Hardware and System Software Specification for Cisco Unified Customer Voice Portal
Release 9.0(1)

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Contents

Overview

This document provides the recommended hardware and software specifications for Cisco Unified Customer Voice Portal (Unified CVP) Release 9.0(1). It provides platform hardware specifications and compatible third-party software version requirements across the major components of the Unified CVP solution.

The Unified CVP product is scalable by design. Optimal sizing and component configuration for a given deployment will vary based on a number of factors, including agent capacity, call rate and call flow models, and other factors. You must consult with your Cisco Certified Partner or with Cisco World Wide Voice Practice / Advanced Services prior to a specific deployment selection.

The hardware specifications supplied herein for CPU processing power, memory, disk storage and related parameters represent the system's minimum hardware requirements. The specifications as stated are those on which the Unified CVP product is qualified by Cisco prior to release.

Note: Using hardware with higher performance than recommended does not necessarily result in greater call handling capacity.

CAUTION: Use of products that are not specified in this document may adversely impact system performance.

The software versions that are referenced in this document represent the current supported versions for the Unified CVP 9.0(1) solution components. However, Cisco will continue to support customers who deployed ISN or Unified CVP systems using earlier supported versions. Information about previous supported versions can be found at http://www.cisco.com/en/US/products/sw/custcosw/ps1006/prod_technical_reference_list.html.

Changes since the Last Release

The following table identifies changes to the Hardware and Software Specifications for Cisco Unified Customer Voice Portal Release 9.0(1).

Feature	Date
Support for Content Service Switch (CSS), Cisco Unified Presence Server (CUPS), Gatekeeper, H.323 protocol, IBM WebSphere, Windows 2003 Server, Informix 10.7 and Cisco Security Agent has been discontinued	July 6, 2012

Cisco Media Convergence Servers

Supplied hardware options include the Cisco Media Convergence Servers (MCS) platform, a Cisco supplied and qualified server platform built using components from several leading server hardware vendors. The available MCS platforms for Unified CVP 9.0(1) are listed in the tables below. This document provides a mapping of Unified CVP component server requirements to the appropriate MCS model across the configuration range.

The Cisco MCS Network Teaming Driver is not supported.

More information on Cisco 7800 Series Media Convergence Servers can be found at the following Cisco.com link: http://www.cisco.com/en/US/products/hw/voiceapp/ps378/index.html

Unified Customer Voice Portal Hardware in a Lab Environment

Cisco has rigorously tested Unified CVP using the hardware as specified in the current document and requires that customers use the specified equipment in a production environment.

Hardware and Software Requirements

Supported Third-Party Software

Type	Product
Remote Administration	Windows Remote Desktop Windows Terminal Services (server administration only – no Application GUI access)
Virus Protection	McAfee VirusScan Enterprise 8.8i Symantec Endpoint Protection 12.1 Trend Mico ServerProtect for Microsoft Windows/Novell NetWare 5.8 **Note**: For Symantec Endpoint Protection 12.1, client installation packages with only "Basic Protection for Server" feature set are supported.
Web Browser	Microsoft Internet Explorer 8.0, 9.0 Mozilla Firefox 11.0

Transport Layer Security (TLS)

Unified CVP supports Transport Layer Security (TLS) V1, V1.1 and V1.2 for HTTPS communication with their web clients.

Unified CVP Solution Components

Unified CVP Server

Category	Requirements
Cisco Media Convergence Servers (MCS)	MCS-7845-I3-CCE2 MCS-7845-H2-CCE2/CCE3/CCE4 MCS-7845-I2-CCE2/CCE3/CCE4 **Note:** The MCS hardware is recommended. However, equivalent or faster Intel-processor based servers from HP, IBM, and Dell are also supported.
Minimum Required Hardware	Intel 2 x 3.4 GHz Xeon (model 5070) or 2 x 2.33 GHz Xeon dual-core (model 5140) or greater Intel Xeon class processors 4096+ MB RAM 73+ GB, 146+ GB, or 300+ GB usable disk space based on calls per second. See the *Cisco Unified Customer Voice Portal (CVP) Solution Reference Network Design (SRND)* for Disk sizing guidelines. Internal DVD-ROM drive 1 x 100/1000 Ethernet ports
Operating System	Microsoft Windows Server 2008 R2 Standard and Enterprise **Note:** To apply the latest Operating System Service Upgrade Release, go to Microsoft upgrade website.

