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Preface

Purpose

Welcome to the *Installation and Configuration Guide for Cisco Unified System Contact Center Enterprise (Unified SCCE)*, Release 7.5(1). This guide provides information to help you understand, install, and configure the System deployment of Cisco Unified Contact Center Enterprise (Unified CCE).

Do not confuse Unified SCCE with Unified CCE. If you are looking for information about how to install and configure Unified CCE, see the *Installation and Configuration Guide for Cisco Unified Contact Center Enterprise*.

**Note:** Cisco System IP Contact Center (IPCC) has been renamed Cisco Unified System Contact Center Enterprise (Unified SCCE). This manual uses the current name that is used on the Cisco website and in packaging materials, but when referencing the user interface (where the name has not yet changed), the former name is used.

Audience

This guide is written for anyone who is responsible for installing, configuring, and maintaining Unified SCCE in a production or laboratory system, including network administrators, Unified SCCE administrators, and call center administrators.

Organization

This guide contains the following chapters:
<table>
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<th>Chapter Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>Introduction to Unified SCCE</td>
<td>Provides a brief description of the Unified SCCE system and an explanation of its components.</td>
</tr>
<tr>
<td>Unified SCCE Platform Specifications</td>
<td>Provides hardware and software specifications for Unified SCCE components. It also provides a list of component features not supported when components are deployed as part of a Unified SCCE deployment.</td>
</tr>
<tr>
<td>Unified SCCE Deployment Models</td>
<td>Provides an overview of Unified SCCE supported deployments.</td>
</tr>
<tr>
<td>Overview of Installation and Configuration Tasks</td>
<td>Provides task checklists designed to help you track your progress as you install and configure Unified SCCE.</td>
</tr>
<tr>
<td>Planning Ahead</td>
<td>Provides two sample dial plans and discusses the value of having a dial plan.</td>
</tr>
<tr>
<td>Installing and Configuring Cisco Unified Communications Manager (Unified CM) for Unified SCCE</td>
<td>Describes how to install and configure Unified CM software for Unified SCCE.</td>
</tr>
<tr>
<td>Installing and Configuring Cisco Unified IP IVR (Unified IP IVR) for Unified SCCE</td>
<td>Describes how to install and configure Unified IP IVR software.</td>
</tr>
<tr>
<td>Installing and Configuring Cisco Unified Customer Voice Portal (Unified CVP) for Unified SCCE</td>
<td>Describes how to install and configure Unified CVP software for Unified SCCE</td>
</tr>
<tr>
<td>Installing and Configuring the Controllers and Administration &amp; WebView Reporting</td>
<td>Describes how to install and configure the Unified SCCE Controllers and Administration &amp; WebView Reporting component.</td>
</tr>
<tr>
<td>Initial Configuration and Deployment Wizard</td>
<td>Describes the post-installation tasks completed using the Deployment Wizard.</td>
</tr>
<tr>
<td>Other Installed Administration Utilities</td>
<td>Describes the utilities that are automatically installed with the IPCC Web Administration Tool.</td>
</tr>
<tr>
<td>Post Installation Configuration</td>
<td>Describes how to configure machines, and create additional IVR Connections. Also provides help in creating agents and groups and setting up contact routing.</td>
</tr>
<tr>
<td>Installing Agent and Supervisor Desktops for Unified SCCE</td>
<td>Describes how to install and configure Cisco Agent and Supervisor Desktops and CTI OS Agent Desktop and Supervisor Desktop.</td>
</tr>
<tr>
<td>Installing and Configuring Outbound Option for Unified SCCE</td>
<td>Describes how to configure the optional Outbound Option feature for Unified SCCE.</td>
</tr>
</tbody>
</table>
Chapter Title | Description
--- | ---
Configuring Reporting for Unified SCCE | Describes tasks required to configure reporting for Unified SCCE.
Localizing WebView and Script Editor | Provides instructions for installing the language pack in order to localize the user interfaces of WebView and Script Editor.
Note: The Cisco IPCC Enterprise Web Administration Tool, which is the administrative application for Unified SCCE, is not localized.
Unified SCCE Troubleshooting | Provides troubleshooting information for Unified SCCE installation, utilities, and use.
About Unified SCCE Databases | Describes Unified SCCE databases.
Increasing Fault Tolerance in a Unified SCCE System | Provides information on how to configure Unified SCCE for fault tolerance.
Uninstalling and Reinstalling Unified SCCE | Describes how to uninstall and reinstall the Unified SCCE controllers and Administration & WebView Reporting machines.
Unified SCCE to Unified ICME Component and Feature Comparison | Maps Unified SCCE terminology and functionality to its Unified ICME counterparts.

Related Documentation

For additional documents and information about Unified SCCE and the System deployment of Unified SCCE, see the Cisco web page (http://www.cisco.com/univercd/home/home.htm).

Conventions

This manual uses the following conventions:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
</table>
| boldface font | Boldface font is used to indicate commands, such as user entries, keys, buttons, and folder and submenu names. For example:  
  - Choose Edit > Find.  
  - Click Finish. |
## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly What’s New in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation, at:


Subscribe to the What’s New in Cisco Product Documentation as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

## Documentation Feedback

You can provide comments about this document by sending email to the following address:

[mailto:ccbu_docfeedback@cisco.com](mailto:ccbu_docfeedback@cisco.com)

We appreciate your comments.
Introduction to Unified SCCE

Caution: Running Unified SCCE installation over the network is unsupported. You must either run the installer from the installation media (DVD) or copy the installer directory to the target machine and then run from the local machine. Various and miscellaneous errors can occur during installation over the network. Keep in mind that 7.5(1) is a full installation and there is no rollback if installation fails part way through installation or upgrade.

This chapter contains the following topics:

- About Unified SCCE, page 5
- About Unified SCCE Core Components, page 6
- Unified SCCE Optional Software Components, page 7
- Basic Unified SCCE Call Flow with Unified IP IVR, page 8
- Unified SCCE Call Flow with Unified CVP, page 10

About Unified SCCE

Unified SCCE functions as a virtual automatic call distributor (ACD). Some of the capabilities of Unified SCCE include intelligent contact routing, ACD functionality, network-to-desktop computer telephony integration (CTI), interactive voice response (IVR) integration, call queuing, and consolidated reporting.

With Unified SCCE, the contact center manager can configure agents to handle inbound and outbound voice, Blended collaboration, text chat, and e-mail requests. The agents can switch between those media on a task-by-task basis. Customers can choose the medium that is most comfortable and convenient for them. Unified SCCE can be used in a single-site environment or integrated into a multi-site contact center via Cisco’s Unified IPCC Gateway.

Note: The Multichannel applications for web and e-mail interaction will be available in a future release.
About Unified SCCE Core Components

This section describes the core software components of Unified SCCE. For more detailed information regarding software components and Unified SCCE architecture, see the *Cisco Unified Contact Center Enterprise 7.5 Solution Reference Network Design Guide*.

Core components of Unified SCCE include an Administration & WebView Reporting machine, a Central Controller, an Agent/IVR Controller, Cisco Unified Communications Manager (Unified CM), and Cisco Unified IP IVR (or Cisco Unified Customer Voice Portal). Reporting is provided through WebView. Agent desktop functionality is provided through, optionally, CTI OS or Cisco Agent Desktop (CAD) software.

*Figure 1: Unified SCCE Core Components*

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Controller</td>
<td>The Central Controller, the Agent/IVR Controller, and the Administration &amp; WebView Reporting components provide intelligent contact routing and ACD functionality, including monitoring and controlling agent state, CTI capabilities, and gathering real-time and historical data for reporting in Unified SCCE.</td>
</tr>
<tr>
<td>Agent/IVR Controller</td>
<td></td>
</tr>
<tr>
<td>Administration &amp; WebView Reporting</td>
<td>The Central Controller provides system call routing and logging functionality. The Agent/IVR Controller provides a communication link between the central controller and the Unified CM and Unified IP IVR (or Unified CVP). The Administration &amp; WebView Reporting</td>
</tr>
</tbody>
</table>
### Unified SCCE Optional Software Components

The following optional software components can be (but are not required to be) deployed in a Unified SCCE system. This group of components provide outbound dialing capability and Web and E-mail interactivity to Unified SCCE. The Web and E-mail options are referred to collectively in Unified SCCE deployments as the multichannel components. These components will be available in a future release.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Unified Communications Manager (Unified CM)</td>
<td>Provides system administration/configuration and WebView reporting functionality. Unified CM provides features comparable with those of a traditional PBX system and handles the switching requirements of the Unified SCCE. It allows deployment of voice applications and the integration of telephony systems with Intranet applications.</td>
</tr>
<tr>
<td>Cisco Unified IP IVR (Unified IP IVR) or Cisco Unified Customer Voice Portal (Unified CVP)</td>
<td>Unified IP IVR or Unified CVP provides Interactive Voice Response (IVR) and queuing capability in the Unified SCCE system. Note: Unified SCCE does not support Unified CCX clustering (duplexed Unified IP IVRs that failover to the same CTI route points). Unified SCCE supports connections for up to ten Unified IP IVR or Unified CVP servers. In deployments containing multiple Unified IP IVR servers, the Unified SCCE Network VRU automatically balances load across the IVRs based on trunk availability. In deployments containing multiple Unified CVP servers, Cisco Unified Presence load balances with SIP and a Gate Keeper load balances with H323.</td>
</tr>
<tr>
<td>CTI OS or Cisco Agent Desktops (CAD)</td>
<td>Cisco CTI Object Server (CTI OS) and Cisco Agent and Supervisor Desktops are server-based CTI solutions that provide desktops used by contact center agents and supervisors. You select which of these applications to deploy with your Unified SCCE system. CTI OS includes the CTI OS Agent Desktop, Supervisor Desktop, CTI OS Toolkit, and Client Interface Library (CIL). CAD includes the Desktop Administrator, Agent Desktop, and Supervisor Desktop.</td>
</tr>
</tbody>
</table>
### Basic Unified SCCE Optional Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbound Controller</td>
<td>The Outbound Controller provides outbound dialing capability for the Outbound Option feature. It is required only if you are deploying Outbound Option. Outbound Option is a feature that provides outbound dialing functionality along with existing inbound capabilities of Unified SCCE software. With Outbound Option, contact centers can be configured for automated outbound activities. Agents who are not busy handling inbound requests can perform outbound calls, thereby maintaining a high level of agent productivity.</td>
</tr>
<tr>
<td>Multichannel Controller</td>
<td>The Multichannel Controller provides a communication link between the Central Controller and multichannel applications, which will be available in a future release.</td>
</tr>
<tr>
<td>Cisco Unified Contact Center Management Portal (Unified CCMP)</td>
<td>Unified CCMP provides a simple to use web-based user interface to streamline the day-to-day provisioning and configuration operations performed by a contact center manager, team lead, or administrator.</td>
</tr>
</tbody>
</table>

---

**Basic Unified SCCE Call Flow with Unified IP IVR**

The figure below shows the flow of a basic Unified SCCE call when using Unified IP IVR software. In this scenario, all of the agents are assumed to be “not ready” when the call arrives, so the call is routed by the Unified SCCE central controller to the Unified IP IVR. While the call is connected to the Unified IP IVR, call queuing treatment (announcements, music, and so on) is provided. When an agent becomes available, the Unified SCCE central controller directs the Unified IP IVR to transfer the call to that agent’s phone. At the same time the call is being transferred, the Unified SCCE central controller sends the caller data such as Automatic Number Identification (ANI) and Directory Number (DN) to the agent desktop software.
Figure 3: Basic Unified SCCE Call Flow Using Unified IP IVR

The call flow shown above is as follows:

1. Call is delivered from the public switched telephone network (PSTN) to voice gateway.

2. A Media Gateway Control Protocol (MGCP) or H.323 Standard Protocol Route Request is sent to Cisco Unified CM.

3. A Java Telephony API (JTAPI) Route Request is sent to Unified SCCE.

4. Unified SCCE runs routing script. No available agent is found, so the Unified SCCE request is returned from routing script.

5. Unified SCCE instructs Unified CM to transfer the call to Unified IP IVR, and Unified CM does as instructed.

6. Unified IP IVR notifies Unified SCCE that the call has arrived.

7. Unified SCCE instructs Unified IP IVR to play queue announcements.

8. Agent becomes ready (completed previous call or just went ready).

9. Unified SCCE sends call data to selected agent screen and instructs the Unified IP IVR to transfer the call to the agent phone.

