



Test Best Software Implementation

This topic describes how customer contact software, network management, security, Unified IP IVR, Unified CCX, Unified CVP, Cisco Unified Expert Advisor (Unified Expert Advisor), Cisco Unified Mobile Agent (Unified Mobile Agent), the Cisco Unified Contact Center Gateway Enterprise (Unified CCGE) feature and the parent and child model are implemented in the test beds.

For information on installation and configuration documentation on these and other contact center components, see Components Installation and Configuration Guides at:

http://www.cisco.com/cisco/web/docs/iam/unified/ipcc851/Component_Installation_and_Configuration_Guides.html

Additional configuration information for contact center call flows and components is available at:

http://docwiki.cisco.com/wiki/Category:Unified_Communications_System_Implementation

Cisco Unified Contact Center Enterprise and Cisco Unified Intelligent Contact Management Enterprise

Unified CCE and Unified ICME, integral components of the Cisco Unified Communications System, provide intelligent routing and call treatment with transparent blending of multiple communication channels, while easing the transition from a traditional automatic call distributor (ACD) to an IP-based ACD.

Unified CCE/Unified ICME are part of a strategic platform that helps customers move into the next phase of customer contact, beyond today's contact center to a Customer Interaction Network. The Customer Interaction Network is a distributed, IP-based customer service infrastructure that comprises a continuously evolving suite of innovative, multichannel services and customer-relationship-management (CRM) applications.

Unified CCE/Unified ICME software is deployed at the test sites in the contact center environment. With Unified CCE/Unified ICME, the call center manager can configure agents to handle inbound and outbound voice calls. The agents can switch between these media on a task-by-task basis. Customers can choose the medium that is most comfortable and convenient for them. Unified CCE/Unified ICME can be used in a single-site environment or integrated into a multisite call center.



Note

Cisco Unified System Contact Center Enterprise (Unified SCCE) is supported in UCC Release 8.0(1); however, there is no separate Unified SCCE Release 8.0(1). If you request features that are in Release 8.0(1), you must migrate all Unified SCCE deployments to Unified CCE deployments. For more information on the migration from Unified SCCE Release 7.5 to Unified CCE 8.0(1), see *Upgrade Guide*

for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 8.0(1) at:

http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/ipcc_enterprise/ipccenterprise8_0_1/installation/guide/icm80ug.pdf

Cisco Outbound Option

Cisco Outbound Option application provides outbound dialing functionality along with the existing inbound capabilities of Unified CCE. This application enables the contact center to dial customers and direct contacted customers to agents or IVRs. The Outbound Option Dialer component, which resides on the Peripheral Gateway (PG) Server dials customers using Unified Communications Manager and voice gateways, reserves agents via the Media Routing (MR) interface and transfers answered customers calls to reserved agents.

The latest release of Unified CCE offers the Session Initiation Protocol (SIP) Dialer alongside the Skinny Call Control Protocol (SCCP) Dialer that has been the sole Dialer (Outbound Dialer) offered in previous releases of Outbound Option. In an Outbound Option deployment that uses the SIP Dialer, functions such as dialing, call control, and Call Progress Analysis for Outbound campaigns are handled by the voice gateway, and not by Unified Communications Manager. This increases the number of outbound agents that a deployment can service on a PG, and reduces the number of PGs and Dialers customers need to deploy for larger enterprise systems.

Cisco Unified Customer Voice Portal

The Cisco Unified Customer Service Portal (Unified CVP) provides interactive voice response and queuing capabilities in a contact center environment and supports automated speech recognition (ASR) and text-to-speech (TTS) capabilities. Unified CVP, which is implemented at this test environment in the comprehensive mode, includes support for agent queuing, multisite call switching, and speech-enabled and touch-tone applications. Customers can use touchtone signals or their own voice to request self-service information. Its components work together to enable you to create and deploy IVR applications that include voice interaction as well as traditional numeric input to provide intelligent, personalized self-service over the phone.

Unified CVP Call Server consists of H.323 and/or SIP services and plays media files to the caller and collects information in return. It also interprets messages from Unified ICME and generates VXML documents that it uses to route the call.

Unified CVP also provides the ability, via an Operations Console, to monitor, manage, and configure all Unified CVP solution components from a central, single operations console.

A standalone Unified CVP Reporting Server provides the ability to generate custom reports on the activities of Unified CVP components, Unified CVP IVR applications, and Unified CVP IVR callers. The centralized reporting server aggregates all Unified CVP-related call information into a relational database with associated reporting tools and pre-packaged report templates.

Cisco Unified Contact Center Express and Cisco Unified IP Interactive Voice Response

Unified CCX provides a multimedia (voice, data, and web), IP-enabled customer-care application environment that enhances the efficiency of contact centers. It provides an Integrated Automatic Call Distribution (ACD), Unified IP IVR, and Computer Telephony Integration (CTI) virtual contact center solution with support for up to 300 agents and 300 Unified ports.

Cisco Unified Contact Center Express (Unified CCX) implementation at the test sites also includes the Unified IP IVR product. Unified IP IVR is a multimedia (voice, data, and web) IP-enabled interactive voice response solution that automates call handling by autonomously interacting with contacts.

Using Unified IP IVR, one can create applications that answer calls, provide menu choices for callers, obtain caller data such as passwords or account identification, and transfer calls to caller-selected extensions.

Unified IP IVR is a part of the Unified CCE solution, which is capable of distributing calls to multiple sites and performing post-routing functions. Unified CCE uses Unified ICME software to direct calls to other systems, such as interactive VRUs and ACD systems.

Cisco Unified Expert Advisor

Cisco Unified Expert Advisor (Unified Expert Advisor) is an optional feature for Unified CCE. It extends the contact center so that expert advisors can handle certain incoming calls. An expert advisor is a specialist who is not employed by the contact center—but who agrees to be 'on call' to provide services as a consultant.

