Port Utilization Guide for Cisco Unified Contact Center Solutions, Release 12.0(1)

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CONTENTS

Preface

Change History

This table lists changes made to this guide. Most recent changes appear at the top.

Change	See	Date
Initial Release of Document for Release 12.0(1)		September, 2018
Added Campaign Manager EMT port to Dialer.	Unified CCE Port Utilization: Routers, PGs, Administration & Data Servers, and Loggers	
Added the GED-188 secured ports.	Unified CCE Port Utilization: CTI and CTI Object Server' table	
Removed CCH instances	Unified CCMP Port Utilization	

About This Guide

This document provides a list of the TCP and UDP ports that Cisco Unified Contact Center products use. You use this information to configure Quality of Service (QoS) and Firewall/VPN solutions. Proper configuration is important on a network with an Architecture for Voice, Video, and Integrated Data (AVVID) solution.

Audience

This document is intended primarily for network administrators.

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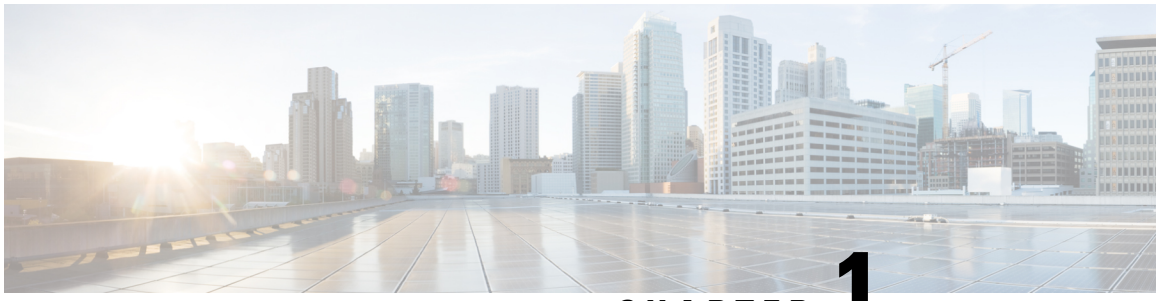
Convention	Description
boldface font	Boldface font is used to indicate commands, such as user entries, keys, buttons, folder names, and submenu names. For example: • Choose **Edit** > **Find**. • Click **Finish**.
italic font	Italic font is used to indicate the following: • To introduce a new term. Example: A *skill group* is a collection of agents who share similar skills. • A syntax value that the user must replace. Example: IF (*condition, true-value, false-value*) • A book title. Example: See the *Cisco Unified Contact Center Enterprise Installation and Upgrade Guide*.
`window font`	Window font, such as Courier, is used for the following: • Text as it appears in code or that the window displays. Example: `<html><title>Cisco Systems, Inc. </title></html>`
`< >`	Angle brackets are used to indicate the following: • For arguments where the context does not allow italic, such as ASCII output. • A character string that the user enters but that does not appear on the window such as a password.



CHAPTER 1

Port Utilization for System Services

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note

- The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.
- For security reasons, keep open only the ports mentioned in this guide and those required by your application. Keep the rest of the ports blocked.

System Services Port Utilization

Table 1: System Services Port Utilization

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic direction	Purpose
System Service	TCP 7	Editor	—	Bidirectional	- Echo for Editor - ICM Controller
System Service	TCP 22	—	—	Bidirectional	SFTP and SSH access
Tomcat (HTTP)	TCP 80	—	—	Bidirectional	- Web access - Call recording server - Unified CCMP Web server and AXL provisioning - CRM Connector server - Default port for voice browsers to fetch media and "external VXML" files from media server
System Service	UDP 123	—	—	Bidirectional	NTP, network time sync
SNMP Agent	UDP 161	—	—	Bidirectional	Provide services for SNMP-based management applications
AON Management Console (AMC) Service	TCP 1090	Intracluster communication	—	Bidirectional	Provide RTMT data collecting, logging and alerting functionalities (AMC RMI Object Port)
AON Management Console (AMC) Service	TCP 1099	Intracluster communication	—	Bidirectional	Provide RTMT data collecting, logging and alerting functionalities (AMC RMI Registry Port)
DBMON	TCP 1500	—	—	Bidirectional	This is the port where the IDS engine listens for DB clients
DBMON	TCP 1501	—	—	Bidirectional	- This is an alternate port to bring up a second instance of IDS during upgrade. - Localhost traffic only

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic direction	Purpose
DBL RPC	TCP 1515	Intracluster communication	—	Bidirectional	DBL RPC, this is used during installation to set up IDS replication between nodes
Real-Time Information Server (RIS) Data Collector service (RISDC)	TCP 2555	Intracluster communication	—	Bidirectional	Used by the RISDC platform service. The Real-time Information Server (RIS) maintains real-time Cisco Unified CM information such as device registration status, performance counter statistics, critical alarms generated, and so on. The Cisco RISDC service provides an interface for applications, such as RTMT, SOAP applications, Cisco Unified CM Administration and AMC to retrieve the information that is stored in all RIS nodes in the cluster.
RISDC	TCP 2556	Intracluster communication	—	Bidirectional	Allowed RIS client connection to retrieve real-time information
Disaster Recovery System (DRS)	TCP 4040	—	—	Bidirectional	Real-time service
Real-time service	TCP 5001	—	—	Bidirectional	SOAP Monitor Used by SOAP to monitor the Real Time Monitoring Service and fetch the Server information for selection of specific CM devices and other such activities.
Perfmon service	TCP 5002	—	—	Bidirectional	SOAP Monitor Used by SOAP to monitor the Performance Monitor Service for opening and closing sessions, collecting session data and fetching various other data.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic direction	Purpose
Control center service	TCP 5003	—	—	Bidirectional	SOAP Monitor Used by SOAP to monitor the Control Center Service for activities like getting the Service Status and performing service deployment.
Log Collection Service	TCP 5004	—	—	Bidirectional	SOAP Monitor
System Service	TCP 5007	—	—	Bidirectional	SOAP Monitor - a troubleshooting tool for SOAP infrastructure
Cisco Identity Service Data Grid	TCP 5701	Intra-cluster communication	—	Bidirectional	Data or Service grid to manage Cisco IdS cluster nodes.
DBMON (CN)	TCP 8001	Intracluster communication	—	Bidirectional	DB change notification port.
Tomcat (HTTP)	TCP 8080	Client Browser	—	Bidirectional	- Client browser trying to access any of the Administration interfaces or User Options interface. - Web services client using RTMT, configuration APIs, and mobile supervisor applications. - Data replication for call recording server - OAMP for Live Data - CRM Connector for SAP (adjustable through registry)
Tomcat (HTTPS)	TCP 8443	Client Browser	—	Bidirectional	- Client browser trying to access any of the Administration interfaces or User Options interface. - Web services client using RTMT, configuration APIs, and mobile supervisor applications. - DB access via SOAP; Tomcat forwards the SOAP request to AXL.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic direction	Purpose
IPSec Manager daemon	TCP 8500	—	—	Bidirectional	Connectivity testing. Uses a proprietary protocol.
IPSec Manager daemon	UDP 8500	—	—	Bidirectional	Cluster replication of platform data (hosts) certificates etc. Uses a proprietary protocol.
Cisco Identity Service (Cisco IdS) [1]	TCP 8553	—	—	—	HTTPS for Cisco IdS

[1] Not applicable to Cisco Virtualized Voice Browser.