Category	Requirements
Additional Items	Java Runtime Environment 1.6 update 21
	A minimum of 10 MB should be available for Unified CVP system media files. Cisco provides .wav files for numbers, days, months, currency types, and so on in American English and Latin American Spanish.
	Note: Any additional media files will require additional space.
	Media Server can co-reside with the Call Server, VXML Server, or a combination of both on the same physical machine. See the *Cisco Unified Customer Voice Portal (CVP) Solution Reference Network Design* for further information.
	On Windows platforms, Call Servers require that Simple Network Management Protocol and WMI Windows Installer Provider be installed.
Restriction	Although supported third-party virus scan software can be enabled on the Call Server, full fixed disk virus scans should take place either offline while calls have been diverted to a different system (preferred), or during a period of low call volume. Do not run a full fixed disk scan while the Call Server is under load.

Unified CVP Reporting Server (Optional)

Category	Requirements
Cisco Media Convergence Servers (MCS)	MCS-7845-I3-CCE2 MCS-7845-H2-CCE2/CCE3/CCE4 MCS-7845-I2-CCE2/CCE3/CCE4 **Note:** The MCS hardware is recommended. However, equivalent or faster Intel-processor-based servers from HP, IBM, and Dell are also supported.
Minimum Required Hardware (Lab System Only)	Intel 2 x 3.4 GHz Xeon (model 5070) or 2 x 2.33 GHz Xeon dual-core (model 5140) or greater Intel Xeon class processors 4096+ MB RAM 200+ GB usable disk space Internal DVD-ROM drive 1 x 100/1000 Ethernet ports
Standard Database	MCS 7845-H1 or MCS 7845-I1 machine Two Xeon CPU (3.4 GHz) 4 GB PC2-3200 400 MHz DDR2 RAM Two 72.8 GB 15K Ultra320 SCSI Disks, RAID level 1 for C:\ drive Four 146.8 GB 15K SCSI disks, RAID level 10, for E:\ drive Or MCS 7845-H2 or MCS 7845-I2 machine Two Intel Xeon Dual-core/Quad-core 2.33 GHz CPU 4 GB PC2-5300 667 MHz DDR2 RAM Two 72 GB SAS disks, RAID level 1 for C:\ drive Four 146 GB SAS disks, RAID level 10, for E:\ drive Or A machine equivalent or better than a 7845-H1. It must have 2+ CPU (Xeon 3.4 GHz or better), 4+ GB 400MHz DDR2 RAM or better. And two 72+ GB disks with Raid 1 (mirroring) for C:\ drive. Four 146 GB disks with Raid 10 (both mirroring and stripping) for E:\ drive. The minimum free disk space requirement for the standard database is 250 GB. For MCS-7845-I3-CCE2 or equivalent, additional 300 GB drives must be ordered and added to the server in order to satisfy the CVP Reporting Server number of drives and RAID requirements for six drives.

Category	Requirements
Premium Database	MCS 7845-H2 or MCS 7845-I2 machine Two Intel Xeon Dual-core/Quad-core 2.33 GHz CPU 4 GB PC2-5300 667 MHz DDR2 RAM Two 72 GB SAS disks, RAID level 1 for C:\ drive Six 146 GB SAS disks, RAID level 10, for E:\ drive or A machine equivalent or better than a 7845-H2. It must have 2+ CPU (Xeon Dual-core/Quad-core or better), 4+ GB PC2-5300 667 MHz DDR2 RAM or better. And two 72+ GB disks with raid 1 (mirroring) for C:\ drive. Six 146 GB disks with Raid 10 (both mirroring and stripping) for E:\ drive. The minimum free disk space requirement for the premium database is 375 GB. For MCS-7845-I3-CCE2 or equivalent, additional 300 GB drives must be ordered and added to the server in order to satisfy the CVP Reporting Server number of drives and RAID requirements for eight drives.
Operating System	Microsoft Windows Server 2008 R2 Standard and Enterprise
Database	Informix 11.70xC2
Additional Items	Unified CVP Reporting Server machines require that Simple Network Management Protocol and WMI Windows Installer Provider be installed.
Restriction	Although supported third-party virus scan software can be enabled on the Reporting Server, full fixed disk virus scans should take place either offline while calls have been diverted to a different system (preferred), or during a period of low call volume. Do not run a full fixed disk scan while the Reporting Server is under load.