10. Unified IP IVR transfers the Voice over Internet Protocol (VoIP) voice path to selected agent phone.

11. Call is answered by agent.
Unified SCCE Call Flow with Unified CVP

The figure below shows the flow of a basic Unified SCCE call when using Unified Customer Voice Portal (Unified CVP) software. In this deployment, we have a Stand-Alone Unified SCCE site without the Parent ICM. Unified CVP uses Cisco Unified Presence to load balance within the Call Server farm.

The call originates from the Public Switched Telephone Network (PSTN) and goes to the Unified CVP software, which uses either the Session Initiation Protocol (SIP) or the H.323 protocol, depending on the call.

**Note:** Unified CVP provides call routing services for SIP (RFC 3261) and H.323 protocols.

*Figure 4: Basic Unified SCCE Call Flow Using Unified CVP*

The call flow shown above is as follows:

1. The call is delivered from the PSTN to the voice gateway.
2. The Voice Gateway sends an H.323 standard protocol request to Unified CVP for the incoming call.
3. Unified CVP sends a VRU request to Unified SCCE, requesting instructions.
4. Unified SCCE runs routing scripts and instructs Unified CVP for prompting and announcements.
5. The Agent becomes ready (completed previous call or just went ready).
6. Unified SCCE instructs Unified CVP to send the call to the available agent on Unified CM.

7. Unified SCCE sends the call to the selected agent's screen.

8. Unified CVP transfers the VoIP voice path to the selected agent's phone on Unified CM.

9. The call is answered by the agent.
Chapter 2

Unified SCCE Platform Specifications

This section provides information on hardware and software specifications for Unified SCCE components. It also provides a list of any component features not supported when components are deployed as part of a Unified SCCE deployment.

This chapter contains the following topics:

• About Unified SCCE Server Hardware Requirements, page 13
• About Unified SCCE Operating System Requirements, page 15
• About Unified SCCE Network and Active Directory Domain Requirements, page 16
• About Unified SCCE Third-Party Software Requirements, page 16
• About Unified SCCE Internationalization and Localization Support, page 17
• About Unified SCCE Component Version Interoperability, page 17
• Licensing Requirements and System Limitations, page 17
• About Non-Supported Component Features in a Unified SCCE Environment, page 18

About Unified SCCE Server Hardware Requirements

Unified SCCE 7.5(1) components are supported only on Cisco Media Convergence Servers (MCS) or MCS-equivalent servers. See the Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1) (BOM) for further specifics on hardware requirements including recommended platform sizing guidelines (not specific brands or models of servers), based on the types of available hardware systems. The document is available from cisco.com at: Cisco Unified Contact Center Enterprise 7.5(1) (http://www.cisco.com/en/US/products/sw/custcosw/ps1844/products_user_guide_list.html).

The table below summarizes the box requirements for each Unified SCCE component type. Refer to the *Cisco Unified System Contact Center Enterprise Solution Reference Network Design Guide* for detailed deployment models, performance limitations, network considerations, and installation options.

**Note:** Always install the Controllers and Administration & WebView Reporting on a "clean" machine—that is, one which has a fresh install of the operating system and any prerequisite software. Under no circumstances should the Controllers or Administration & WebView Reporting be installed on a domain controller or DNS server.

<table>
<thead>
<tr>
<th>Unified SCCE Component</th>
<th>Box Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified CM</td>
<td>Must be installed on its own machine. Do not install other Unified SCCE components on the Unified CM. Unified SCCE supports clustering of Unified CMs.</td>
</tr>
<tr>
<td>Unified IP IVR or Unified CVP</td>
<td>Must be installed on its own machine. Do not install other Unified SCCE components on the Unified IP IVR or Unified CVP system. Unified SCCE supports connections for up to five Unified IP IVRs by default but can support up to 10 if a property file is used. Unified SCCE supports connections for up to ten Unified CVP call servers by default. In deployments containing multiple Unified IP IVR servers, the Unified SCCE Network VRU automatically balances load across the IVRs based on trunk availability. In deployments containing multiple Unified CVP servers, Cisco Unified Presence Server load balances with SIP and a Gate Keeper load balances with H.323.</td>
</tr>
<tr>
<td>Central Controller, Agent/IVR Controller, Administration &amp; WebView Reporting</td>
<td>All three can be installed on a single machine. Or the Central Controller and Agent/IVR Controller can be installed on the same machine and Administration &amp; WebView Reporting on another. Or all three can be deployed standalone. Do not install other Unified SCCE components on these machines. The Central Controller and Agent/IVR Controller can be duplexed for hardware fault tolerance. Two Administration &amp; WebView Reporting machines are supported, although these machines are not duplexed.</td>
</tr>
<tr>
<td>Outbound Controller</td>
<td>You can install a simplexed Outbound Controller on its own machine, or you can provide fault tolerance and upgrade to a duplexed Outbound Controller using the Agent/IVR controller. If you install a simplexed Outbound Controller on its own machine, do not install other Unified SCCE components on that machine.</td>
</tr>
</tbody>
</table>
### Unified SCCE Component

<table>
<thead>
<tr>
<th>Box Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multichannel Controller</td>
</tr>
<tr>
<td>CTI OS or CAD</td>
</tr>
<tr>
<td>Unified CCMP</td>
</tr>
</tbody>
</table>

**Caution**: Neither All-in-Ones (where the Central Controller, Agent/IVR Controller, and Administration & WebView Reporting are installed on one machine) nor simplexed deployments are supported in a production environment.

### About Unified SCCE Operating System Requirements

See the following documents for operating system requirements for Unified SCCE components:

- For Unified CM, see the **Cisco Unified Communications Manager Compatibility Matrix** (http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_device_support_tables_list.html).
- For Unified IP IVR, see the **Cisco Unified Contact Center Express (Unified CCX) Software and Hardware Compatibility Guide** (http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_device_support_tables_list.html)
- For all other Unified SCCE components, see the **Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise &
About Unified SCCE Network and Active Directory Domain Requirements

Unified SCCE 7.5(1) components require a Windows Active Directory domain. See the Staging Guide for Cisco ICM/Unified Contact Center Enterprise & Hosted for further specifics on Active Directory configuration and other network configuration requirements. Additional network consideration and planning guidelines can be found in the Cisco Unified Contact Center Enterprise 7.5 Solution Reference Network Design Guide.

Supported Windows Active Directory Models

Under Windows, the Unified SCCE software requires the use of Active Directory and DNS to maintain the Active Directory model. The account database that validates users in the domain is kept in the Active Directory. Windows has built-in methods to replicate this account database to the domain controllers within the forest and domain, across the various Active Directory sites.

See the Staging Guide for Cisco ICM/Unified Contact Center Enterprise and Hosted for detailed information on supported Windows Active Directory models and requirements.

About Unified SCCE Third-Party Software Requirements

Many Unified SCCE components require certain prerequisite third-party software that must be loaded prior to installation. See the documents listed below to determine prerequisite software for each Unified SCCE component.

See the Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1) for information on supported third-party software version numbers.

<table>
<thead>
<tr>
<th>Unified SCCE Component</th>
<th>Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified CM</td>
<td>Installing Cisco Unified Communications Manager at <a href="http://www.cisco.com/en/US/products/sw/voicesw/ps556/tsd_products_support_install_and_upgrade.html">Cisco Unified Communications Manager (CallManager) Install and Upgrade</a></td>
</tr>
</tbody>
</table>


### About Unified SCCE Internationalization and Localization Support


### About Unified SCCE Component Version Interoperability

See the *Cisco Unified Contact Center Enterprise (Unified CCE) Software Compatibility Guide* for the list of Cisco IP Phone and Unified CCE component (such as Unified CM, Unified IP IVR, CTI OS) versions supported by Unified SCCE 7.5(1). That guide is updated regularly to reflect subsequent component releases and service releases.


### Licensing Requirements and System Limitations

For licensing requirements and system limitations, see the *Hardware and System Software Specification (Bill of Materials)* for Cisco Unified ICM/Contact Center Enterprise & Hosted, *Release 7.5(1)*.

---


About Non-Supported Component Features in a Unified SCCE Environment

Prior to installing and configuring Unified SCCE components, consult the *Release Notes for Cisco Unified ICM/ Contact Center Enterprise & Hosted, Release 7.5(1)* for a list of any component features or configurations not supported in a Unified SCCE environment. Cisco Unified CM in particular has certain features that cannot be used within IPCC Enterprise.

Unified SCCE Deployment Models

This chapter contains the following topics:

- About Unified SCCE Deployment Models, page 19
- Choosing A Deployment Model: Load Considerations, page 22
- Other Deployment Considerations, page 23

About Unified SCCE Deployment Models

Unified SCCE supports a number of different deployment models. The number of physical machines required for your Unified SCCE deployment can vary depending on:

- Whether you choose to install the Central Controller, Agent/IVR Controller, and Administration & WebView Reporting on one machine (an All-in-One); two machines (a Central Controller-Agent/IVR Controller plus standalone Administration & WebView Reporting); or on three separate boxes.

  Note: All-in-One deployments are supported in lab environments only.

- Whether you choose to deploy the Central Controller, Agent/IVR Controller, and Administration & WebView Reporting machine(s) as simplex (one instance of each) or duplexed (two of each for enhanced fault tolerance).

  Note: Simplexed deployments are supported in lab environments only.

- Whether you choose to deploy the Outbound Option on its own machine, simplex.

- Whether you choose to deploy Multichannel (supported in a future release).

The following table and diagram define individual box requirements and illustrate some sample Unified SCCE deployment model topologies.
<table>
<thead>
<tr>
<th>Unified SCCE Component</th>
<th>Box Requirements</th>
<th>Can be Duplexed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified CM</td>
<td>Must be installed on its own machine. Do not install other Unified SCCE components on the Unified CM machine.</td>
<td>Can be clustered.</td>
</tr>
<tr>
<td>Unified IP IVR or Unified CVP</td>
<td>Must be installed on its own machine. Do not install other Unified SCCE components on the Unified IP IVR or Unified CVP system.</td>
<td>No.</td>
</tr>
<tr>
<td></td>
<td>Unified SCCE supports connections for up to five Unified IP IVRs by default but can support up to 10 if a property file is used.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unified SCCE supports connections for up to ten Unified CVP call servers by default.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In deployments containing multiple IP IVR servers, the Unified SCCE Network VRU automatically balances load across the IVRs based on trunk availability.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In deployments containing multiple Unified CVP servers, Cisco Unified Presence load balances with SIP and a Gate Keeper load balances with H.323.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Must be installed on its own machine. Do not install other Unified SCCE components on the Unified IP IVR or Unified CVP machines.</td>
<td></td>
</tr>
<tr>
<td>Central Controller</td>
<td>Can be installed standalone, or with an Agent/IVR Controller, or with an Agent/IVR Controller and Administration &amp; WebView Reporting. Do not install any other Unified SCCE components on this machine.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Agent/IVR Controller</td>
<td>Can be installed standalone, or with a Central Controller, or with a Central Controller and Administration &amp; WebView Reporting. Do not install any other Unified SCCE components on this machine.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Administration &amp; WebView Reporting</td>
<td>Can be installed standalone, or with an with an Agent/IVR Controller and a Central Controller. Do not install any other Unified SCCE components on this machine.</td>
<td>No. However, two non-duplexed Administration &amp; WebView Reporting machines can be installed.</td>
</tr>
</tbody>
</table>
## About Unified SCCE Deployment Models

<table>
<thead>
<tr>
<th>Unified SCCE Component</th>
<th>Box Requirements</th>
<th>Can be Duplexed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbound Controller</td>
<td>Can be installed simplex on its own machine. Do not install other Unified SCCE components on the Outbound Controller.</td>
<td>If you are deploying Outbound Option for the first time, you can modify your Agent/IVR Controller machines in 7.5 and enable Outbound. If you have deployed Outbound on a previous release, you can move from simplex, standalone Outbound to duplex, co-located Outbound.</td>
</tr>
<tr>
<td>Multichannel Controller</td>
<td>Multichannel Controller must be co-located with a multichannel application. Note: Multichannel applications will be available in a future release.</td>
<td>No</td>
</tr>
<tr>
<td>CTI OS or Cisco Agent Desktop (CAD)</td>
<td>The CTI OS Server is installed automatically on the Agent/IVR Controller. CTI OS desktop software is installed on agent, supervisor, and CTI OS developer client machines. For smaller deployments, CAD Services can be deployed on the Agent/IVR Controller. For larger deployments, CAD Services can be installed on a separate machine. CAD desktop software is installed on agent, supervisor, and CAD developer client machines.</td>
<td>The CTI OS Server is duplexed.</td>
</tr>
<tr>
<td>Unified CCMP</td>
<td>Unified CCMP can be installed on a separate server or co-resident on the Administration &amp; WebView Reporting server. If deployed on its own machine, do not install any other Unified SCCE components on the machine.</td>
<td>Yes. If duplexed, both installations of Unified CCMP need to be installed in the same manner; that is, both must be installed standalone on separate servers or both must be installed co-resident on an Administration &amp; WebView Reporting server.</td>
</tr>
</tbody>
</table>
Choosing A Deployment Model: Load Considerations

In choosing a deployment model, consider the following guidelines and limitations:

- All-in-One deployments of the Central Controller, Agent/IVR Controller, and Administration & WebView Reporting are supported in lab environments only; Cisco does not support the use of All-in-Ones in a live, production environment.