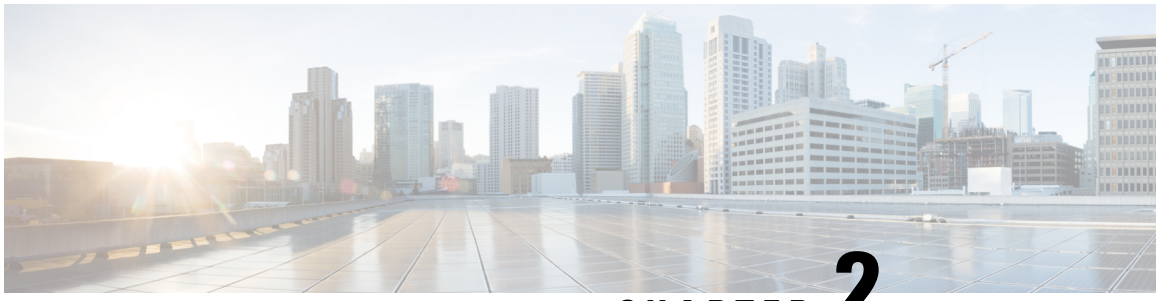
SOAP Port Considerations

The following considerations apply to the Simple Object Access Protocol (SOAP) ports:

- SOAP monitor uses specific ports to send the corresponding SOAP API requests.
- Access to the ports are always authenticated with the Username and Password authentication.

Table 2: Unified CCE Port Utilization: Packaged CCE

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Data Servers and external HDSs	HTTPS 443	ESXi Hosts	HTTPS 443	Bi-directional	–



CHAPTER 2

Port Utilization in Contact Center Enterprise

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note

- The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.
- For security reasons, keep open only the ports mentioned in this guide and those required by your application. Keep the rest of the ports blocked.

Unified CCE and Packaged CCE Port Utilization

This table includes information for Unified CCE and CTI OS.

Some port definitions use a formula. For example:

```
TCP 40007 + (Instance Number * 40)
```

In this example, instance 0 uses port 40007, instance 1 uses port 40047, instance 2 uses port 40087, and so on.

Note In the following table, PG1, PG2, and PG3 are not specific PG numbers or DMP IDs. They are the order in which the PGs get installed.

Note This document does not include the Enterprise Chat and Email (ECE) port details. For more information on ECE ports, see the ECE documentation at: https://www.cisco.com/c/en/us/support/customer-collaboration/cisco-enterprise-chat-email/tsd-products-support-series-home.html.

Table 3: Unified CCE Port Utilization: Routers, PGs, Administration & Data Servers, and Loggers

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Router (side B) (MDS)	**Private low:** • TCP 41004 + (instance number * 40) **Private medium:** • TCP 41016 + (instance number * 40) **Private high:** • TCP 41005 + (instance number * 40) **State Xfer for CIC:** • TCP 41022 + (instance number * 40) **State Xfer for HLGR:** • TCP 41021 + (instance number * 40) • TCP 41032 + (instance number * 40) **State Xfer for RTR:** • TCP 41020 + (instance number * 40) UDP 39500–39999 **State Xfer for DBAgent:** • TCP 41033 + (instance number * 40)	Router (side A) (MDS)		Bi-directional	Private network at the central controller site **Note** UDP ports are not used, if QoS is enabled on the router private interface.
Router (side B) (MDS)	MDS process port TCP 41000	MDS process client		Bi-directional	
Router (side B) (MDS)	MDS state transfer port TCP 41001	MDS process client (synchronized)		Bi-directional	

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Router (side A and B) (DB Worker)	DB Worker process port UDP 445	DB Worker process client		Bi-directional	
ICM PG1 (side A and B) (pgagent)	TCP 43006 + (instance number * 40)	ICM PG1 (Opposite Side: A or B) (pgagent)		Bi-directional	Public network (test-other-side)
ICM PG2 (side A and B) (pgagent)	TCP 45006 + (instance number * 40)	ICM PG2 (Opposite Side: A or B) (pgagent)		Bi-directional	Public network (test-other-side)
ICM PG3 (side A and B) (pgagent)	TCP 47506 + (instance number * 40)	ICM PG3 (Opposite Side: A or B) (pgagent)		Bi-directional	Public network (test-other-side)
ICM PG1 (side A and B) (MDS)	• Private low: TCP 43004 + (instance number * 40) • Private medium: TCP 43016 + (instance number * 40) • Private high: TCP 43005 + (instance number * 40) • State Xfer for OPC: TCP 43023 + (instance number * 40) UDP 39500–39999	ICM PG1 (Opposite Side: A or B)		Bi-directional	Private network **Note** UDP ports are not used, if QoS is enabled on the ICM PG private interface.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
ICM PG2 (side A and B) (MDS)	• Private low: TCP 45004 + (instance number * 40) • Private medium: TCP 45016 + (instance number * 40) • Private high: TCP 45005 + (instance number * 40) • State Xfer for OPC: TCP 45023 + (instance number * 40) UDP 39500–39999	ICM PG2 (Opposite Side: A or B)		Bi-directional	Private network **Note** UDP ports are not used if QoS is enabled on the ICM PG private interface.
ICM PG3 (side A and B) (MDS)	• Private low: TCP 47504 + (instance number * 40) • Private medium: TCP 47516 + (instance number * 40) • Private high: TCP 47505 + (instance number * 40) • State Xfer for OPC: TCP 47523 + (instance number * 40) UDP 39500–39999	ICM PG3 (Opposite Side: A or B)		Bi-directional	Private network **Note** UDP ports are not used if QoS is enabled on the ICM PG private interface.
ICM PG1 (side B) (MDS)	MDS process port TCP 43000	MDS process client		Bi-directional	
ICM PG1 (side B) (MDS)	MDS state transfer port TCP 43001	MDS process client (synchronized)		Bi-directional	

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
ICM PG2 (side B) (MDS)	MDS process port TCP 45000	MDS process client		Bi-directional	
ICM PG2 (side B) (MDS)	MDS state transfer port TCP 45001	MDS process client (synchronized)		Bi-directional	
ICM PG3 (side B) (MDS)	MDS process port TCP 47500	MDS process client		Bi-directional	
ICM PG3 (side B) (MDS)	MDS state transfer port TCP 47501	MDS process client (synchronized)		Bi-directional	

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Router (side A) (MDS)	**Private low:** • TCP 41004 + (instance number * 40) **Private medium:** • TCP 41016 + (instance number * 40) **Private high:** • TCP 41005 + (instance number * 40) **State Xfer for CIC:** • TCP 41022 + (instance number * 40) **State Xfer for HLGR:** • TCP 41021 + (instance number * 40) • TCP 41032 + (instance number * 40) **State Xfer for RTR:** • TCP 41020 + (instance number * 40) UDP 39500–39999 **State Xfer for DBAgent:** • TCP 41033 + (instance number * 40)	Router (side B) (MDS)		Bi-directional	Private network at the central controller site **Note** UDP ports are not used if QoS is enabled on the router private interface.
Router (side A) (MDS)	MDS process port TCP 40000	MDS process client		Bi-directional	
Router (side A) (MDS)	MDS state transfer port TCP 40001	MDS process client (synchronized)		Bi-directional	
ICM PG1 (side A) (MDS)	MDS process port TCP 42000	MDS process client		Bi-directional	