Unified CVP Operations Console

Category	Requirements
Cisco Media Convergence Servers (MCS)	Minimum MCS-7825-H4-CCE1, MCS-7825-I4-CCE1 **Note:** The MCS hardware is recommended. However, equivalent or faster Intel-processor-based servers from HP, IBM, and Dell are also supported.
Minimum Required Hardware	Intel 2 x 3.4 GHz Xeon (model 5070) or 2 x 2.33 GHz Xeon dual-core (model 5140) or greater Intel "Xeon" class processors 2048+ MB RAM 18.2+ GB usable disk space Internal DVD-ROM drive 1 x 100/1000 Ethernet ports
Operating System	Microsoft Windows Server 2008 R2 Standard and Enterprise **Note:** To apply the latest Operating System Service Upgrade Release, go to the Microsoft upgrade web site.
Additional Items	Unified CVP Operations Console machines require that Simple Network Management Protocol and WMI Windows Installer Provider be installed.

Unified Call Studio (Optional)

Category	Requirements
Minimum Required Hardware	Windows compatible 2GB+ RAM required
Operating System	Microsoft Windows XP or Microsoft Windows 7

Automatic Speech Recognition/Text-to-Speech Server (Optional)

This section provides information on speech vendors providing Automatic Speech Recognition (ASR)/ Text-to-Speech Server (TTS) that have been tested for interoperability with Unified CVP.

Category	Requirements
Speech Software	Nuance Speech Software Unified CVP 9.0(1) has been tested for interoperability with the following Nuance components: • NR10 - Nuance Recognizer 10.2.4, Voice pack for Nuance Recognizer - 10.0.0, Nuance Vocalizer 6.0.1, Voice pack for Nuance Vocalizer 6.0.1, Nuance Speech Server 6.2.4 • NR9 - Nuance Vocalizer 5.0.7, Nuance Recognizer 9.0.17 **Note:** Contact Nuance support for compatibility of later dot release of Nuance components with Unified CVP.
Operating System	Use vendor-recommended operating system software.
Additional Items	On Windows platforms, ASR/TTS servers require Simple Network Management Protocol.

Cisco Application Control Engine (Optional)

Category	Requirements
Minimum Recommended Hardware	Cisco Application Control Engine 4710 Appliance Series
Minimum Recommended Software	A4(2.0)

Cisco PGW Softswitch Support (Optional)

Category	Requirements
Minimum Recommended Hardware	Hardware that supports PGW 9.8(1) [See Cisco PGW 2200 Softswitch Hardware Installation Guide: http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9/installation/hardware/TChwpr10.html
Minimum Recommended Software	PGW 9.8(1) S9P9 [See Release Notes for the Cisco PGW 2200 Softswitch Release 9.8(1): http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9/release/note/rn981.html
Restrictions	PGW 2200 Softswitch Release 9.8(1) is qualified to be used with CVP using the SIP protocol. H.323 was not tested and is not supported.

Category	Requirements
Media Gateway used with Cisco PGW 2200 Softswitch	
Hardware Options	38xx, AS5350XM, AS5400XM
Category	**Requirements**
Software Options	AS5350XM and AS5400XM - 15.1(1)T

Cisco Gateways

Category	Requirements		
Hardware Options	28xx, 29xx, 38xx, 39xx, 39xxE, AS5350XM, AS5400XM AS5350XM with AS5X-FC High Density Voice Cards, AS5400XM with AS5X-FC High Density Voice Card		
Software Options	**Hardware Model**	**Version**	**Software Feature Set**
	AS5350XM AS5400XM	15.0(1)M1.2 15.1(4)M7* 15.2(4)M4	IPPLUS IP Plus, Enterprise Plus IPSec 3DES
	ISR G1 28xx, 38xx	15.0(1)M1.2 15.1(4)M7*	Advanced IP Services IP VOICE
	ISR G2 29xx, 39xx	15.0(1)M1.2 15.1(4)M7* 15.2(2)T 15.2(3)T1 15.2(4)M4** 15.3(3)M3 15.5(3)M	Universal
	ISR G2 39xxE	15.0(1)M1.2 15.1(4)M7* 15.2(2)T 15.2(3)T1 15.2(4)M4** 15.3(3)M3 15.5(3)M	Universal
	ISR G3 43xx (4321, 4331, 4351) ISR G3 44xx (4431, 4451)	IOS XE 3.13 IOS XE 3.15	Universal

Note:
- ISR G3 gateways do not have a built-in Voice-XML (VXML) browser. Therefore, deploying the ISR G3 ingress gateway with Unified CVP requires the use of a separate ISR G2 gateway to provide the VXML browser.
- Support of the ISR G3 gateways with Unified CCE Outbound Option with Call Progress Analysis requires Unified CCE version 10.5(2) or later.
- Poodle Vulnerability issues has been fixed on IOS Gateway 15.0(1) M1.2, 15.1(4) M7, 15.2(4) M4, and 15.3(3) M3 versions.
- * Unified CVP is also compatible with IOS 15.1(4) M3. However, if you are using IOS 15.1(4) M3 you will likely hit defect **CSCtt38880** in UDP scenarios. It is recommended to use IOS 15.1(4) M7, as the defect has been fixed in IOS 15.1(4) M7.