Expert advisors establish their presence and availability to take a call by the presence state of their instant messaging (IM) Client such as Cisco Unified Personal Communicator. The expert advisor IM Client effectively serves as the agent desktop, who establish their willingness to take a call by responding to a message.

Once an expert's availability and acceptance of the message request are confirmed, the call is routed to the expert. The contact center agent can also conference the expert into a customer call.

A Unified Expert Advisor cluster deployment consists of two required (primary and high availability) servers and one optional (reporting) server running Unified Expert Advisor. The first server you install is always the primary, or publisher, and all additional servers in the same cluster are considered subscribers.

In Unified Expert Advisor, the terms publisher and subscriber are used in the context of database replication. The Unified Expert Advisor publisher (primary runtime server) publishes OAMP configuration data. The Unified Expert Advisor subscribers (high availability and reporting servers) subscribe to the data.

Unified ICME treats Unified Expert Advisor as a peripheral. The primary runtime server and the high availability runtime server each connect with Unified ICME with a dedicated Unified Gateway.

Cisco Unified Mobile Agent

The Unified Mobile Agent feature enables Unified CCE/Unified ICME to support agents using phones not directly controlled by Unified Communications Manager. This could be an agent:

- Outside the call center, using an analog phone at home or a cell phone.
- Inside the call center, using an IP phone connection not controlled by Unified CCE or an associated Unified Communications Manager.

If you plan to configure a mobile agent:

- To use an analog phone or an Cisco Unified IP Phone (Unified IP Phone) *without* the Cisco Business Ready Teleworker setup, use the Mobile Agent option.
- To use the deployment option of Unified IP Phone *with* the Cisco Business Ready Teleworker setup, use the Remote Agent option.

With Unified Mobile Agent, contact center administrators can easily:

- Enable staff to work from home.
- Add contact center staff during busy periods.
- Hire skilled staff and knowledge workers in other regions.

Unified Mobile Agent functionality makes this possible without the overhead of additional off-site equipment or extensive on-site configuration and administration.

Security

Security components include firewall, intrusion protection, and policy enforcement services, antivirus software, and domain and web server hardening. Security is implemented at the various sites as follows:

- Cisco ASA 5500 Series Adaptive Security Appliances—Firewall and intrusion protection and policy enforcement services can protect networks from unauthorized access. These services combine with VPN services to enable businesses to securely extend their networks to business partners, remote sites, and mobile workers.
- Cisco Security Agents—The core endpoint software that resides on all Unified Communications Manager, Unified ICME, Unified CVP, Unified CCX, Unified IP IVR, Outbound Option, CTI OS, and CAD servers. Cisco Security Agent autonomously enforces local policies that prevent attacks.



Note Unified Communications Manager, Unified CCX, Unified IP IVR, Cisco Unified Presence (Unified Presence) and Unified Expert Advisor Runtime Server support Cisco Security Agent as a standalone agent only.

- McAfee Antivirus—Third-party antivirus agents are installed on Windows-based servers like Unified ICME, Unified IP IVR, and others, but not on non-Windows appliances such as Unified Communications Manager.

Network Management

Network Management is implemented at all the test sites by using the Cisco Unified Operations Manager (Unified Operations Manager). Unified Operations Manager provides a unified view of the entire Cisco Unified Communications System infrastructure and presents the current operational status of each element of the Cisco Unified Communications System network. It continuously monitors the current operational status of different Cisco Unified Communications products such as Unified Communications Manager, Unified CCE, Cisco gateways, routers, and phones and provides diagnostic capabilities for faster trouble isolation and resolution.

Cisco Unified Contact Center Gateway Enterprise Feature and Parent and Child Model

The Cisco Unified Contact Center Gateway Enterprise (Unified CCGE) feature allows Unified CCE and Unified CCX to appear as ACDs to Unified ICME software. The Unified CCGE feature is ideal for deployments that have several call centers spread geographically. Each call center has remote survivability and administrative independence. The Unified CCGE feature and the parent and child model are implemented for testing additional contact center functionality.

The following functionality is implemented as part of the Parent and Child deployment:

- Unified CCGE feature—Allows Unified CCE and Unified CCX to appear as ACDs to Unified ICME software
- Unified CCGE—Provides all standard Peripheral Interface Manager (PIM) data and functionality including translation routing, pre- and post-routing, and an auto configuration feature that eliminates repeating configuration tasks between the Unified CCE and Unified ICME systems.
- Cisco Unified System Contact Center Gateway (Unified SCCG)—Combines the Unified Communications Manager Peripheral Gateway (PG) and VRU PG to look like one peripheral. Unified ICME uses Unified CCGEs to communicate to the CTI server on the Cisco Unified System Contact Center Gateway (Unified SCCG) in Unified CCE.
- Parent and Child systems—Play different roles in an Unified CCGE deployment, where the parent system acts as the enterprise routing point and the child system as an ACD



Note Unified CCGEs and SCCGs are installed at the child sites.

The parent and child model is deployed as a single parent system with a single child system (on Test Bed 1) and multiple child systems (on Test Bed 2). Unified ICME is implemented at the parent sites and Unified CCE and Unified CCX are implemented at the child sites. [Table 11](#) provides a comprehensive view of the different components deployed at the various parent and child sites.



Note Child sites can also be configured to handle local incoming calls directly from the PSTN, without involving the parent site.

For more information on Unified CCGE and the parent and child relationships, refer to *Cisco Contact Center Gateway Deployment Guide for Cisco Unified ICME/CCE/SCCE/CCX* at: http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/ipcc_enterprise/ipccenterprise8_0_1/installation/guide/ipcc80gtwy.pdf