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
ICM PG1 (side A) (MDS)	MDS state transfer port TCP 42001	MDS process client (synchronized)		Bi-directional	
ICM PG2 (side A) (MDS)	MDS process port TCP 44000	MDS process client		Bi-directional	
ICM PG2 (side A) (MDS)	MDS state transfer port TCP 44001	MDS process client (synchronized)		Bi-directional	
ICM PG3 (side A) (MDS)	MDS process port TCP 46000	MDS process client		Bi-directional	
ICM PG3 (side A) (MDS)	MDS state transfer port TCP 46001	MDS process client (synchronized)		Bi-directional	
Router (side A) DMP (ccagent)	• Public low: TCP 40002 + (instance number * 40) • Public medium: TCP 40017 + (instance number * 40) • Public high: TCP 40003 + (instance number * 40) UDP 39500–39999	ICM PG (pgagent)		Bi-directional	Public network connecting the PG to the central controller Router to pre-5.0 PG communication. **Note** UDP ports are not used if QoS is enabled on the ICM PG private interface.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Router (side B) DMP (ccagent)	• Public low: TCP 41002 + (Instance Number * 40) • (instance number Public medium: TCP 41017 + (instance number * 40) • Public high: TCP 41003 + (instance number * 40) UDP 39500–39999	ICM PG (pgagent)		Bi-directional	Public network connecting the PG to the central controller Router to pre-5.0 PG communication. **Note** UDP ports are not used if QoS is enabled on the ICM PG private interface.
Router A (rtfeed)	TCP 40007 + (instance number * 40)	Administration & Data Server		Bi-directional	Real-time feed
Router B (rtfeed)	TCP 41007 + (instance number * 40)	Administration & Data Server		Bi-directional	Real-time feed
Logger (side A)	TCP 40026 + (instance number * 40) TCP 40028 + (instance number * 40)	Administration & Data Server Historical Data Server (HDS)		Bi-directional	Replication
Logger (side A)	TCP 40032 + (instance number * 40)	Dialer and Import		Bi-directional	Campaign Manager EMT port to Dialer
Logger (side B)	TCP 41026 + (instance number * 40) TCP 41028 + (instance number * 40)	Administration & Data Server Historical Data Server (HDS)		Bi-directional	Replication
Logger (side B)	TCP 41036 + (instance number * 40)	Dialer and Import		Bi-directional	Campaign Manager EMT port to Dialer
Primary Administration & Data Server (rtfeed)	TCP 48008 + (instance number * 40)	Administration client		Bi-directional	Real-time feed
Secondary Administration & Data Server (rtfeed)	TCP 49008 + (instance number * 40)	Administration client		Bi-directional	Real-time feed

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Contact Sharing	TCP 61616	Active MQ for Live Data	TCP 61616	Bidirectional	
CICM Router (side A) (INCRPNIC)	UDP 40025 + (instance number * 40)	NAM Router (CIC)		Bi-directional	Public network connecting the NAM to the CICM
CICM Router (side B) (INCRPNIC)	UDP 41025 + (instance number * 40)	NAM Router (CIC)		Bi-directional	Public network connecting the NAM to the CICM
CSFS	TCP 40015	CSFS duplexed peer		Bi-directional	CSFS event synchronization link
Logger (side A)	40013 + (instance number *40)			Bi-directional	Recovery
Logger (side B)	41013 + (instance number *40)			Bi-directional	Recovery
Diagnostic framework	TCP 7890			Bi-directional	This serviceability component is installed on major CCE component servers (e.g. router, logger, PG, and Administration and Data Servers)

Table 4: Unified CCE Port Utilization: Distributor and Internet Script Editor

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
MSSQL		Logger Distributor	TCP 1433	Bi-directional	

Table 5: Unified CCE Port Utilization: CCE Outbound Option Dialer

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
SIP		Cisco Unified Communications Manager (Unified CM)	UDP 58800	Bi-directional	Set in the **SIPDialerPortBaseNumber** registry key.
RTP for SIP	UDP ports in a range based on these formulas: • RangeStart = RTPPortRangeStart + (*instNum* * 2000) • RangeEnd = RangeStart + 2000 You can set RTPPortRangeStart in the registry key: **RTPPortRangeStart**. *instNum* is the instance number for the Dialer.	Voice gateway		Bi-directional	Receive ports for reservation calls. Use the following registry key to select and configure UDP ports: **RTPPortRangeStart**
TFTP		TFTP server	UDP 69	Bi-directional	
TFTP file transfer			Ephemeral	Bi-directional	
MR PG	TCP 38001+ (instance number)			Bi-directional	The MR PG connects to the SIP Dialer using this port.
MR PG (SIP)	5060 and "SIPDialerPortBaseNumber + instance number"			Bi-directional	This port is used with Unified Communications Manager, Voice Gateway, or SIP Proxy.

Table 6: Unified CCE Port Utilization: CTI and CTI Object Server

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
GED-188 (CTI Server) unsecured	Side A TCP 42027 + (instance number * 40) Side B TCP 43027 + (instance number * 40)	Finesse Cisco Outbound Dialer ARM Interface CTI OS Server		Bi-directional	CTI OS is only supported for TDM and System PG.
GED-188 (CTI Server) secured	Side A TCP 42030 + (instance number * 40) Side B TCP 43030 + (instance number * 40)	Finesse Cisco Outbound Dialer ARM Interface CTI OS Server		Bi-directional	CTI OS is only supported for TDM and System PG.
CTI OS Server	TCP 42028	CTI OS Client CTI OS Server Peers Cisco Sync Service		Bi-directional	CTI OS is only supported for TDM and System PG. Applicable to first CTI OS instance. Multi-instance CTI OS require a custom port be defined.
CTI OS Supervisor Desktop	UDP 39200	CTI OS Client		Bi-directional	Desktop Silent Monitoring CTI OS Supervisor Desktop is only supported for System PG.
CTI OS Silent Monitor Service	TCP 42228	CTI OS Client		Bi-directional	CTI OS Silent Monitor Service is only supported for System PG.
Cisco Enterprise Data Store	TCP 42228	Siebel server		Bi-directional	Support for screen call context

Table 7: Unified CCE Port Utilization: TDM/IP Peripherals

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
IP Process Communications					

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
CTI/QBE		Unified CM	TCP 2748	Bi-directional	JTAPI
PG, VRU PIM (GED-125)		Customer Voice Portal (or ISN) Cisco Unified IP-IVR	TCP 5000–5001	Bi-directional	Unified ICM/IVR message interface, VRU PIM
CCE PG	TCP 2789	Unified CM		Bi-directional	JTAPI application server
MR PIM		Media Routing process	TCP 38001	Bi-directional	
TDM Process Communications **Note** For more information on peripheral communication, see the "ACD Supplement" user documentation for the specific switch you are using.					
Aspect PIM		Aspect ACD	TCP 8000	Bi-directional	Used by real-time bridge
Aspect Contact Center server PIM		Aspect Contact Center server	TCP 6101 TCP 6102 TCP 9001	Bi-directional	Application bridge Event link
Avaya PIM	TCP 6060–6070	Avaya ACD CMS	TCP 5678	Bi-directional	Event link
MIS Process	TCP 3000–3030	VRU		Bi-directional	Connects to CTI server, listens for VRU PIM
Avaya Aura Contact Center (AACC) PIM		Avaya ACD	TCP 3000	Bi-directional	
UCCE Gateway PIM		UCCE System PG	TCP 12028	Bi-directional	Port number is configurable

Note For port utilization information about Network Interface Controllers (NICs), refer to the TCP/IP-based NIC System Management Guide Supplements and setup parameters of the NIC or SCP connections.