- Light-load production environments may choose to deploy the Central Controller and Agent/IVR Controller on the same machine. Production environments that anticipate heavy call load should install the Central Controller and Agent/IVR Controller on separate machines for optimum performance.

- Use duplexed deployments of the Central Controller and Agent/IVR controller in production environments. Duplexed deployments add critical safeguards against machine failure.
Other Deployment Considerations

There are important details to consider when using Unified SCCE, System PG, and supported IVRs in deployment models, such as Parent/Child and Clustering Over the WAN. For more information, refer to the Deployment Models chapter of the *Cisco Unified Contact Center Enterprise 7.5 Solution Reference Network Design*. 
Chapter 3: Unified SCCE Deployment Models

Other Deployment Considerations
Chapter 4

Overview of Installation and Configuration Tasks

Setting up Unified SCCE involves a significant number of installation and configuration tasks. This section includes task checklists designed to help you track your progress as you install and configure Unified SCCE.

This chapter contains the following topics:

- Hardware Installation Checklist, page 25
- Unified SCCE Staging Requirements, page 26
- Unified SCCE Component Software Installation Checklist, page 27
- Unified SCCE Component Software Configuration Tasks, page 29

Hardware Installation Checklist

<table>
<thead>
<tr>
<th>Task</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Install the Media Convergence Server(s) for Unified CM and Unified IP IVR or Unified CVP, and Unified SCCE. | Hardware and OS requirements for these servers are available from the *Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1)*.

Network architecture requirements are described in the *Staging Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted*, and in the *Cisco Unified Contact Center Enterprise Solution Reference Network Design Guide*.

Install IP phones. Configure each IP phone with an IP address. | Install the IP phones after installing Cisco Unified CM. If you are configuring the phones through auto-registration, also enable auto-registration on Cisco Unified CM before installing the phones. |
Unified SCCE Staging Requirements

Staging requirements include all network and OS platform prerequisites that must be in place before you install Unified SCCE components. Staging requirements for Unified SCCE components include:

- Windows OS configuration
- Windows network configuration
- Active Directory setup
- Firewall and security configuration
- SQL Server installation
- Remote monitoring and management tool setup (optional)
- Cisco Quality of Service (QoS) setup (optional)
- Multi-lingual version of Windows 2003 server if using a localized user interface.
- Internet Information Server (IIS) is needed for the Administration & WebView Reporting machines.

Windows network, Active Directory, firewall, SQL Server, and remote monitoring staging information is described in the Staging Guide for Unified ICM/Contact Center Enterprise and Hosted, 7.x(y). Security setup and guidelines, including Cisco recommended settings for encryption, IPSec, NAT, and firewall configuration are described in the Security Best Practices Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted. Cisco QoS planning and

deployment is described in the *Pre-Installation Guide for Cisco Intelligent Contact Management Enterprise* and the *Cisco Unified Contact Center Enterprise, 7.5 Solution Reference Network Design Guide*.

Unified SCCE Component Software Installation Checklist

This section lists the installation tasks for the Unified SCCE software components.

**Note:** See the *Cisco Unified Contact Center Enterprise Software Compatibility Guide* for the list of Cisco IP Phones and IPCC Enterprise components, such as Unified CM, Unified IP IVR versions, supported by IPCC Enterprise 7.5(1). The IPCC Enterprise Compatibility Guide is updated regularly to reflect subsequent component releases and services releases. The *Cisco Unified Contact Center Enterprise Software Compatibility Guide* is available from cisco.com at:

**Note:** When installing new devices, users must ensure that they do not use any of the following reserved Microsoft device names for customer instances: CON, PRN, AUX, NUL, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, and LPT9.

<table>
<thead>
<tr>
<th>Task</th>
<th>Unified SCCE Installation Prerequisites</th>
<th>Unified SCCE Installation Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install Unified CM</td>
<td>There are no Unified SCCE-specific installation prerequisites for Unified CM.</td>
<td>See Installing and Configuring Cisco Unified CM for Unified SCCE (page 35) in this book. Also see &quot;Installing and Configuring Unified CM for Unified IP IVR&quot; in Getting Started with Cisco Unified IP IVR(^6).</td>
</tr>
<tr>
<td>Install Unified IP IVR (if you are not installing Unified CVP)</td>
<td>Prior to installing Unified IP IVR you must install and configure Unified CM and check your phone configuration in Unified CM Administration.</td>
<td>See &quot;Installing and Configuring Unified IP IVR&quot; in Getting Started with Cisco Unified IP IVR(^7). Installing Unified IP IVR also installs the required JTAPI Client. You can use the JTAPI Client Update tool to ensure that you have the most recent version.</td>
</tr>
<tr>
<td>Install Unified CVP (if you are not installing Unified IP IVR)</td>
<td>Prior to installing Unified CVP install and configure Unified CM and check your phone configuration in Unified CM Administration.</td>
<td>See Installing and Configuring Cisco Unified CM forUnified SCCE (page 35) in this book. Also see Cisco Unified</td>
</tr>
</tbody>
</table>

---


### Unified SCCE Installation Notes

<table>
<thead>
<tr>
<th>Task</th>
<th>Unified SCCE Installation Prerequisites</th>
<th>Unified SCCE Installation Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install Unified SCCE Central Controller, Agent / IVR Controller, and Administration &amp; WebView Reporting component.</td>
<td>Prior to installing the Central Controller, Agent/IVR Controller, and Administration &amp; Webview Reporting, install and configure Unified CM and either Unified IP IVR or Unified CVP.</td>
<td>See Chapters 9 through 11 in this book.</td>
</tr>
<tr>
<td>Option: If deploying Outbound Option on its own machine, simplex, install the Outbound Controller; otherwise, you can enable Outbound on the Agent/IVR Controller.</td>
<td>Prior to installing the Outbound Controller, install Unified CM and Unified SCCE.</td>
<td>See Installing and Configuring Outbound Option for IPCC Enterprise (page 97) in this book. Also, see &quot;Installing and Configuring Outbound Option on Unified SCCE&quot; in Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>Option: If deploying any multichannel applications, install the Multichannel Controller. Note: Multichannel applications will be supported in a future release.</td>
<td>Prior to installing the Multichannel Controller, install Unified SCCE.</td>
<td></td>
</tr>
<tr>
<td>Install CTI OS or Cisco Agent Desktop (CAD) software.</td>
<td>Prior to installing agent.supervisor desktops, you must install and configure all other non-optional Unified SCCE software.</td>
<td>See the Cisco CAD Installation Guide or the CTI OS System Manager's Guide.</td>
</tr>
<tr>
<td>Option: When deploying Unified CCMP, install it on a separate standalone server to achieve optimum performance; alternatively, you may install Unified CCMP co-resident on the Administration &amp; WebView Reporting server.</td>
<td>Prior to installing Unified CCMP, install Unified CM and Unified SCCE.</td>
<td>See the Installation Guide for Cisco Unified Contact Center Management Portal at Cisco Unified Contact Center Management Portal Install and Upgrade Guides.</td>
</tr>
</tbody>
</table>

**Note:** If installing Unified SCCE on a multi-lingual version of Windows 2003, you must run the MUI language pack to install localized WebView and Script Editor user interfaces. See Localizing WebView and Script Editor (page 111)

---


Unified SCCE Component Software Configuration Tasks

Subsequent sections in this document guide you through configuring each Unified SCCE component/functionality area. Each section contains a list of the configuration tasks for that component, as well as a list of prerequisites that must be met before that component can be configured.

1. Create a configuration plan/dial plan for your system.

2. Configure Unified CM

3. Configure Unified IP IVR or Unified CVP

4. Install the Unified SCCE Central Controller, Agent / IVR Controller, Administration & WebView Reporting component, Outbound Controller (if deployed), and Multichannel Controller (if deployed).

5. Perform initial setup and configuration using the Deployment Wizard.

6. Configure Agent and Supervisor Desktops

7. Configure the Outbound Option feature (if deployed)

8. Configure Multichannel applications (if deployed)

9. Perform post-installation configuration; for example, add additional IVRs using the Web Administration Tool’s IVR Connectivity page.

10. Configure reporting.

11. Install and configure Unified CCMP (if deployed).
Chapter 5

Planning Ahead

Whatever your deployment model for Unified SCCE, it is always helpful to have a dial plan before you begin. The Dial Plan you use will be associated with telephone networks and dialing patterns. There are many available books on the subject of dial plans, but the Dial Plan Design Process (http://cisco-elearning-sjdc.digisle.net/cmn/pec/cim/voip_v2r4/content/linked/dialplan.htm), although written for a different Cisco product, provides an introduction to the concepts and shows the necessity of having a dial plan.

This chapter provides introductions to two sample dial/configuration plans that you can use as models when setting up your system.

This chapter contains the following topics:

- Unified SCCE with Unified IP IVR Plan, page 31
- Unified SCCE with Unified CVP Plan, page 32

Unified SCCE with Unified IP IVR Plan

The following tables provide an abbreviated sample dial plan for a Unified SCCE system that is using Unified IP IVR as its IVR application for queuing. The first table shows the configuration of Unified IP IVR with Unified CM. The second table shows the configuration of Unified IP IVR with Unified SCCE. The values used in the tables are just samples, but you can see where configuration values need to be the same or similar across the applications.

<table>
<thead>
<tr>
<th>Unified IP IVR</th>
<th>Unified CM (Device Name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Type</td>
</tr>
<tr>
<td>1501 - 1510</td>
<td>CTI Ports</td>
</tr>
</tbody>
</table>

Unified CM Telephony Call Control Group with 10 CTI ports
Unified SCCE with Unified CVP Plan

The following table provides a sample dial plan for a Unified SCCE system that uses Unified CVP as its IVR application for queuing. Note that the dots in some of the values shown represent data that you enter when you are configuring the gateway. For example, in the value "55551291.." the dots represent any number between 00 and 99.

<table>
<thead>
<tr>
<th>Dial Peer</th>
<th>Extension</th>
<th>Destination-Pattern or Incoming called number</th>
<th>Type or Service</th>
<th>Session Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice Gateway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51291</td>
<td></td>
<td>55551291..</td>
<td>VoIP</td>
<td>Unified CVP</td>
</tr>
<tr>
<td>512919</td>
<td></td>
<td>5555129199T</td>
<td>bootstrap</td>
<td></td>
</tr>
<tr>
<td>Unified CVP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialed Number</td>
<td>Extension</td>
<td>Destination</td>
<td>Type</td>
<td>Target</td>
</tr>
<tr>
<td>5129199&gt;</td>
<td>5555129199</td>
<td>5555129199&lt;correlation ID&gt;</td>
<td>VRU label</td>
<td>Voice Gateway</td>
</tr>
<tr>
<td>51291&gt;</td>
<td>55551291[00 - 99]</td>
<td>55551291[00 - 99]</td>
<td>CVP Route Point</td>
<td>Unified CVP</td>
</tr>
<tr>
<td>512&gt;</td>
<td>55512....</td>
<td>555512....</td>
<td>Device</td>
<td>Unified CM</td>
</tr>
</tbody>
</table>

Unified CM (Route Pattern)

Dial Peer | Extension | Destination | Type | Target |
|-----------|-----------|-------------|------|-------|

Installation and Configuration Guide Cisco Unified System Contact Center Enterprise 7.5(1)
You can see an example of how some of these values are used to configure the Network IVR in How to Configure the Unified SCCE Network IVR for Unified CVP (page 59) section.
Cisco Unified Communications Manager (Unified CM) serves as the software-based call-processing component of the Cisco Unified Communications family of products. A wide range of Cisco Media Convergence Servers provide high-availability server platforms for Unified CM call processing, services, and applications.

