</p>	<p>For More Information, see <u><i>Installation and Administration Guide for Cisco MediaSense</i></u> Note: Cisco's media capture platform Cisco MediaSense is referred to as Cisco Unified Media Capture Platform (Unified MCP) in this legacy document.</p>
<p>1. Install and verify the MediaSense system.</p>		<p>Chapter: Installing Unified MCP</p>

2. Activate the services on MediaSense.		Chapter: Installing Unified MCP Section: Post-Installation Requirements > Completing the Installation for the Primary Server
3. Provision Unified Communications Manager end users as users on MediaSense.		Chapter: Using the Unified MCP Administration Section: Provisioning Users for Unified MCP Deployments

Related Documentation

- For configuration checklists and component installation and configuration documents, see [Component Installation and Configuration Guides](#).
- For information on the results obtained from the system testing, see [System Test Results for Contact Center](#).
- For information on configuring the security components, see [Security System Configurations](#).
- For information on the IOS commands used to configure infrastructure components, see [Configuration Command Files for Contact Center](#).
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