Table 8: Unified CCE Port Utilization: Windows Authentication and Remote Administration Ports

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
RPC	TCP 135 UDP 135			Bi-directional	
NetBIOS Session	TCP 139			Bi-directional	
NetBIOS Name Resolution	TCP 137 UDP 137			Bi-directional	
NetBIOS Netlogon/ Browsing	UDP 138			Bi-directional	
SMB	TCP 445 UDP 445[2]			Bi-directional	
LDAP	TCP 389 UDP 389			Bi-directional	
LDAP SSL	TCP 636			Bi-directional	
LDAP GC	TCP 3268			Bi-directional	
LDAP GC SSL	TCP 3269			Bi-directional	
DNS	TCP 53 UDP 53			Bi-directional	
Kerberos	TCP 88 UDP 88			Bi-directional	
SQL Server	TCP 1433 UDP 1434			Bi-directional	See Q287932

[2] DB Worker uses UDP 445. This port is also used for named pipes connectivity.

Note For more information on Windows authentication, see *Service overview and network port requirements for the Windows Server system* (Microsoft knowledge base article Q832017).

Table 9: Unified CCE Port Utilization: Network Management and Remote Administration

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
SNMP–Trap	UDP 162			Bi-directional	
Syslog	UDP 514			Bi-directional	
Telnet	TCP 23			Bi-directional	
RDP (Terminal Services)	TCP 3389			Bi-directional	
pcAnywhere	TCP 5631 UDP 5632			Bi-directional	
VNC	TCP 5900 TCP 5800 (Java HTTP)			Bi-directional	RealVNC

Table 10: Unified CCE Port Utilization: Customer Interaction Analyzer

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
VPN/terminal services	TCP 3389	Call recording server		Bi-directional	

Table 11: Unified CCE Port Utilization: Live Data

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Router (side A and B) (TIP Event)	Router A: 40034 + (instance number * 40) Router B: 41034 + (instance number * 40)	CUIC/Live Data		Bi-directional	Public network Live Data Events.
Router (side A and B) (TIP TOS)	Router A: 40035 + (instance number * 40) Router B: 41035 + (instance number * 40)	CUIC/Live Data		Bi-directional	Public network Live Data Test Other Side.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
ICM PG1 (side A and B) (TIP Event) [3]	Side A: 42034 + (instance number * 40) Side B: 43034 + (instance number * 40)	CUIC/Live Data		Bi-directional	Public network Live Data Events.
ICM PG2 (side A and B) (TIP Event)	Side A: 44034 + (instance number * 40) Side B: 45034 + (instance number * 40)	CUIC/Live Data		Bi-directional	Public network Live Data Events.
ICM PG1 (side A and B) (TIP TOS)	Side A: 42035 + (instance number * 40) Side B: 43035 + (instance number * 40)	CUIC/Live Data		Bi-directional	Public network Live Data Test Other Side.
ICM PG2 (side A and B) (TIP TOS)	Side A: 44035 + (instance number * 40) Side B: 45035 + (instance number * 40)	CUIC/Live Data		Bi-directional	Public network Live Data Test Other Side.
Socket.IO unsecured port	TCP 12007	CUIC/Live Data	Socket.IO	Bi-directional	
Socket.IO secured port	TCP 12008	CUIC/Live Data	Socket.IO	Bi-directional	
CCE Live Data Cassandra Service	TCP 12000			Bi-directional	Live Data Cassandra TCP port for commands and data
CCE Live Data Cassandra Service	TCP 12001			Bi-directional	Live Data Cassandra SSL port for encrypted communication. (Unused unless enabled in encryption_options.)
CCE Live Data Storm DRPC Service	TCP 3772			Bi-directional	Live Data DRPC port
CCE Live Data Storm DRPC Service	TCP 3773			Bi-directional	Live Data DRPC invocation port
CCE Live Data Zookeeper Service	TCP 2181			Bi-directional	Live Data Reporting

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
CCE Live Data Web Service	TCP 12004–12006			Bi-directional	Live Data Reporting
CCE Live Data Active MQ Service	TCP 61616			Bi-directional	Live Data Active MQ OpenWire transport Connector port
CCE Live Data Active MQ Service	TCP 61612			Bi-directional	Live Data Active MQ Stomp transport connector port
Unified Intelligence Center	TCP 8081			Bi-directional	HTTP - Unified Intelligence Center

[3] The ports for TIP/TOS connections are assigned based on the order in which the PG pair (side A/B) is installed on the same server. For example, the first PG pair (PG1 Side A/B) installed, is assigned TIP base ports 42034 and 43034 respectively. The second PG pair (PG2 Side A/B) installed, is assigned ports 44034 and 45034 respectively. The same assignment is applicable to TOS ports as well.

Unified CCMP Port Utilization

Table 12: Cisco Unified Contact Center Management Portal Port Utilization

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Protocol and Port	Remote Device (Process or Application Protocol)	Traffic Direction	Notes
CCMP Web/Application server A					
SQL	TCP 1433	CCMP DB server A/B			Standard SQL connection
LDAP	TCP 389	Domain Controller	UDP 389		Used to read AD account information for supervisor provisioning
CCMP Web/Application server B					
SQL	TCP 1433	CCMP DB server A/B			Standard SQL connection
LDAP	TCP 389	Domain Controller	UDP 389		Used to read AD account information for supervisor provisioning
CCMP Database server A					

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Protocol and Port	Remote Device (Process or Application Protocol)	Traffic Direction	Notes
SQL	TCP 1433	CCMP DB server B			For SQL replication
	TCP 1433	CCE Administration and Data server side A			For import of CCE dimension data
	TCP 1433	CCE Administration and Data server side B			For import of CCE dimension data
*MSDTC	TCP 135	CCMP DB sever B	TCP 1024-5000		For the CCMP audit archive job
SMB over IP	UDP 445*		TCP 445		For CVP file upload file replication
* Also used for named pipes connectivity. **CCMP Database server B**					
SQL	TCP 1433	CCMP DB server A			For SQL replication
	TCP 1433	CCE/CCH Administration & Data sever side A			For import of CCE/CCH dimension data
	TCP 1433	CCE/CCH Administration & Data sever side B			For import of CCE/CCH dimension data
*MSDTC	TCP 135	CCMP DB sever A	TCP 1024-5000		For the CCMP audit archive job
SMB over IP	UDP 445*		TCP 445		For CVP file upload file replication

These assume all server names are either TCP/IP addresses or DNS names (hence no NETBIOS port requirements).

Ports are also required to access all Unified Contact Center Management Portal servers for support reasons (either pcAnywhere or terminal services).

Note This list does not include standard Windows ports such as DNS and Kerberos.