The Unified CM system extends enterprise telephony features and functions to packet telephony network devices such as IP phones, media processing devices, voice-over-IP (VoIP) gateways, and multimedia applications. Additional data, voice, and video services, such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems, interact through Unified CM's open telephony application programming interface (API).

Unified CM provides signaling and call control services to Cisco integrated telephony applications as well as third-party applications.

This section describes how to install and configure Unified CM for Unified SCCE.

This chapter contains the following topics:

- How to Install Cisco Unified Communications Manager for Unified SCCE, page 36
- Unified CM Configuration Tasks, page 36
- About the Unified CM Administration Utility, page 37
- How to Configure Agent IP Phones for Unified SCCE, page 37
- About the Unified CM Extension Mobility Feature, page 39
- How to Configure CTI Route Points, page 39
- How to Configure CTI Ports, page 40
- How to Configure Users for the Agent/IVR Controller and Unified IP IVR, page 40
- How to Configure Unified CM for Unified CVP, page 41
How to Install Cisco Unified Communications Manager for Unified SCCE

To install Unified CM, follow the step-by-step installation instructions included in the *Installation Guide for Cisco Unified Communications Manager*. There are no Unified SCCE-specific installation prerequisites or instructions for Unified CM, but Unified SCCE does require Unified CM.

Once installation is complete, confirm that the following are true before you configure Unified CM for Unified SCCE:

- A Unified CM instance has been created on the Unified CM server.
- All Unified CM services and third-party services required by Unified CM are running.
- The BAT Tool has been installed on the Unified CM.

**See Also**

*Installation Guide for Cisco Unified Communications Manager*

*Bulk Administration Tool Guide for Cisco Unified Communications Manager*

### Unified CM Configuration Tasks

After you install Unified CM, complete these tasks to configure Unified CM for use with Unified SCCE. Perform tasks in the order listed. Note that steps 3 and 4 apply only to Unified IP IVR and step 5 applies only to Unified CVP. Instructions for each are included later in this document.

<table>
<thead>
<tr>
<th>Unified CM Configuration Task</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Configure the agent IP phones.</td>
<td>Prior to this, you must have installed your Cisco IP phones on your network. For instructions, refer to the documentation packaged with your Cisco IP phone.</td>
</tr>
<tr>
<td>2. Configure the CTI Route Points.</td>
<td>When using Unified IP IVR, you can invoke Unified CM from the Unified CCX Administration user interface and configure Route Points directly. The Route Points for dialed numbers must still be created in Unified CM Administration. Route Points are needed for both Unified IP IVR and Unified CVP.</td>
</tr>
<tr>
<td>3. Configure the Call Control Ports.</td>
<td>For Unified IP IVR only. Call Control Ports can be configured directly in the Unified CCX Administration interface; you do not need to configure them in Unified CM.</td>
</tr>
</tbody>
</table>
Unified CM Configuration Task | Notes
--- | ---
4. Create user accounts and associate them with the JTAPI phones, Route Points, and Ports. | For Unified IP IVR only. Create one account to associate with the phones and Agent/IVR Controller, and one account to associate with Unified IP IVR and the CTI Ports. When using Unified IP IVR, you can invoke Unified CM from the Unified CCX Administration user interface using the Unified CM user ID and password. Then you can create users and assign them as Unified IP IVR users.

5. Add the Unified Presence Proxy server, create SIP trunks, and add route patterns. | For Unified CVP only. The Unified CVP documentation provides detailed instructions on how to configure Unified CM to work with Unified CVP. The instructions vary depending on whether you are using the SIP or the H323 protocol.

About the Unified CM Administration Utility

Most Unified CM configuration tasks are done from the Unified CM Administration utility. Unified CM Administration is installed on all Unified CM servers. To access Unified CM Administration in a Web browser, enter `http://<Unified CM_servername>/ccmadmin`.

How to Configure Agent IP Phones for Unified SCCE

This section provides procedures for configuring Agent IP phones.

How to Configure IP Phones on the Unified CM

To function with Unified CM, each Cisco IP phone in your Unified SCCE system must be registered and configured within the Unified CM Administration database.

There are three different ways of doing this:

- **Manual configuration:** In manual configuration, each agent IP phone is configured individually. This document describes the manual configuration method.

- **Auto-registration:** Auto-registration allows you to automatically add a Cisco IP Phone to the Cisco Unified CM database when you connect the phone to your IP telephony network. During auto-registration, Cisco Unified CM assigns the next available sequential directory number to the phone. In many cases, you might not want to use auto-registration; for example, if you want to assign a specific directory number to a phone. The procedure for setting up auto-registration is described in the *Cisco Unified Communications Manager Administration Guide*.

- **Bulk configuration:** The Unified CM Bulk Administration Tool lets you add, modify, and delete multiple Cisco IP Phones in batch mode. Procedures for using the Bulk Administration Tool are described in the *Cisco Unified Communications Manager Administration Guide*.
Tool are not described in this guide. For instructions, see the Bulk Administration Tool Guide for Cisco Unified Communications Manager.

To manually configure agent IP phones on the Unified CM, perform the following steps for each agent IP Phone in your Unified SCCE system:

**Step 1** In Unified CM Administration, select **Device > Phone**.

**Step 2** On the Find and List Phones page, click **Add New**.

**Step 3** On the Add a New Phone page, select the model of Cisco IP phone you are configuring from the Phone Type drop-down list, and click **Next**.

**Step 4** On the Phone Configuration page, select the device protocol from the drop-down list (either SCCP or SIP), and click **Next**.

The next Phone Configuration page has many options to complete. The Cisco Unified CM Administration online Help is the best source for information to use on this page. When you are finished, click **Save**.

A message displays that states that the phone has been added to the database. To add a directory number to this phone, click one of the line links, such as **Line [1] - Add a new DN**, in the Association Information pane that displays on the left side of the window. Then continue by adding the directory number configuration settings. Note that the directory number is the agent's ID for logging into the phone. If you use Outbound Option, set Call Waiting to On; otherwise, set it to Off.

**Step 5** Create additional phones, as necessary.

### How to Set the Agent IP Phone Configuration on the IP Phone

You must set the configuration on each agent IP phone so that it can locate and connect to Cisco Unified CM. To set the necessary configuration, on each agent IP phone in your Unified SCCE system, complete the following steps:

**Step 1** Press **Settings**.

**Step 2** Press ****# to unlock the configuration.

**Step 3** Select **Settings > Network Configuration > Select**.

**Step 4** Set Alternative TFTP to **Yes**.

**Step 5** Press **Save** and then press **Exit**.

**Step 6** Power cycle the phone. If you are using power plugs, pull the cord out of the phone and put it back in again. If you are using inline power, disconnect and then reconnect the network cable.
About the Unified CM Extension Mobility Feature

Unified CM provides an Extension Mobility feature that lets users access their Cisco IP phone configuration, including line appearances, services, and speed dials, from other Cisco IP phones. If you enable Extension Mobility, agents can share the same IP phone and retain their personal settings. In a Unified SCCE system, IP phones with Extension Mobility have the same behavior and features as regular IP phones. Procedures for enabling Extension Mobility are not described in this guide. For instructions, see the Cisco Unified CM Features and Service Guide.

How to Configure CTI Route Points

A CTI Route Point is a virtual device that can receive multiple concurrent calls for application-controlled redirection. Calls are directed to a route point, which subsequently routes the call to an available CTI port—the front end of the redirection application. The CTI route point is the number a caller dials to access the application. At least one CTI route point must be configured for each redirection application in use. In Unified SCCE, these applications include Unified IP IVR and Cisco JTAPI running on the Agent/IVR Controller.

Once a CTI route point has been created, lines (directory numbers) can be added and configured. CTI route points are used for post-routing with Unified SCCE. In the event that the Agent/IVR Controller is down or the Unified SCCE cannot route a call, you can post-route the call to another CTI Route Point.

Note: If you are using Unified IP IVR 4.0(x) or later, the CTI Route Points controlled by the Unified IP IVR can be configured directly in the Unified IP IVR Administration interface; you do not need to configure them in Unified CM. Consult your Unified IP IVR documentation for instructions. The Route Points for dialed numbers must still be created in Unified CM Administration.

To configure a CTI Route Point:

Step 1  
In Unified CM Administration, select **Device > CTI Route Point**.

Step 2  
Under Find and List CTI Route Points, click **Add New**.

Step 3  
Use the Unified CM Administration online Help for guidance in completing the CTI Route Point Configuration Settings.

Step 4  
When you have finished, click **Save**.

Step 5  
Repeat these steps to create additional CTI Route Points, as necessary. For example, you might create two route points for inbound dialing (one for post routing and one for translation routing) and two for Unified IP IVR (one for post routing and one for transfer to IVR).
How to Configure CTI Ports

A CTI Port is a virtual port analogous to a trunk line in a traditional ACD or PBX setting. The CTI Port allows access to the post-routing capabilities of Unified IP IVR.

The number of ports you configure is determined by your needs and available licenses. In order to accept or place calls, the JTAPI subsystem requires one CTI port device for each call to be managed simultaneously.

To configure CTI ports:

**Step 1** In Unified CM Administration, select Device > Phone.

**Step 2** Click Add New.

**Step 3** From Phone Type, select CTI Port. Click Next.

**Step 4** In Device Name, enter a unique name for the device.

**Step 5** From Device Pool, select Default.

Use the Unified CM Administration online Help for guidance on the remaining fields. Ensure that Call Waiting is OFF.

**Step 6** Click Save. A message displays confirming that the directory number has been assigned to the current device. Click OK.

**Step 7** Repeat the above steps to create additional port groups, as necessary.

How to Configure Users for the Agent/IVR Controller and Unified IP IVR

Cisco Unified CM supports the Java Telephony Application Programming Interface (JTAPI) for deploying telephony applications. JTAPI gives Unified SCCE access to the Cisco Unified CM directory. JTAPI uses the directory to determine which Unified SCCE devices it has the privilege to control.

A user account must be associated with each JTAPI device. For Unified SCCE, you must create a JTAPI user for connecting to the Unified SCCE Agent/IVR Controller and to each Unified IP IVR in your deployment.

**Note:** If you are using Unified IP IVR 4.0(x) or later, the JTAPI user for Unified IP IVR can be configured directly in the Unified IP IVR Administration interface; you do not need to configure them in Unified CM. You must still create the JTAPI user for the Unified CM PG in Unified CM Administration.

To configure JTAPI users for the Agent/IVR Controller and Unified IP IVR:
Step 1  In Unified CM Administration, select User > Add a New User. The User Information page opens.

Step 2  Enter a first and last name for the user.

Step 3  In UserID, enter the User ID for the Agent/IVR Controller user.

Step 4  In User Password, enter a password. Re-enter it in Confirm Password.

Step 5  In PIN, enter an IP phone password (at least five characters). Re-enter it in Confirm PIN.

Note: Record the user names and passwords that you create for the JTAPI users. You will need to supply these when you configure A) Unified CM connectivity for the Agent/IVR Controller in Unified SCCE Web Administration; B) the Unified IP IVR JTAPI user in Unified CCX Administration.

Step 6  Select Enable CTI Application Use.

Step 7  Click Insert.

Step 8  Under Application Profiles, click Device Association.

Step 9  Click Select Devices. All the Device names and extensions display. Select all of the devices this user will control.

- For the Agent/IVR Controller user, select the IP phones and the Agent/IVR Controller route points.

- For the Unified IP IVR user, select the Unified IP IVR route points and the ports.

Step 10  Select No Primary Extension.

Step 11  Click Update.

Step 12  Repeat the above steps to create additional JTAPI users as necessary.

How to Configure Unified CM for Unified CVP

Whether you plan to use Session Initiation Protocol (SIP) or H323 gateway with your Unified SCCE system, you need to configure Unified CM so that it will work with Unified CVP.

Configure the following in Unified CM:

Step 1  The SIP trunk or the H323 gateway that refers to the Unified CVP to which you want to send the call. Configure the SIP trunk to the SIP Proxy Server (after configuring the SIP Proxy Server) or to the Unified CVP Call Server if you are not using a SIP Proxy.

Step 2  Add call routing (route patterns) to send the call from Unified CM; for example, ring tone, playback dial patterns and ICM route table calls. The route pattern must match the label you
are using to send the call to Unified CVP. Append "!" at the end of the route pattern to accommodate the correlation ID.

**Step 3**  
Configure the Network IVR on the IPCC Enterprise Web Administration Tool. Select **IVR Management > Network IVR**. See the section **How to Configure the Unified SCCE Network IVR for Unified CVP** (page 59) for detailed information.