- **Agent greeting is not played for IOS Gateway 15.2(4) M2, 15.2(4) M3, and 15.2(4) M4 versions. For details, see defect CSCue83683

IOS Versioning

Example
In Cisco, IOS 15.1(4) M5 or 15.1(4) T1 is versioned as follows:
- 15.1 is the version number.
- (4) is the release number.
- M is the Mainline (M) train.
- T is the Technology (T) train.

Increment in the release number after M or T refers to additional bug fixes, and increment in the release number before M or T refers to the different trees of IOS.

Note: Unified CVP supports the listed IOS release trains and their later M or T trains respectively.

Cisco Unified Border Controller

Platform	Supported CUBE Software Version
ASR1001-X ASR1002-X ASR1004 with RP2 ASR1006 with RP2 ASR100-X	IOS XE Software - 3.3.0S Enterprise IOS XE Software - 3.7.0S Enterprise IOS XE Software - 3.10.0S Enterprise IOS XE Software - 3.13.0S Enterprise

Platform	Software Version
ISR	15.0(1)M1.2 15.1(4)M7* 15.2(2)T 15.2(3)T1 15.2(4)M4 15.3(3)M3 15.5(3)M

Note:
- The Cisco Unified Border Element IOS XE software minor versions 3.10.xS (such as 3.10.2S) are also supported.
- Do not use IOS 15.3(3)M6 for CUBE deployments as you will likely encounter defect CSCuu32159.
- The Cisco Unified CVP provides the flexibility to add, modify, remove or deploy Unified CVP in many scenarios to facilitate interoperability with third-party devices. Not all SIP service providers support advanced features such as REFER, 302 Redirect Messages, DTMF-based take-back-and-transfer, or data transport (UUI, GTD, NSS, etc). Please verify before planning on deploying these capabilities. See the interoperability note available for information on the interoperability support for SBC when deployed in place of Cisco CUBE at the following location: http://www.cisco.com/en/US/solutions/ns340/ns414/ns728/voice_portal.html.

Cisco Unified Contact Center Enterprise or Cisco Unified Communications Manager

Compatible Version
For compatibility information for Cisco Unified Contact Center Enterprise, see the *Cisco Unified Contact Center Enterprise (Unified CCE) Software Compatibility Guide* at http://www.cisco.com/en/US/partner/products/sw/custcosw/ps1844/products_device_support_tables_list.html

Cisco Unified SIP Proxy (CUSP)

Category	Requirements
Recommended Software Version	Cisco Unified SIP Proxy 8.5(x), 9.0(x)
Minimum Software Version	Cisco Unified SIP Proxy 1.1(4)

Video Components (Optional)

This section provides information on Cisco components that can be used to provide optional Unified CVP Video capabilities, when deployed with Unified CVP 9.0(1).
The Unified CVP Video Service provides audio-only IVR and queuing for audio calls that become video calls at the time when Unified CVP transfers the call to a Cisco Unified Contact Center Enterprise agent.
Unified CVP 9.0(1) SKUs are enabled and ready to support the Video Service (that is there are no Unified CVP video options to worry about when ordering Unified CVP 9.0(1) itself). However, other Cisco components have requirements, which are listed in the following table.
Note: To ensure proper end-to-end video functionality, the version requirements that are listed in the following table below are in some cases more stringent than the general version requirements that are listed elsewhere in this document.

Video Components

Component	Requirements/Comments
Cisco Unified IP Phones	IP Phone Models 794x, 796x, 797x **Note:** IP phones can be used as calling or agent endpoints.
Cisco TelePresence	CTS-1000, CTS-3000 Note: Can be used calling or agent endpoint, with restriction that Cisco TelePresence must be used at *both* the caller and agent ends.

Video Codecs

Video Service	Codecs
Video	H.263 H.263+ H.264 (TelePresence)

Video in Queue

Video Service	Video Devices Supported
Video	Cisco Telepresence: CTS500-32, EX60, EX90

VMware/UCS Support

Virtualization of a number of Unified CVP deployments and Unified CVP components on Cisco Unified Communications Systems (UCS) B-Series and C-Series hardware is supported. See the Cisco doc-wiki link for more details:
http://docwiki.cisco.com/wiki/Virtualization_for_Unified_CVP