* MSDTC response ports by default use a dynamically allocated port in the range of 1024 to 5000. You can configure this range creating the HKEY_LOCAL_MACHINE\Software\Microsoft\Rpc\Internet location registry key and adding the following registry values:

- Ports (REG_MULTI_SZ) - specify one port range per line, for example, 3000-3005
- PortsInternetAvailable (REG_SZ) - always set this value to "Y" (do not include the quotes)

• UseInternetPorts (REG_SZ) - always set this value to "Y" (do not include the quotes)

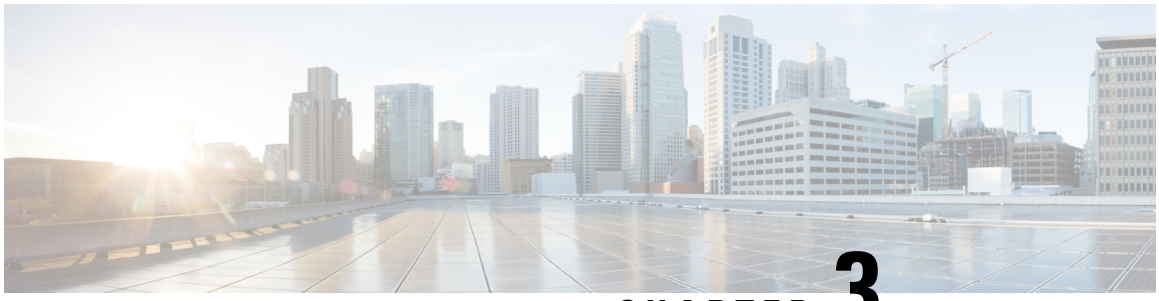
Unified CRM Connectors Port Utilization

Table 13: Cisco Unified CRM Connector for SAP

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
CRM DataStore for SAP	TCP 42029	CRM Connector for SAP			

Table 14: Cisco Unified CRM Connector for Microsoft CRM, Oracle PeopleSoft, Salesforce.com

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
MSCRM Server	TCP 81	MSCRM Client			MSCRM only.
CRM Connector Server	TCP 5666	CRM Adapters			Configurable in \Program Files\Cisco\CRM Connector\MCIS\Config.ini
.NET Adapter	TCP 5558	Agent Desktop			Remoting Port.
CRM Connector Server	TCP 42027	Cisco CTI Server			Default port for side A. Configurable in the Config.ini file [CTIModule Setting] Port_A.
CRM Connector Server	TCP 44027	Cisco CTI Server			Default port for side B. Configurable in the Config.ini file [CTIModule Setting] Port_B.
CRM Connector Server	TCP 65372	Server Administration Tool			Configurable under \Program Files\Cisco\CRM Connector\MCIS\Config.ini and \Program Files\Cisco\CRM Connector\ Server Administration Tool\WebComponent\ server.config



CHAPTER 3

Port Utilization in Unified CVP

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.

Unified CVP Port Utilization

Table 15: Cisco Unified Customer Voice Portal Port Utilization

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
TCP	2000-2002			Bi-directional	Sub to phone
Call Server JMX	2098	JConsole	Random	Bi-directional	JMX access by JConsole into Call Server
Call Server JMX RMI port	2097	JConsole	Random	Bi-directional	JMX access by JConsole into Call Server
WSM JMX	TCP 10002	JConsole	Random	Bi-directional	JMX access by JConsole into WSM
WSM JMX RMI	TCP 10003	JConsole	Random	Bi-directional	JMX access by JConsole into WSM
OAMP JMX	TCP 10001	JConsole	Random	Bi-directional	JMX access by JConsole into OAMP
OAMP JMX RMI	TCP 10000	JConsole	Random	Bi-directional	JMX access by JConsole into OAMP
CVP Messaging Layer	TCP 23000 - 28000 (First available)	CVP Subsystem		Bi-directional	CVP Message Bus communications
7960-CUVA Video	UDP 5445	7960-CUVA			Cisco 7960-CUVA Video Phone
CVP SIP Subsystem, SIP Proxy Server, Gateway, Unified CM: SIP (Session Initiation Protocol)	UDP 5060 TCP 5060 TLS 5061	SIP endpoints	Local / Remote between CVP components	Bi-directional	Listen port for incoming SIP requests. Port is configurable.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
SIP Heartbeat Local Listen Port	UDP 5067 TCP 5067 **Note** This port must be different from the default SIP port which is 5060/5061 (see aforementioned row).	SIP endpoints	Random	Bi-directional	Listen port for incoming Heartbeat.
VXML Server: HTTP	TCP 7000	IOS VXML gateways/VVB	Random	Bi-directional	VXML over HTTP. Calls/sessions answered on port 7000 by HTTP server which relays request to WAS on local system port 9080.
VXML Server: HTTPS	TCP 7443	IOS VXML gateways/VVB	Random	Bi-directional	VXML over HTTPS. Calls/sessions answered on port 7443 by HTTPS server.
VXML Server with Tomcat	TCP 7005	Local machine		Local	Port restricted to local access only
	TCP 7009			Local	AJP/1.3 Connector
VXML Server JMX	TCP 9696	JConsole		Bi-directional	JMX access by JConsole into VXML Server
VXML Server JMX RMI port	TCP 9697	JConsole	Random	Bi-directional	JMX access by JConsole into VXML Server
VXML Server	TCP 10100	Local VXML Server Administration Scripts		Local	Port restricted to local access only
CVP Call Server Tomcat: HTTP	TCP 8000	Browser	Random	Bi-directional	HTTP
CVP Call Server Tomcat: HTTPS	TCP 8443	Browser	Local / Remote Random	Bi-directional	HTTPS