**Step 4**  
Point the Route Pattern to the SIP trunk or H323 gateway.

**See Also**

**Configuring Unified CVP Trunk Group ID Numbers** (page 58) and the following documents for guidance:

*Installation Guide for Cisco Unified Communications Manager*

*Cisco Unified Communications Manager Administration Guide*

*Bulk Administration Tool Guide for Cisco Unified Communications Manager*

*Cisco Unified Communications Manager Features and Service Guide*

*Configuration and Administration Guide for Cisco Customer Voice Portal*
Chapter 7

Installing and Configuring Unified IP IVR for Unified SCCE

This section describes how to install and configure Unified IP IVR for Unified SCCE.

This chapter contains the following topics:

- About Unified IP IVR, page 43
- About Unified IP IVR Installation Prerequisites, page 44
- How to Install Unified IP IVR for Unified SCCE, page 44
- Unified IP IVR Configuration Tasks, page 44
- Accessing the Cisco Unified CCX Administration Utility, page 45
- How to Configure the Unified CM Telephony Provider on Unified CCX Administration, page 46
- How to Configure a Unified CM Telephony Call Control Group, page 46
- How to Configure the ICM Subsystem, page 48
- How to Configure and Upload VRU Scripts, page 49
- About Translation Routing and Post Routing, page 50
- How to Configure Unified IP IVR for Translation Routing, page 51
- How to Configure Unified IP IVR for Unified SCCE Post Routing, page 53
- How to Start the Cisco Unified CCX Engine, page 54
- How to Resynchronize the Unified CM Telephony Data, page 54
- How to Resynchronize the Cisco JTAPI Client, page 55
- Configuring Unified SCCE for Unified IP IVR, page 55

About Unified IP IVR

Unified IP IVR provides Interactive Voice Response (IVR) and queuing capability in the Unified SCCE system. Cisco Unified IP IVR is a multichannel (voice/data/Web) IP-enabled Interactive Voice Response solution that provides an open, extensible, and feature-rich foundation for the creation and delivery of IVR solutions using Internet technology. In addition to handling
traditional telephony contacts, you can create Unified IP IVR applications to respond to HTTP requests and send e-mail messages.

### About Unified IP IVR Installation Prerequisites

Before installing and configuring Unified IP IVR for use with Unified SCCE, you must install and configure Cisco Unified Communications Manager. See *Installing and Configuring Cisco Unified CM for Unified SCCE (page 35).*

**Note:** Unified IP IVR is a product on the Cisco Unified Contact Center Express (Unified CCX) platform. From the Unified CCX Administration user interface, you can invoke Unified CM (using the Unified CM User ID and password) and do some of the configuration directly. For more information, see *Getting Started with Unified IP IVR.* (http://www.cisco.com/en/US/products/sw/custcosw/ps1846/prod_installation_guides_list.html)

### How to Install Unified IP IVR for Unified SCCE

To install Unified IP IVR, follow the step-by-step installation instructions included in the *Cisco Customer Response Solutions Installation Guide.*

When installing Unified IP IVR for use with Unified SCCE, you must select the Unified IP IVR product option during installation. This installs the basic Unified IP IVR platform, which includes the basic components of Unified IP IVR and the default ICM scripts. The Unified CCX installation procedure has two main steps:

- **Installation:** Loads the Unified CCX software onto your system. At this time you can select the deployment type (Unified CM) and a language. After completing the installation, confirm that the ICM option appears on the Subsystems menu of the Administration utility. If it does not, you might have to modify the license (.lic) file.

- **Server Setup:** After you install Unified IP IVR, you use the Unified CCX Administration web utility to perform the initial system setup. This enables the specific Unified CCX components that will run on a particular server.

### Unified IP IVR Configuration Tasks

After you install Unified IP IVR, complete the following tasks to configure Unified IP IVR for use with Unified SCCE Environment. Perform tasks in the order listed. Instructions for each are included later in this section.

<table>
<thead>
<tr>
<th>Unified IP IVR Configuration Task</th>
<th>Notes</th>
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<tr>
<td>1. Configure a Unified CM Telephony Provider on Unified CCX Administration.</td>
<td>See <em>How to Configure the Unified CM Telephony Provider on Unified CCS Administration (page 46)</em> and the “Configuring a Unified CM Telephony Provider section in...”</td>
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<tr>
<td>Unified IP IVR Configuration Task</td>
<td>Notes</td>
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<tr>
<td></td>
<td>the Cisco Unified Contact Center Express Administration Guide.  \</td>
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<tr>
<td>2. Configure Unified CM Telephony Call Control Groups and ensure that the information in Unified CCX and Unified CM are in synch.</td>
<td>See How to Configure a Unified CM Telephony Call Control Group (page 46) and the &quot;Adding a New Unified CM Telephony Call Control Group&quot; section in the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
<tr>
<td>3. Configure the ICM Subsystem.</td>
<td>See How to Configure the ICM Subsystem (page 48) and the &quot;Provisioning the Unified ICME Subsystem&quot; section in the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
<tr>
<td>4. Create and upload VRU scripts.</td>
<td>See How to Configure and Upload VRU Scripts (page 49) and the &quot;Configuring Unified ICME VRU Scripts&quot; section in the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
<tr>
<td>5. Configure Unified IP IVR for Unified SCCE Post and/or Translation Routing.</td>
<td>See About Translation Routing and Post Routing (page 50) and the sections about configuring post and translation routing in the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
<tr>
<td>6. Start the Unified CCX Engine.</td>
<td>See How to Start the Unified CCX Engine (page 54) &quot;Starting, Stopping, and Restarting Cisco Unified CCX Services&quot; section in the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
<tr>
<td>7. Resynchronize the Unified CM Telephony Data</td>
<td>See How to Resynchronize the Unified CM Telephony Data (page 54) and the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
<tr>
<td>8. Resynchronize the Cisco JTAPI Client</td>
<td>See How to Synchronize the Cisco JTAPI Client (page 55) and the Cisco Unified Contact Center Express Administration Guide.</td>
</tr>
</tbody>
</table>

The information needed to perform the above tasks is found in the Cisco Unified CCX Administration Guide (http://www.cisco.com/en/US/products/sw/custsws/ps1846/products_installation_and_configuration_guides_list.html) and briefly described in the following sections.

Accessing the Cisco Unified CCX Administration Utility

Most of the tasks in this section are performed from the Cisco Unified CCX Administration utility, which is installed on your Unified IP IVR server. Access Unified CCX Administration at: http://<ipivr_server name>/appadmin.
Chapter 7: Installing and Configuring Unified IP IVR for Unified SCCE

Accessing the Cisco Unified CCX Administration Utility

How to Configure the Unified CM Telephony Provider on Unified CCX Administration

After configuring Unified CM, you need to configure a Unified CM Telephony Provider for your Unified IP IVR. This user is identified in the Unified IP IVR software when you configure the CM Telephony Provider.

To configure a Unified CM Telephony Provider for Unified IP IVR, do the following:

---

**Step 1**
From the Unified CCX Administration menu bar, choose **System > Unified CM Configuration**.

The Unified CM Configuration web page opens.

**Step 2**
On the web page specify the following:

- **Selected or Available CTI Managers**: Select the required entry and move to the opposite list box using the right and left arrows.

- **User Prefix**: The syntax of the User ID is: `<userprefix>_<nodeid>`. For example, if you set this field to `cti_user`, then the User ID for Node 1 will be `cti_user_1`.

- **Password**: The password you defined for the User ID in Unified CM.

**Step 3**
Click **OK** and the Unified CM Configuration web page refreshes to display the new settings.

A Microsoft IE window pops up to confirm the newly selected CTI Manager.

**Step 4**
Click **OK** in the Microsoft IE window.

The newly selected CTI Manager is now enabled.

The Unified CM Telephony Providers area of the Unified CM Telephony Configuration web page is a read-only page that displays the latest configured information. To view the configured information for the Unified CM Telephony Provider, from the Unified CCX Administration menu bar, select **Subsystems > Unified CM Telephony**.

---

How to Configure a Unified CM Telephony Call Control Group

A Call Control Group is a group of access points into the Unified SCCE telephone network. You use Call Control Groups to associate Cisco Unified IP IVR applications, translation routes, post routes, busy treatments, and reroute on no answer treatments with a Unified SCCE trunk group.

A CTI port is a virtual device that is used by Cisco Unified CM applications, including Unified IP IVR, to create virtual lines. CTI ports are configured through Cisco Unified CM Administration. The CTI ports in a Call Control Group must have consecutive directory numbers. For example, if you want twenty CTI ports in a particular Call Control group, and the first number is 9001, the rest of the ports will be 9002 through 9020. With twenty ports, the Unified IP IVR can handle twenty calls at a time.
If you are deploying Unified SCCE with multiple Unified IP IVRs, each Call Control Group must have a unique Group ID across all Unified IP IVRs configured in the system. Unified SCCE requires the use of specific port group IDs for post and translation routing (see steps below).

To configure a Unified CM Call Control group, do the following:

**Step 1**
In Unified CCX Administration, select **Subsystems > Unified CM Telephony**.

**Step 2**
Click **Add a New Unified CM Call Control Group** hyperlink.

The Unified CM Telephony Call Control Group Configuration web page opens.

**Step 3**
Use this web page to specify the fields in the Group Information and Directory Number page areas. See the online Help or the *Cisco Unified Contact Center Express Administration Guide* for details about these fields, but for the Group ID field you must enter a unique value. The Group ID corresponds to the trunk group number reported to Unified ICME when the Unified CCX server is part of a Unified SCCE solution.

**Step 4**
In Group ID field, enter a unique ID for the Call Control group. In Unified SCCE, you MUST use the following Call Control group IDs:

- For Unified IP IVR 1 (the first physical Unified IP IVR in your deployment), Post Route Port Group ID = 0, Translation Route Port Group ID = 1
- For Unified IP IVR 2, Post Route Port Group ID = 2, Translation Route Port Group ID = 3
- For Unified IP IVR 3, Post Route Port Group ID = 4, Translation Route Port Group ID = 5
- For Unified IP IVR 4, Post Route Port Group ID = 6, Translation Route Port Group ID = 7
- For Unified IP IVR 5, Post Route Port Group ID = 8, Translation Route Port Group ID = 9

**Note:** Unified SCCE reserves peripheral numbers 0 - 19 for IP-IVRs 1-10. You can configure 5 IP-IVRs by default, but by editing the following property file (on both the Administration & WebView Reporting machines), you can display and configure up to 10 Unified IP IVRs: `<install_dir>:\icm\tomcat\webapps\uiroot\WEB-INF\properties\default\ipccAdmin\properties.xml`. The property to edit is: `<PROPERTY name="NIVRBankEntries" value="N" />` where N is the number of Unified IP IVRs to configure. Valid values are 1-10.

If you set the NIVRBankEntries value to 10 in the preceding properties file, then the following additional call control groups will display:

- For Unified IP IVR 6, Post Route Port Group ID = 10, Translation Route Port Group ID = 11
- For Unified IP IVR 7, Post Route Port Group ID = 12, Translation Route Port Group ID = 13
- For Unified IP IVR 8, Post Route Port Group ID = 14, Translation Route Port Group ID = 15
• For Unified IP IVR 9, Post Route Port Group ID = 16, Translation Route Port Group ID = 17

• For Unified IP IVR 10, Post Route Port Group ID = 18, Translation Route Port Group ID = 19

**Step 5** Press the Tab key to automatically populate the Description field.

**Step 6** From Calling Search Space for Redirect, select the option that specifies the search space, or partition, that the calling device searches when attempting to redirect the call.

**Step 7** Click **Associate CTI Ports**.

**Step 8** From the Available CTI Port List Filters drop-down lists, choose **Device Name** and **Is Exactly**, and then click the Find button.

The Directory Number and Device Name of the CTI port appear under their respective columns.

**Step 9** Select the CTI ports you want to associate with this Call Control group.

**Step 10** Click **Update** to create the specified number of CTI ports starting with `<Starting Directory Number>`.

Unified CCX automatically adds the needed CTI port assignments and the specified call control groups to the Unified CM database. After creating the CTI ports, the respective CTI ports will be associated to the Unified CM Telephony user configured in the Unified CM Telephony Provider page.

**Step 11** Click **Add**.

The Unified CM Telephony Call Control Group Configuration summary web page opens. The call control group you have just added appears in the Group ID column.