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
CVP IVR Server	TCP 8002	VXML Server		Local	Message over TCP
CVP Call Server: HTTP	TCP 8005			Local	Port restricted to local access only
CVP OPSConsole: HTTP	TCP 9000	Web Browser	Random	Bi-directional	Web-based interface for configuring CVP components
CVP OPSConsole: HTTPS	TCP 9443	Web Browser	Random	Bi-directional	Web based interface for configuring CVP components with SSL
CVP OPSConsole	TCP 9005	Local machine		Local	Port restricted to local access only
CVP OPSConsole	TCP 9009			Local	AJP/1.3 Connector
CVP OPSConsole	TCP 1529	Local machine		Local	Port restricted to local access only
CVP Resource Manager FTP Server	TCP 21	Content Services Switch	Random	Bi-directional	Only opened by Resource Manager residing on the same machine as the CVP OPSConsole
CVP Resource Manager	TCP 2099	CVP OPSConsole	Random	Bi-directional	JMX communication from OPSConsole to CVP Resource Manager on remote device
CVP Resource Manager RMI Port	TCP 3000	CVP OPSConsole	Random	Bi-directional	JMX communication from OPSConsole to CVP Resource Manager on remote device
CVP Resource Manager Java Service Wrapper	TCP 32000 - 32999 (first available)	JVM instance launched by wrapper	Random	Local	CVP Resource Manager Service Wrapper will no longer accept connections after the first JVM instance is connected.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
MRCP V1 (RTSP)	TCP 554	VXML gateway			MRCP session between gateway voice browser and MRCP server. This is the signaling path; the media path uses RTP. Also, Helix streaming audio/ ASR/TTS (MRCP/RTSP)
MCRP V2 (SIP)	TCP 5060	VXML gateway			MRCP session between gateway voice browser and MRCP server. This is the signaling path; the media path uses RTP.
CVP SNMP SubAgent	UDP 5517, 5519, 5521, 5523, 5525, 5527, 5529, 5531, 5533, 5535, 5537, 5539, 5541, 5543, 5545, 5547, 5549, 5551, 5553, 5555	CVP SNMP subsystem		Local	CVP SNMP SubAgent services local requests from CVP SNMP subsystem
CVP SNMP subsystem	UDP 5516, 5518, 5520, 5522, 5524, 5526, 5528, 5530, 5532, 5534, 5536, 5538, 5540, 5542, 5544, 5546, 5548, 5550, 5552, 5554	CVP SNMP SubAgent		Local	CVP SNMP subsystem services local requests from CVP SNMP SubAgent
CVP ICM Subsystem	TCP 5000	IPCC Enterprise VRU CTI (ICM/IVR message interface)	Random	Bi-directional	Between CVP ICM Subsystem (Call Server) and Unified CCE/ICM VRU PG. Port is configurable.
Web Server: HTTP	TCP 80	Voice Browsers	Random	Bi- directional	Voice browsers fetches media and "External VXML" files from media server. This port is configurable.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Web Server: HTTPS	TCP 443	Voice Browsers	Random	Bi- directional	Voice browsers fetches media and "External VXML" files from media server. This port is configurable.
IBM Informix	TCP 1526	CVP Reporting Subsystem	Random from CUIC	Bi-directional	Database Connection
IBM Informix Storage Manager	TCP 7939 - 7942 TCP 111			Local	IBM Informix Storage Manager Services
IBM WAS Console	TCP 9043, 9060		Random for remote desktop	Bi-directional	
CVP Web Services Manager: HTTP/HTTPS	TCP 8101, 8110, 8111 TCP 10000, 10001, 10002, 10003	Unified System CLI, Diagnostic Portal, Custom Agent Desktop	Random	Bi-directional	REST Web Services TCP 10000, 10001, 10002, 10003 OAMP ports are used for transferring data related to the configuration and administration of VXML Server and Call Server.

Table 16: Network Management and Remote Administration

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
SNMP Primary Agent	TCP 7161	Local SNMP subagents		Local	SNMP Primary Agent listens for TCP connections from local SNMP subagents.
SNMP–Trap	UDP 162	SNMP Primary Agent	Random	Bi-directional	SNMP Primary Agent sends SNMP traps to SNMP management application.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Syslog	UDP 514		Random	Bi-directional	Syslog protocol provides a transport to allow a machine to send event notification messages across IP network to event message collectors. Port is configurable.
Telnet	TCP 23				
RDP (Terminal Services)	TCP 3389		Random	Bi-directional	
pcAnywhere	TCP 5631 UDP 5632				
VNC	TCP 5900 TCP 5800				

Table 17: Windows Authentication and Remote Administration Ports

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
RPC	TCP 135				
NetBIOS Session	TCP 139				
NetBIOS NameResolution	TCP 137 UDP 137				
NetBIOS Netlogon/Browsing	UDP 138				
SMB	TCP 445 UDP 445				Microsoft CIFS
DNS	TCP 53 UDP 53				
optima-vnet	TCP 1051				TCP Optima VNET
optima-vnet	UDP 1051				UDP Optima VNET

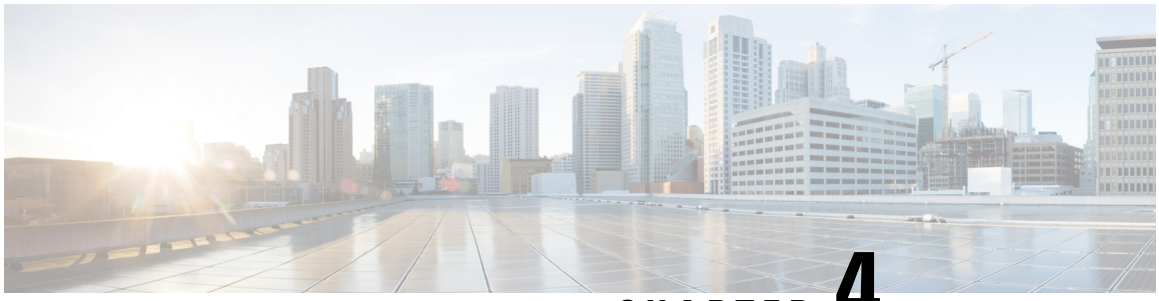
Note

- Ephemeral loopback client ports may be opened locally for CVP services to talk to port 1529 for communications with Derby database.
- Similarly, ephemeral loopback client/server ports may be opened locally by CVP services for internal calls.
- Ephemeral loopback client ports may also be opened by local subagents for talking to the SNMP primary agent running on port 7161.

The above ports are closed when the services concerned are shut down.

From a security perspective, it is recommended to review the ports opened by the underlying Windows operating system or other services running on a machine and close all ports except those required for normal system operation.

Note For more information on Windows authentication and remote administration ports, see *Service overview and network port requirements for the Windows Server system* (Microsoft Knowledge Base Article Q832017) at https://support.microsoft.com/en-us/help/832017/service-overview-and-network-port-requirements-for-windows.



CHAPTER 4

Port Utilization in Cisco VVB

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.

Cisco VVB Port Utilization

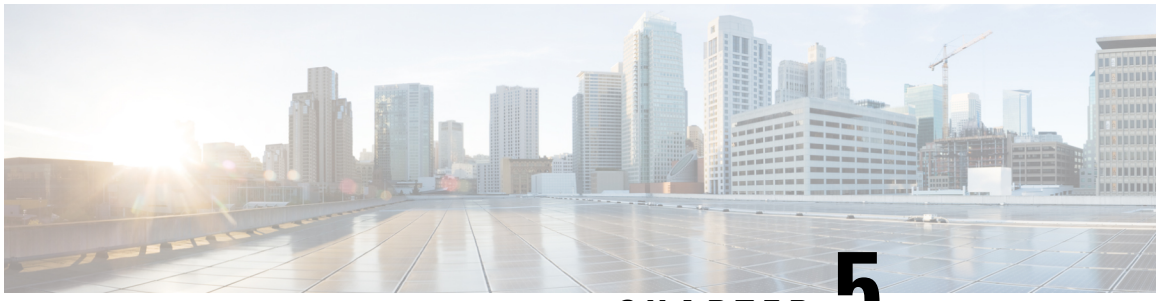
Table 18: Cisco VVB Port Utilization

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
VBONINIT	TCP 1504	External process such as External DB clients (like Squirrel or others for custom reporting) can connect	—	Bidirectional	Cisco VVB database port
VVB_ Engine	SIP over TCP, SIP over UDP 5060	SIP	—	Bidirectional	Communicates with SIP gateway
VVB_ Engine	SIP over TLS 5061	SIP	—	Bidirectional	Communicates with SIP gateway
VVB_CVD	TCP 5900	CVD of other node in cluster	—	Bidirectional	Heartbeats between CVDs in the cluster
VVB_CVD	TCP 6161	Internal	6161	Bidirectional	Publishes JMS events across JMS network connectors in the cluster
CVD	TCP 6295	CVD of other node in cluster	—	Bidirectional	Bootstrap HTTPD service port
VVB_CVD	TCP 6999	Engine, Tomcat, CVD, and Editor	—	Bidirectional	RMI Port
VVB_Engine	TCP 9080	—	—	Bidirectional	- Clients trying to access HTTP triggers, documents, prompts, or grammars - Tomcat instance used by Cisco VVB engine
Cisco IP Voice Media Streaming application	UDP 24576 ~ 32767	—	—	Bidirectional	- Audio media streaming. - Kernel streaming device driver

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Generic Ports	TCP, UDP 32768 ~ 61000	—	—	Bidirectional	Generic ephemeral TCP and UDP ports

Note SIP signalling is possible over TCP or TLS. For RTP, underlying protocol is UDP always (not configurable). If TLS is used for SIP signalling, then the same exchanged keys will be used to encrypt and decrypt the RTP packets - for SRTP

To view the system services for port utilization for Cisco Virtualized Voice Browser, see System Services Port Utilization, on page 2



CHAPTER 5

Port Utilization in Finesse

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note

- The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.
- For security reasons, keep open only the ports mentioned in this guide and those required by your application. Keep the rest of the ports blocked.