**Step 12** As necessary, repeat these steps to create additional port groups and associate them with CTI ports.

Verify that the JTAPI information in Cisco Unified CCX and Unified CM are synchronized. If it is not synchronized, resynchronize it by selecting **Subsystems > Unified CM Telephony** and clicking the **Cisco JTAPI Resync** hyperlink. See the Cisco Unified Contact Center Express Administration Guide for more information.

**How to Configure the ICM Subsystem**

The ICM Subsystem on Unified IP IVR allows Unified IP IVR to interact with Unified SCCE. The ICM Subsystem is the queuing engine for Unified SCCE. The Unified SCCE Service Control interface allows Unified SCCE to provide call processing instructions to Unified IP IVR. It also provides Unified SCCE with event reports indicating changes in call state.

To configure the ICM Subsystem, do the following:
Step 1

In Unified CCX Administration, select **Subsystems > ICM**.

The Unified ICME Configuration General area automatically opens in the Unified ICME Configuration web page when you first choose the ICM menu option from the Subsystems menu.)

Step 2

In the VRU Connection Port field, enter the TCP IP port number on the Unified IP IVR machine that the Unified SCCE Agent/IVR Controller will use to communicate with Unified IP IVR. The default value is 5000. Use the default unless you have a compelling reason to use a different port.

**Note:** Record the VRU Connection Port that you enter. You need to configure IVR connectivity in the Unified SCCE Web Administration Tool with this number. The Web Administration Tool is entitled “Cisco IPCC Enterprise Web Administration.”

Step 3

In the Service Control field, click the **Yes** radio button. The Service Control interface allows the Agent/IVR Controller to provide call-processing instructions to Unified IP IVR. It also provides Unified IP IVR with event reports indicating changes in call state. You must enable the service control interface to use the ICM Subsystem.

Step 4

In the Parameter Separator field, enter the character used to delineate individual parameters in a multiple parameter variable or accept the default ( | (pipe)).

Step 5

In the Additional VRU Call Information check boxes, check any expanded call variables you want to use to pass call-related information.

Step 6

Click **Update**. The configuration information is added to the system.

---

**How to Configure and Upload VRU Scripts**

Unified SCCE uses Voice Response Unit (VRU) scripts to handle interactions with contacts. These scripts are loaded as applications on the Unified CCX Engine.

Unified IP IVR comes with some default scripts that are loaded as applications on the Unified CCX Engine. You also can create your own VRU scripts using the Cisco Unified CCX Editor. When configuring Unified SCCE, you can configure any VRU scripts that you plan to use. You must upload the scripts to the Unified IP IVR Repository so that the scripts will be available whenever Unified SCCE sends a Run VRU Script request to Unified IP IVR.

**Note:** The Unified CCX administration interface uses the term "VRU." The Web Administration Tool interface uses the term "IVR." Both terms have the same meaning. Therefore, "VRU scripts” = "IVR scripts.”

To configure VRU Scripts, do the following.

Step 1

In Unified CCX Administration, select **Subsystems > ICM**.

Step 2

Click **Unified ICME VRU Scripts** hyperlink.
The Unified ICME Configuration web page opens.

**Step 3**  
On the Unified ICME Configuration navigation bar, click the **Unified ICME VRU Scripts** hyperlink.

The Unified ICME VRU Scripts Summary web page opens.

**Step 4**  
Click the **Add a New VRU Script** hyperlink and the Script area opens.

In the VRU Script Name field, enter a name for the VRU script you want to add.

**Step 5**  
In the Script field:

- From the Script drop-down menu, select the Unified CCX script that you want to associate with the VRU script. OR...

- Click **Edit**. The User Prompt dialog box opens. Enter the name of the script, and then click **OK**. The User Prompt dialog box closes, and the name you entered appears in the Script field.

**Note:** Record the name of the script you enter. You need to configure IVR scripts in Unified SCCE Web Administration with this value.

**Step 6**  
Click **Add**.

The second ICM VRU Script area closes, and the name of the VRU script you added appears in the first ICM VRU Scripts area.

**Step 7**  
Repeat these steps to add any additional VRU scripts.

---

**About Translation Routing and Post Routing**

Depending on how you choose to do call routing, you must configure your Unified SCCE deployment for post routing and possibly translation routing.

**Translation Routing**

In translation routing, Unified SCCE receives the call instead of Unified IP IVR. Since Unified IP IVR does not receive the call first, it does not run an initial script. After receiving the call, Unified SCCE runs a script. You must configure Unified SCCE translation routing when Unified IP IVR is used as a queue point for a Unified SCCE solution in which calls are expected to be routed by the Agent/IVR Controller to Unified IP IVR. The call attributes will be reported as part of a configured translation-route on Unified SCCE.

The Unified SCCE routing scripts can direct calls based on various criteria, such as time of day or the availability of subsystems. Unified SCCE routing scripts can use the following four commands to interact with Unified IP IVR:
• **Connect** connects the call. Unified SCCE sends the connect message with a label to instruct Unified IP IVR where to direct the call.

• **Release** hangs up the call.

• **Run VRU Script** runs a VRU script on Unified IP IVR.

• **Cancel** cancels the VRU script that is currently running.

**Post Routing**

In post routing, Unified IP IVR receives calls directly from Unified CM. Unified CM sends the call to the post routing route point on Unified IP IVR. Unified IP IVR searches the designated port group for a free CTI port and accepts the call. If there is no free port, the caller hears ringing until there is a free port to take the call.

If you configured the route point to run an initial application, such as a script to welcome the caller and collect an account number, Unified IP IVR runs that script, notifies Unified SCCE about the call, and waits for further instructions. If you did not configure an initial application, Unified IP IVR just informs Unified SCCE. Unified SCCE runs a routing script after being notified of the call. The Unified IP IVR system responds to the commands from Unified SCCE until it signals that the call is complete.

For example, the Unified SCCE routing script could send a Run VRU Script request to Unified IP IVR, instructing the Unified IP IVR to run a VRU script that plays music and thanks the caller for their patience. When an agent becomes available, Unified SCCE sends a Cancel request and Unified IP IVR stops running the current VRU script. Unified SCCE then sends a Connect command with a Normal label that indicates the extension of the free agent. The Unified IP IVR system routes the call to the agent indicated on the label.

**Note:** Unified SCCE does not support post routing within a Unified SCCE deployment. However, post routing is supported between a child Unified SCCE and its parent in an Unified IPCC Gateway deployment. See your Unified IPCC Gateway documentation for more information.

**How to Configure Unified IP IVR for Translation Routing**

To configure Unified IP IVR for translation routing, you first add an ICM translation routing application and then assign a JTAPI trigger to this application.

**Note:** Before you can configure a translation routing application, you must first upload the VRU scripts that the application needs.

To configure Unified IP IVR for translation routing, do the following:

1. **Step 1** In Unified CCX Administration, select **Applications > Application Management**.
2. **Step 2** Click **Add a New Application**.
3. **Step 3** From the Application Type drop-down menu, select **Unified ICME Translation-Routing**.
Step 4  In the Name field, enter the name of the script on which the Unified SCCE translation-routing is based.

Step 5  Press the Tab key to automatically populate the Description field.

Step 6  In the ID field, accept the ID, or enter a unique ID. This field corresponds to the service identifier of the call reported to the Cisco ICM and configured in the Cisco ICM translation route.

Step 7  In Maximum Number of Sessions, enter the maximum number of sessions that the application will be able to handle simultaneously.

Step 8  In the Enabled field, accept the default radio button Yes.

Step 9  In the Timeout (in secs) field, enter a value (in seconds). This value is the maximum amount of time the system will wait to invoke the application before rejecting a contact.

Step 10  From the Default Script drop-down list, choose the script that will be run if a system error occurs, or if instructed by the Cisco ICM to route to the default treatment.

Step 11  Click Add. A message displays confirming the operation has been successfully executed.

Step 12  Click OK.


Step 14  From Trigger Type drop-down menu, select Unified CM/Unified CME Telephony, and then click Next.

Step 15  In Unified CCX Administration, select Subsystems > Unified CM Telephony.

Step 16  On the Unified CM Telephony Configuration navigation bar, click the Unified CM Telephony Triggers hyperlink.

The Unified CM Telephony Trigger Configuration summary web page opens.

Step 17  Click the Add a New Unified CM Telephony Trigger hyperlink.

The Unified CM Telephony Trigger Configuration web page opens. Complete the fields on this page. See the online Help for additional information.

Step 18  Click Add. The Unified CM Telephony Trigger Configuration summary web page opens, and displays the new Unified CM Telephony trigger.

See Also

For additional information about adding applications and triggers to Unified IP IVR see the online Help or the Cisco Unified Contact Center Express Administration Guide (http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_installation_and_configuration_guides_list.html).
How to Configure Unified IP IVR for Unified SCCE Post Routing

To configure Unified IP IVR for post routing, you must first add an ICM post routing application and then assign a JTAPI trigger to this application.

**Note:** Before you can configure a Unified SCCE routing application, you must first upload any VRU scripts that the application needs.

To configure Unified IP IVR for post routing, do the following:

**Step 1** In Unified CCX Administration, select **Applications > Application Management**.

**Step 2** Click **Add a New Application**.

**Step 3** From the Application Type drop-down menu, select **Unified ICME Post-Routing**.

**Step 4** In the Name field, enter the name of the script on which the translation-routing is based.

**Step 5** Press the Tab key to automatically populate the Description field.

**Step 6** In the ID field, accept the ID, or enter a unique ID. This field corresponds to the service identifier of the call reported to the Cisco ICM and configured in the Cisco ICM translation route.

**Step 7** In Maximum Number of Sessions, enter the maximum number of sessions that the application will be able to handle simultaneously.

**Step 8** In the Enabled field, accept the default radio button **Yes**.

**Step 9** In the Timeout (in secs) field, enter a value (in seconds). This value is the maximum amount of time the system will wait to invoke the application before rejecting a contact.

**Step 10** From the Default Script drop-down list, choose the script that will be run if a system error occurs, or if instructed by Unified SCCE to route to the default treatment.

**Step 11** Click **Add**. A message displays confirming the operation has been successfully executed.

**Step 12** Click **OK**.

**Step 13** Click **Add New Trigger**. The Add a New JTAPI Trigger page opens.

**Step 14** From Trigger Type drop-down menu, select **Unified CM/Unified CME Telephony**, and then click **Next**.

**Step 15** In Unified CCX Administration, select **Subsystems > Unified CM Telephony**.

**Step 16** On the Unified CM Telephony Configuration navigation bar, click the **Unified CM Telephony Triggers** hyperlink.

The Unified CM Telephony Trigger Configuration summary web page opens.
Step 17  Click the **Add a New Unified CM Telephony Trigger** hyperlink.

The Unified CM Telephony Trigger Configuration web page opens. Complete the fields on this page. See the online Help for additional information.

Step 18  Click **Add**. The Unified CM Telephony Trigger Configuration summary web page opens, and displays the new Unified CM Telephony trigger.

**See Also**

For additional information about adding applications and triggers to Unified IP IVR see the online Help or the [Cisco Unified Contact Center Express Administration Guide](http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_installation_and_configuration_guides_list.html).

### How to Start the Cisco Unified CCX Engine

After completing all the Unified SCCE configuration for Unified IP IVR, return to this topic to start the Unified CCX Engine. The subsystems will not start until the configuration of all elements is complete and valid. Unified CM can support more than one Unified CCX Engine.

To start the Unified CCX Engine(s) do the following:

**Step 1**  In Unified CCX Administration, select **System > Control Center**.

The Control Center/Servers summary web page opens.

**Step 2**  Click a **Server Name** hyperlink on the navigation bar.

The Control Center/Server Configuration web page opens.

**Step 3**  Select the radio button next to the service whose status you want to change and click **Start**.

### How to Resynchronize the Unified CM Telephony Data

This resynchronizing process ensures that the Unified CM Telephony user, the call control groups, and the triggers match the version of Unified CM being used.

To resynchronize the Unified CM Telephony data, complete the following steps:

**Step 1**  From the Unified CCX Administration menu bar, select **Subsystems > Unified CM Telephony**.

The Unified CM Telephony Call Control Group Configuration web page opens, displaying the summary web page.

**Step 2**  Click the **Data Resync** hyperlink in the left pane.
A new window opens with two options: Check and Synchronize.

**Step 3**
Click Check to verify if data inconsistencies exist between Unified CCX and Unified CM.

If inconsistencies exist, you receive a report with the inconsistencies highlighted in red.