Finesse Port Utilization

Table 19: Cisco Finesse Server

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
HTTP	TCP 80, 8082	Browser	—	Bidirectional	Unsecure port used for Finesse administration console, Finesse agent and supervisor desktop, Finesse Web Services, and Finesse Desktop Modules (gadgets) with the Finesse desktop.
HTTPS	TCP 443, 8445	Browser	—	Bidirectional	Secure port used for Finesse administration console, Finesse agent and supervisor desktop, Finesse Web Services, Finesse Desktop Modules (gadgets) with the Finesse desktop and Finesse IP Phone Agent.

Note Finesse desktop uses specific ports for communication between Finesse servers for inter-cluster traffic. For the complete list of the ports that are used, see *System Services Port Utilization*.

Table 20: Cisco Finesse Notification Service

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
XMPP	TCP 5223	Browser, agent desktop	—	Bidirectional	Secure XMPP connection between the Finesse server and custom third party applications.
BOSH (HTTP)	TCP 7071	Browser, agent desktop	—	Bidirectional	Unsecure BOSH connection between the Finesse server and agent and supervisor desktops for communication over HTTP.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
BOSH (HTTPS)	TCP 7443	Browser, agent desktop	—	Bidirectional	Secure BOSH connection between the Finesse server and agent and supervisor desktops for communication over HTTPS.

Note Finesse desktop uses specific ports on CUIC and Live Data to render Live Data gadgets and reports. For the complete list of the ports that can be used, see *Unified Intelligence Center Port Utilization*.

Note A network connection is required to open between the Finesse Server and the ECE Webserver.

Table 21: Primary and Secondary Node Communication

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
XMPP	TCP 5222	—	—	Bidirectional	The primary and secondary Finesse servers use this XMPP connection to communicate with each other to monitor connectivity.

Third-Party (External) Web Server

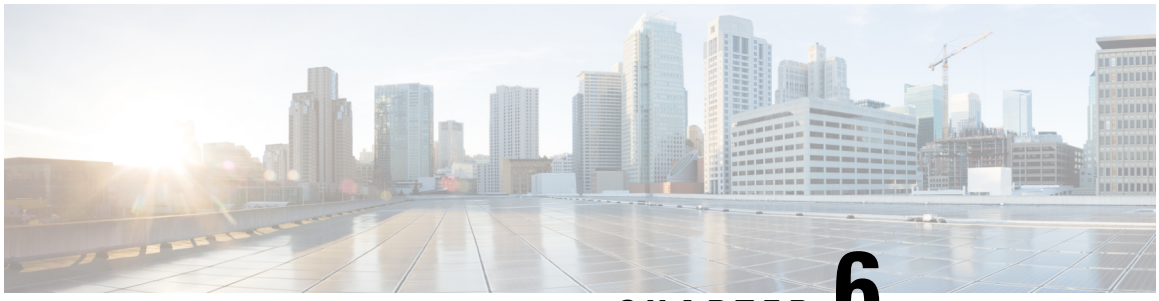
Note Gadgets hosted on a third-party (external) web server are fetched through the Finesse server on the port exposed by said web server.

Table 22: Unified Contact Center Enterprise

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Administration & Data Server settings					

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
JDBC (SQL)			TCP 1433[1]	Bidirectional	Connection to the AWDB for authentication and authorization of agents and supervisors
CTI Server settings (Side A and B)					
GED-188			Side A: TCP 42027[1] Side B: TCP 43027[1]	Bidirectional	Connection to the Agent PG for CTI Server events (such as Agents, Teams, Queues, and Call events)

[1]The ports listed are the default ports for these connections. You can use different ports than the ones specified in this table.



CHAPTER 6

Port Utilization in MediaSense

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note

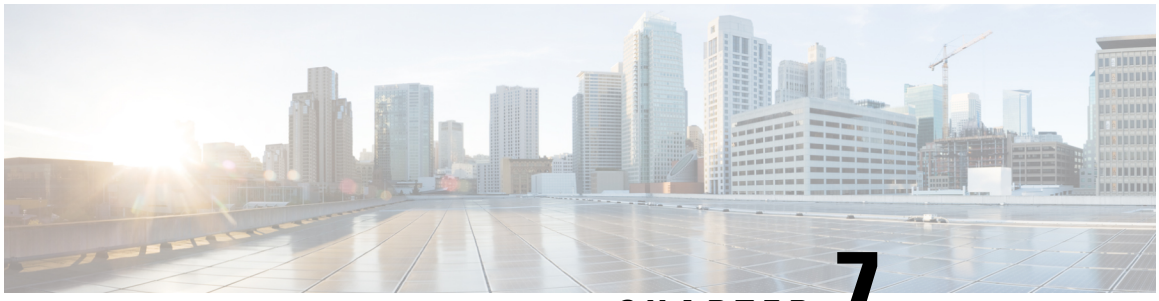
- The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.
- For security reasons, keep open only the ports mentioned in this guide and those required by your application. Keep the rest of the ports blocked.

MediaSense Port Utilization

Table 23: MediaSense Port Utilization

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Note
HTTPS	TCP 443, 8443	Web browser	Any		Used by Administration, serviceability
HTTPS	TCP 8440	Client application	Any		Used by API access
HTTPS	TCP 9443	Client application	Any		Used by media service to redirect authenticated requests.
HTTPS	TCP 8446	Web browser, API client	Any		Used by Call control service.
HTTPS	TCP 9081	Client application	Any		Used by media service to redirect authenticated requests.
HTTP	TCP 80, 8080	Web browser	Any		Used by Administration, serviceability
HTTP	TCP 8081	Web browser, API client	Any		Used by Call control service
HTTP	TCP 8085	Another CMS node	Any		Used by Call control service
HTTP	TCP 8087	CMS cluster nodes only	Any		Used by System service
HTTP	TCP 8088	CMS cluster nodes only	Any		Used by Configuration service
RTSP	TCP 554, 8554	RTSP media player	Any		Used by SM agent
RTSP	TCP 9554	Client application or media player	Any		Used by media service to redirect authenticated requests.
SIP	TCP 5060 UDP 5060	Unified Communications Manager or Unified Border Element	TCP 5060 UDP 5060		Call control service.
TCP/IP	TCP 1543	CMS cluster nodes only	Any		Used by Informix ER to make connections between primary server and secondary servers. Used by API service or configuration service to make JDBC connections with Informix.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Note
Keep-alive heartbeats	UDP 8091	CMS cluster nodes only	UDP 8091		Used by a call control service to detect availability of other call control services.
JMS	TCP 61610	CMS cluster nodes only	Any		Used by API service
JMS	TCP 61612	CMS cluster nodes only	Any		Used by Call control service
JMS	TCP 61616	CMS cluster nodes only	Any		Used by SM agent
Ephemeral port range	UDP 32768 - 61000	Phone or gateway that sends RTP media streams.	Any		Range of ports used by media service to receive RTP media streams.