**Step 4**
Review the inconsistencies and click Synchronize to correct these inconsistencies.

---

**How to Resynchronize the Cisco JTAPI Client**

During the resynchronizing process, an additional check (effective with Cisco Unified CCX Release 5.0) ensures that the Unified CM Telephony Client (also known as the Cisco JTAPI Client) are the same between the clients installed on the Unified CCX node and the Cisco JTAPI Client installer. If the Unified CCX platform detects a mismatch, the system downloads and installs the compatible/required installer version.

To resynchronize the Cisco JTAPI Client, complete the following steps:

**Step 1**
From the Unified CCX Administration menu bar, select Subsystems > Unified CM Telephony.

The Unified CM Telephony Call Control Group Configuration web page opens, displaying the summary web page.

**Step 2**
Click the Cisco JTAPI Resync hyperlink in the left pane.

The window refreshes to display any incompatible installer information. At this point, it automatically downloads the new installer, if required.

---

**Configuring Unified SCCE for Unified IP IVR**

The first time you access the IPCC Web Administration Tool after installing the software, it automatically displays the Deployment Wizard. The wizard guides you through the process of configuring each component of the system. The IVR Connectivity Settings is the place to pay particular attention to configurations for Unified IP IVR. These are described in Wizard Page: IVR Connectivity Settings (page 74)

Some values in Unified SCCE must match values in Unified IP IVR.

Note the following during configuration:

- The IVR Connection port number (5000) on Unified SCCE must match the VRU Connection port in Unified IP IVR.

- The CTI Port Group ID in Unified SCCE (IVR Management > Network IVR) must match the ICM Translation Routing number in Unified IP IVR.
• The CTI Route point Directory number (IVR Management > Network IVR) must match the Unified CM Telephony triggers in Unified IP IVR for Translation Routing.

• The IVR Scripts defined under IVR Management must match the ones defined in ICM VRU Scripts in Unified IP IVR.

See the dial plan, Unified SCCE with Unified IP IVR Plan (page 31) for additional guidance.
About Unified CVP

Unified CVP provides prompting, collecting, queuing, and call control services using standard web-based technologies. The Unified CVP architecture is distributed, fault tolerant, and highly scalable. With the Unified CVP system, voice is terminated on Cisco IOS gateways that interact with Unified CVP application server (Microsoft Windows Server) using VoiceXML (speech) and H.323 (call control).

The Unified CVP software is tightly integrated with the Unified SCCE software for application control. The Unified SCCE scripting environment controls the execution of building-block functions such as play media, play data, menu, and collect information.

Unified CVP also provides a queuing platform for the Unified SCCE solution. Telephone calls can remain queued on Unified CVP until they are routed to a contact center agent (or external system).

How to Install and Configure Unified CVP

For instructions on installing and configuring Unified Customer Voice Portal (Unified CVP), see the following documentation:
• Getting Started with Cisco Unified Customer Voice Portal (for a lab environment only...will delete this reference if it is not published)

• Installation and Upgrade Guide for Cisco Unified Customer Voice Portal

• Configuration and Administration Guide for Cisco Unified Customer Voice Portal


Configuring Unified CVP Trunk Group ID Numbers

Unified SCCE can support up to 10 Unified CVP call servers with each call server having two trunk groups. Further, Unified SCCE preconfigures call server trunk group ID numbers with those listed in the following Call Server Trunk Group ID Numbers table.

In the Unified CVP system, each call server trunk group by default has the same trunk group IDs, numbered 100 and 200. In Unified SCCE, only the first call server has trunk groups with those ID numbers.

If you decide to have more than one Unified CVP call server, in your Unified CVP system, for each additional Unified CVP call server, you must edit that call server's trunk group ID numbers to match those in Unified SCCE (those in the following Call Server Trunk Group ID Numbers table).

Table 1: Call Server Trunk Group ID Numbers

<table>
<thead>
<tr>
<th>Call Server Number</th>
<th>Trunk Group ID Type</th>
<th>Trunk Group ID Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New Call Trunk Group ID</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>New Call Trunk Group ID</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>400</td>
</tr>
<tr>
<td>3</td>
<td>New Call Trunk Group ID</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>600</td>
</tr>
<tr>
<td>4</td>
<td>New Call Trunk Group ID</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>800</td>
</tr>
<tr>
<td>5</td>
<td>New Call Trunk Group ID</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>1000</td>
</tr>
<tr>
<td>6</td>
<td>New Call Trunk Group ID</td>
<td>1100</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>1200</td>
</tr>
<tr>
<td>7</td>
<td>New Call Trunk Group ID</td>
<td>1300</td>
</tr>
<tr>
<td></td>
<td>Pre-routed Call Service ID</td>
<td>1400</td>
</tr>
<tr>
<td>8</td>
<td>New Call Trunk Group ID</td>
<td>1500</td>
</tr>
</tbody>
</table>
To edit a call server's trunk group ID numbers in your Unified CVP system:

**Step 1**
From the Unified CVP Operations Console, select **Device Management > CVP Call Servers**.

This displays a list of all the call servers in your Unified CVP system.

**Step 2**
Click the call server in the list whose trunk group IDs you want to edit. This opens the **Edit CVP Call Server Configuration** page.

**Step 3**
Click the **ICM** tab.

**Step 4**
In the **Advanced Configuration** section of the **ICM General Configuration** text box, replace the call server trunk group ID numbers with the appropriate ones listed in the previous **Call Server Trunk Group ID Numbers** table.

**Step 5**
Click **Save and Deploy**.

**Step 6**
You will be prompted to restart the call server once the change has been made. Click **OK**.

### How to Configure the Unified SCCE Network IVR for Unified CVP

From the IPCC Enterprise Web Administration Tool menu, select **IVR Management > Network IVR**. After checking the Unified CM and Unified CVP applications for the configuration values, configure the network IVR for Unified CVP by doing the following:

**Step 1**
Enter the pre-configured Unified CM routing label.

To find the routing label, go to the Unified CM application and select **CallRouting > Route/Hunt > Route Patterns**. The label is in the Route Pattern field. Here is an example: 9.155551292XX1. The "!" appended at the end of the route pattern accommodates the correlation ID. This route pattern will be associated with an H.323 gateway or SIP trunk that points to your Unified CVP Call Server.

**Step 2**
Enter the pre-configured Unified CVP VXML routing label.

This is the value from your dial plan that you used when you configured the Cisco Gateway or Gatekeeper. It is typically found with the dial-peer code. Here is an example: **incoming called-number NNNNNN** where NNNNN is the routing label. You can also check the Unified CVP operations console. Go to **Device Management > CVP Call Server** and select the hostname.
of the server you want to use for routing. In the SIP tab, check the Local Static Routes section.
The routing label is a dialed number with a ">" appended at the end to accommodate the
Correlation ID; for example 1555129299>. This label will be mapped to the IP Address
of the VXML Gateway.

**Step 3**

Click **Save**.

**See Also**

See the section Unified SCCE with Unified CVP Plan for a sample dial plan. For information
about configuring Unified CM for Unified CVP, see the Cisco Unified Communications Manager
documentation and the

[Configuration and Administration Guide for Cisco Customer Voice Portal](http://
products_installation_and_configuration_guides_list.html)
Chapter 9

Installing and Configuring the Controllers and Administration & WebView Reporting

This section describes how to install and configure the Central Controller, Agent/IVR Controller, and Administration & WebView Reporting for Unified SCCE.

This chapter contains the following topics:

- Third-Party Software: Prerequisite Installations, page 61
- Third-Party Software: Packaged Software, page 62
- Installation Guidelines, page 63
- Installing and Configuring the Controllers and Administration & WebView Reporting, page 64

Third-Party Software: Prerequisite Installations

This section lists third-party software that must be installed, configured, or enabled prior to installing Controllers and Administration & WebView Reporting. These are in addition to the hardware, network, and operating system requirements described in the Unified SCCE Platform Specifications (page 13) section of this document.

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>Prerequisite(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Windows SNMP and WMI services installed</td>
<td>Install the appropriate Microsoft Windows SNMP component(s) before installing any Unified SCCE components that require SNMP monitoring. See the SNMP Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted 13</td>
</tr>
</tbody>
</table>

### Machine Type | Prerequisite(s) | Notes
--- | --- | ---
Central Controller, Administration & WebView Reporting | SQL Server 2005 | SQLServer2005 must be installed as follows:
- Appropriate service pack as described in the *Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1).*
- Configuration settings as described in the *Staging Guide for Unified ICM/Contact Center Enterprise & Hosted.*
- Named Pipes ordered before TCP IP (to do this open SQL Server Configuration Manager and select **SQL Native Client Configuration > Client Protocols** and ensure the order has Named Pipes before TCP/IP). Ensure that Named Pipes and TCP/IP are enabled in the list (order is irrelevant) in SQL Server 2005 Network Configuration by selecting Protocols for MSSQLSERVER.

Administration & WebView Reporting | IIS, Internet Explorer | The Windows IIS component must be installed.
For access to the Cisco IPCC Enterprise Web Administration Tool, see the *Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1).* for the latest Internet Explorer version supported.

### Third-Party Software: Packaged Software

The following third-party software is packaged and installed automatically:

<table>
<thead>
<tr>
<th>Software/Version</th>
<th>Installed On</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache Tomcat 5.5</td>
<td>Administration &amp; WebView Reporting</td>
<td>Servlet engine for the Cisco IPCC Enterprise (Unified SCCE) Web Administration Tool.</td>
</tr>
<tr>
<td>JDK 1.5.0_14</td>
<td>Administration &amp; WebView Reporting; Agent/IVR Controller</td>
<td>Java Development Kit.</td>
</tr>
<tr>
<td>New Atlanta Servlet Exec 5.0 ISAPI</td>
<td>Administration &amp; WebView Reporting</td>
<td>Servlet engine for WebView Reporting.</td>
</tr>
<tr>
<td>Sybase EAServer 5.1.0 (this includes Jaguar)</td>
<td>Administration &amp; WebView Reporting</td>
<td>Translates reports to database queries for WebView Reporting.</td>
</tr>
</tbody>
</table>
### Functionality

<table>
<thead>
<tr>
<th>Software/Version</th>
<th>Installed On</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Data Access Components (MDAC) 2.6 SP2</td>
<td>Administration &amp; WebView Reporting</td>
<td>Allows access to almost any data store. Components include ActiveX Data Administration &amp; WebView Objects (ADO), OLE DB, and Open Database Connectivity (ODBC).</td>
</tr>
<tr>
<td>Microsoft .NET Framework 3.5</td>
<td>Administration &amp; WebView Reporting</td>
<td>The .NET Framework is Microsoft’s managed code programming model for building applications on Windows clients, servers, and mobile or embedded devices.</td>
</tr>
</tbody>
</table>

**Note:** For information on whether subsequent version releases of this packaged software are supported with Unified SCCE, consult the Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1).

### Resetting the ServletExec Password

New Atlanta ServletExec is a WebView third-party tool, and therefore only applicable when WebView is installed with Unified SCCE. If your environment requires a high level of security, you might want to reset your password. The ServletExec Administration tool requires local access to the Administration & WebView Reporting server.

To reset your password, complete these steps:

**Step 1**  
Select **Start > Programs > New Atlanta > ServletExec 5.0 ISAPI > ServletExec Admin.**

**Step 2**  
Log in to the ServletExec Administration page using the login name **admin** and a blank password (no password).

**Step 3**  
From the left panel under Web Applications, select **users**.  
A list of users appears on the right panel.

**Step 4**  
From the list of users, select **admin**.

**Step 5**  
Select an appropriate password for admin, and click **Submit**.  
Your password is reset.

**Step 6**  
Log in to Servlet Exec using the new password.

### Installation Guidelines

After ensuring that all pre-installation prerequisites have been met for each machine on which you are installing Unified SCCE, you can proceed with the Unified SCCE installation.
Installation Guidelines

Always install the Controllers and Administration & WebView Reporting on a clean machine, no matter what. A clean machine is one which has a fresh install of the operating system and any prerequisite software. Under no circumstances should Controllers or Administration & WebView Reporting be installed on a domain controller or DNS server. If you are upgrading from a previous version of Unified SCCE, see the Upgrade Guide for Cisco Unified Contact Center Enterprise.

Note:

• During the installation of the Central Controller and Administration and WebView Reporting, the Unified SCCE installer will check to see whether there is a Microsoft .NET Framework 3.5 installed. If it is not installed, setup will install it. After the installation of the Microsoft .NET Framework 3.5, it might prompt you to reboot the system. If prompted, reboot the system, and run Setup again.