CHAPTER 7

Port Utilization in SocialMiner

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note

- The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.
- For security reasons, keep open only the ports mentioned in this guide and those required by your application. Keep the rest of the ports blocked.

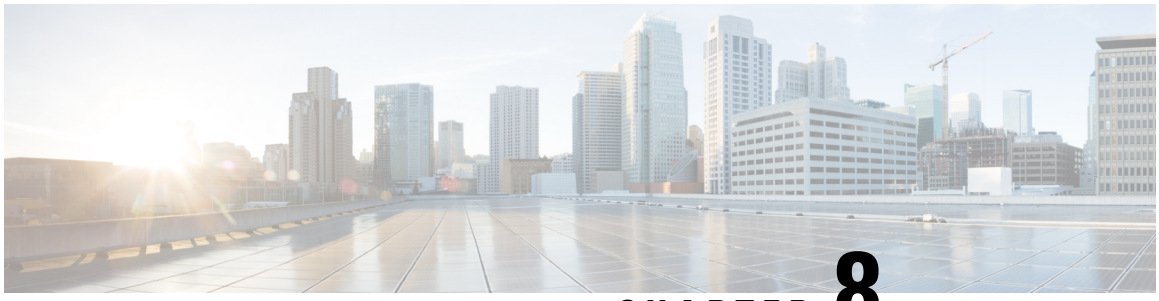
SocialMiner Port Utilization

Table 24: SocialMiner Port Utilization

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
HTTP	Port 80			Bidirectional	Used for unsecure (HTTP) traffic: • From the SocialMiner user interface (browser) or APIs to the SocialMiner server. • From the SocialMiner server to the internet. SocialMiner communicates outward to the internet to fetch social contact information (such as Facebook posts and tweets) over HTTP. • From the internet or corporate website to the SocialMiner server. SocialMiner receives incoming chat and callback requests from the internet or corporate website over HTTP.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
HTTPS	Port 443			Bidirectional	Used for secure (HTTPS) traffic: • From the SocialMiner user interface (browser) or APIs to the SocialMiner server. • From the SocialMiner server to the internet. SocialMiner communicates outward to the internet to fetch social contact information (such as Facebook posts and tweets) over HTTPS. • From the internet or corporate website to the SocialMiner server. SocialMiner receives incoming chat and callback requests from the internet or corporate website over HTTPS.
XMPP (IM) notifications using an external XMPP server	Port 5222 (configurable)			Outward, from SocialMiner to the configured XMPP Notifications server.	SocialMiner communicates with the configured XMPP Notifications server (that can be in the corporate intranet or on the internet) to send XMPP (IM) notifications.
Eventing and chat (BOSH)	Port 7071			Bidirectional	The unsecure BOSH connection supports eventing and chat communication between the SocialMiner user interface and the SocialMiner server.
Eventing and chat (secure BOSH)	Port 7443 is used for secure BOSH connections to the XMPP eventing server.			Bidirectional	The secure BOSH connection supports eventing and chat communication between the SocialMiner user interface and the SocialMiner server.

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Media routing (in CCE deployments)	Port 38001 (configurable)			Inward, from the CCE MR PG to the SocialMiner server.	The CCE Media Routing Peripheral Gateway (MR PG) communicates over a socket connection to SocialMiner to support the media routing connection.



CHAPTER 8

Port Utilization in Unified Intelligence Center

Port Utilization Table Columns

The columns in the port utilization tables in this document describe the following:

Listener (Process or Application Protocol)

A value representing the server or application and where applicable, the open or proprietary application protocol.

Listener Protocol and Port

An identifier for the TCP or UDP port that the server or application is listening on, along with the IP address for incoming connection requests when acting as a server.

Remote Device (Process or Application Protocol)

The remote application or device making a connection to the server or service specified by the protocol; or listening on the remote protocol and port.

Remote Protocol and Port

The identifier for the TCP or UDP port that the remote service or application is listening on, along with the IP address for incoming connection requests when acting as the server.

Traffic Direction

The direction that traffic flows through the port: Inbound, Bidirectional, Outbound.

Note

- The operating system dynamically assigns the source port that the local application or service uses to connect to the destination port of a remote device. In most cases, this port is assigned randomly above TCP/UDP 1024.
- For security reasons, keep open only the ports mentioned in this guide and those required by your application. Keep the rest of the ports blocked.

Unified Intelligence Center Port Utilization

Table 25: Web Requests to Cisco Unified Intelligence Center and Operation Administration Maintenance and Provisioning (OAMP)

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes	
Unified Intelligence Center	TCP 8081	Browser			HTTP - Unified Intelligence Center	
	TCP 8444	Browser			HTTPS - Unified Intelligence Center	
	OAMP	TCP 8080	Browser			HTTP - OAMP
TCP 8443		Browser			HTTPS - OAMP	

Table 26: Cisco Unified Intelligence Center and Live Data

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
Storm DRPC service	TCP 3772				Live Data DRPC port
Storm DRPC service	TCP 3773				Live Data DRPC invocation port
CCE Live Data Cassandra Service	TCP 12000				Live Data Cassandra TCP port for commands and data
CCE Live Data Cassandra Service	TCP 12001				Live Data Cassandra SSL port for encrypted communication. (Unused unless enabled in encryption_options.)
CCE Live Data Zookeeper Service	TCP 2181				Live Data Reporting
CCE Live Data ActiveMQ Service	TCP 12002				ActiveMQ JMX connector port

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
CCE Live Data ActiveMQ Service	TCP 12003				ActiveMQ JMX rmi port
CCE Live Data Web Service	TCP 12004 - 12005	Browser			Live Data Reporting
CCE Live Data Active MQ Service	TCP 61616				Live Data ActiveMQ Openwire transport Connector port
CCE Live Data Active MQ Service	TCP 61612				Live Data ActiveMQ Stomp transport connector port
CCE Live Data Socket.IO Service	TCP 12007 - 12008	Browser			Live Data Socket.IO listening port

Table 27: Intracluster Ports Between Cisco Unified Intelligence Center

Listener (Process or Application Protocol)	Listener Protocol and Port	Remote Device (Process or Application Protocol)	Remote Protocol and Port	Traffic Direction	Notes
CUIC Reporting Process	UDP 54327 (Multicast)	Unified Intelligence Center node			Hazelcast Discovery
CUIC Reporting Process	TCP 57011	Unified Intelligence Center Node			Hazelcast

Cisco Unified Intelligence Center, which runs on the Cisco VOS operating system uses the following ports: TCP 5001, TCP 5002, and TCP 5003 for SOAP monitoring. For more information on these ports, see *Port Utilization for System Services* section.

For more information on other port usages, see: https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html