• Complete the Unified SCCE installation on all machines in your deployment before you begin configuring those machines. At minimum, a Central Controller and an Administration & WebView Reporting machine must be installed before any configuration is possible.

Installing and Configuring the Controllers and Administration & WebView Reporting

To install Unified SCCE software for your Controllers and Administration & WebView Reporting complete the following steps:

Step 1
Login to the machine on which you want to install the first component using an Active Directory domain account. This account must have:

a. Administrative privileges to the local machine.

b. Permissions to create the Unified SCCE Active Directory root Organizational Unit (OU) and facilities on your domain.

Step 2
Insert the Unified SCCE DVD in your machine's DVD drive.

Caution: Do not run the installer over the network. If you do not have a DVD, copy the installer to the local machine before running it.

Step 3
Navigate to the top level of the Unified SCCE DVD.

Step 4
Double-click setup.exe to launch the installer.

Step 5
At the Welcome screen, click Next.

Step 6
At the Set Up Machine Role screen, select the component set you want to install on this machine:

• Administration & WebView Reporting installs Unified SCCE Administration features and WebView Reporting.

• Agent/IVR Controller installs the Unified SCCE Agent/IVR Controller only.
• All-in-One installs the Unified SCCE Central Controller, Agent/IVR Controller, Administration features, and WebView Reporting.

**Note:** All-in-Ones are not supported in a production environment.

• Central Controller installs the Unified SCCE Central Controller only.

• Central Controller + Agent/IVR Controller installs the Unified SCCE Central Controller and Agent/IVR Controller.

• Multichannel Controller installs the Unified SCCE Multichannel Controller which provides a communication link between the Central Controller and any multichannel applications, which are currently not available.

• Outbound Controller installs the Unified SCCE Outbound Controller which provides outbound dialing capability for the Outbound Option add-on. You do not have to install the standalone Outbound Controller to get Outbound Dialer functionality. You can enable Outbound on the Agent/IVR Controller later.

If you choose Administration & WebView Reporting, All-in-One, Central Controller, and/or Central Controller + Agent/IVR Controller, the Microsoft .NET Framework 3.5 will install automatically (if not already installed)—it is required by the new Service Account Manager. The .NET Framework can take up to 15 minutes to install. You will probably be required to reboot afterwards. Click **Next**.

**Step 7**  
The Service Account Management screen appears with two options: **Installer Creates Service Accounts** and **User Manages Service Accounts**

If you choose the first option, the installer takes care of creating the service accounts and passwords silently. If you choose the second, you are later presented with a screen to manage service accounts.

**Note:** If the Central Controller is the machine type, this step follows step 8.

**Step 8**  
At the Setup Type screen, specify whether this machine will be: simplex or side A of a duplexed deployment, OR side B of a duplexed deployment.

**Caution:** Do not install a side B machine if you have not already installed its side A counterpart.

**Step 9**  
Optionally, at the Security Hardening screen, decide whether or not you want to apply security hardening. If you have installed SQL Server 2005, two check boxes appear on the screen. The first box is for Operating System security hardening and the second is for SQL 2005 security hardening. They are both checked by default. Uncheck one or both if you do not want security hardening. If you have not installed SQL 2005, the second check box does not appear.

**Note:** Security hardening applies Cisco recommended hardening settings to your server, including settings for encryption, IPSec, NAT, and firewall configuration. See the *Security Best Practices Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted* for more information on Unified SCCE Enterprise security hardening.
Step 10  The Configure Support Tools screen appears. Enter a PSkey (IPsec) and click Next.

Internet Protocol Security (IPsec) keys are case-sensitive and limited to 256 characters. You can use any character except single and double quotation marks ("), back slash(\), and pipe(|). There is no default value for the IPsec key.

Step 11  At the Start Copying Files screen, review the list of components to be installed and click Next to proceed or Back to modify your selections.

Note: If you click Back, recheck all of your settings prior to clicking Next.

Step 12  The installation begins; this is normal behavior. Certain stages of the installation, particularly installation of WebView and the Unified SCCE databases, might take some time to complete.

At this point in the installation Support Tools, Services, and Databases are installed and might take some time.

Step 13  After files complete copying, the Unified SCCE Machine Initializer opens, in which you specify the Active Directory domain information for your deployment:

If this is the first machine on which you are installing Unified SCCE, you will be prompted to create 1) the Cisco root for your domain, and 2) the facility under which this deployment will run.

If this is a subsequent machine installation, you will only need to select the appropriate AD facility from the list. All machines in your deployment must use the same facility.

Note: To create AD roots and facilities, you must have the appropriate privileges for your Active Directory domain. This means either that you are an AD administrator, or that the domain administrator has delegated you full control to this AD OU. See the Staging Guide for Cisco Unified ICM/Contact Center Enterprise and Hosted for detailed information on deploying Unified SCCE in Active Directory domains.

To create the Cisco root:

a. Enter a name for the facility.

b. Click OK.

Step 14  Click OK.

If you chose User Manages Service Accounts in Step 7, the Service Account Manager dialog box appears. and you can now create service accounts or edit existing ones. If you selected Installer Creates Service Accounts in Step 7, service accounts and passwords are created by Service Account Manager silently.

Step 15  Click Close and then click OK. The Unified SCCE Machine Initializer creates the Active Domain entries, sets up the database rights and sets up registry and local accounts.

Step 16  If you installed an Agent/IVR Controller on this machine, install the JTAPI client on that machine as follows:
Step 17  Reboot the computer, logging in using the same account you used to install Unified SCCE.

Step 18  Repeat the steps in this section to install Unified SCCE on the other machines in your deployment. When all installations are complete, proceed to the Post-Installation Configuration steps below.

**Note:** It is important that you complete Unified SCCE installation on all machines in your deployment before proceeding to configuring those machines. At minimum, a Central Controller and an Administration & WebView Reporting machine must be installed before any configuration is possible.
Chapter 10

Initial Configuration and Deployment Wizard

This chapter contains the following topics:

- About the IPCC Web Administration Tool Deployment Wizard, page 69
- Initial Configuration: Machine Type Requirements, page 69
- How to Complete Deployment Wizard Pages, page 70
- Re-Accessing and Disabling the Deployment Wizard, page 75

About the IPCC Web Administration Tool Deployment Wizard

Immediately after installation, each machine in your deployment must be configured before it can be used in IPCC. The first time you access the IPCC Web Administration Tool after installing Unified SCCE software it automatically displays the Deployment Wizard. The Deployment Wizard steps you through the process of configuring each controller and Administration & WebView Reporting machine in your system. The Unified CM and Unified CVP (or Unified IP IVR) applications you configure separately, using the administration tools for those applications.

Note: Access to the Deployment wizard is limited to users with System Administrator privileges in the IPCC Web Administration Tool. The Active Directory user who installs the controller machines and Administration & WebView Reporting is automatically assigned System Administration privileges. Non-system administrators are presented a welcome page when they access IPCC Web Administration.

Initial Configuration: Machine Type Requirements

The first machine to be configured is always the Administration & WebView Reporting machine on which you are running the Web Administration Tool. After that, the wizard will prompt you to configure, in order:
• Side A Central Controller
• Side B Central Controller (if deployed)
• Side A Agent/IVR Controller
• Side B Agent/IVR Controller (if deployed)
• Second Administration & WebView Reporting (if deployed)
• Outbound Controller (if deployed)
• Multichannel Controller (if deployed)

Different machine types require different configuration. For each machine type, the Deployment Wizard displays in sequence the configuration pages that must be completed for each, as shown below:

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>Configuration Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Controller</td>
<td>IPCC Network settings, Database settings</td>
</tr>
<tr>
<td>Agent/IVR Controller</td>
<td>IPCC Network settings, CallManager Connectivity settings, IVR Connectivity settings</td>
</tr>
<tr>
<td>Outbound Controller</td>
<td>IPCC Network Settings, CallManager Connectivity settings</td>
</tr>
<tr>
<td>Multichannel Controller</td>
<td>IPCC Network settings</td>
</tr>
<tr>
<td>Administration &amp; Reporting</td>
<td>IPCC Network settings, Database settings</td>
</tr>
</tbody>
</table>

How to Complete Deployment Wizard Pages

The following procedures take you through the Deployment Wizard steps.

Wizard Page: Describe your IPCC Deployment

The first page in the Wizard prompts you to specify your deployment model. Complete its fields as follows:

Step 1 <machine> is the Deployment Master: Check this if the Administration & WebView Reporting machine in your deployment will serve as the "deployment master"--the machine from which other machines will be configured. Only one Administration & WebView Reporting machine can be the deployment master. If you deselect the check box, the Wizard will terminate after
the current machine is configured--thereafter, you must configure additional machines from the specified deployment master.

**Step 2** Disable the Deployment Wizard: Optionally, select this check box to permanently disable the Wizard after the current machine is created. Any machines that need to be added/configured subsequently must be done by running the Machine Wizard (from the Machines page). For this reason, it is recommended that only advanced users select this option.

**Step 3** Deployment: Select the deployment model you are using.

**Step 4** IPCC Options: Select any additional controllers you are deploying for optional components (Outbound Option and multichannel applications).

**Step 5** Click Next. A message displays alerting you to the machine you will now configure.

---

**Wizard Page: Describe the IPCC Machine in your Deployment**

The second page in the Wizard prompts you to specify the role of the machine you are currently configuring. Complete its fields as follows:

**Step 1** Machine Hostname or IP Address: Enter the DNS or IP address of the machine you are configuring.

**Note:**
- For Administration & WebView Reporting machines and All-in-Ones IP addresses cannot be entered; you can enter a hostname only.
- If a connection to that machine cannot be made, or if the Wizard detects that the appropriate IPCC software has not been installed, you will be unable to proceed.

**Step 2** Description: Optionally, include an internal description of this machine. This description will help you identify the machine when selecting for future actions within the IPCC Web Administration Tool.

**Step 3** Role: Select the role this machine serves in your IPCC deployment. A default selection will already be made and in most cases this is what you should use. However, within certain limits, you have the ability to change the role of a machine. See the About Machine Roles section in this document for more information. It is here that you can enable the Outbound Controller on the Agent/IVR Controller by checking the with Outbound Controller check box for the machine role you are deploying. Not that you must select this check box on both the A and B sides of the Agent/IVR Controller.

**Step 4** Click Next.
Wizard Page: IPCC Network Settings

The third page in the Wizard prompts you to specify IPCC Network settings required for the machine you are currently configuring. Complete its fields as follows:

**Step 1** If the machine you are configuring contains a Central Controller or Agent/IVR Controller, specify whether this machine type will be simplexied or duplexed in your deployment. Select Duplex if two physical machines (side A and side B) will each run the IPCC software.

**Note:** When setting up a standalone Central Controller in a duplexed environment, the first Central Controller must be set to Simplexed at initial configuration. After the second Central Controller is configured, you can then return to the first and set it to Duplex.

**Step 2** Provide network addresses, as fields indicate. Depending on the machine type you are configuring, you may need to provide: A) both public and private addresses for B) both side A and side B for both the Central Controller and Agent/IVR Controller.

When completing these fields:

- **Public Hostname** = The visible network address of the Side A machine. You can enter the machine's hostname and either the DNS or IP address.

- **Private Hostname** = The private network address of the Side A machine. You can enter the machine's hostname and either the DNS or IP address.

- If you are deploying a simplexied system, the value in side B fields can either be left blank or must be identical to the values for side A. For a duplexed environment, specify different addresses for the side A and B machines.

**Step 3** If the machine you are configuring contains an Agent/IVR Controller, select Collect Agent and Skill Group Statistics if you want to allow real-time agent and skill group data to be displayed in agent desktops. You can also modify the default collection interval for skill group data. Enabling agent reporting automatically disables Quality of Service for the CTI Server.

**Step 4** Reboot Machine on Error causes IPCC to automatically initiate a reboot in the event of a critical error. This option is selected by default. In a duplexed environment, rebooting on error will keep the system up if only one of the sides fail. Do not deselect Reboot Machine on Error unless specifically told to do so by Customer Support.

**Step 5** Do not deselect Reboot Machine on Request unless specifically told to do so by Customer Support. Turning off this option prevents the machine from rebooting, even if it detects a serious system-wide problem.

**Step 6** Optionally, for deployments that use the Mobile Agent option, the codec to be used for both incoming customer and outgoing Mobile Agent calls. For more information on codec selection see the *Mobile Agent Guide for Cisco Unified CC Enterprise & Hosted*.

**Step 7** Optionally, select the type of supervisor Silent Monitoring you will use in your deployment. If you select Disabled, CTI OS-based silent monitor will be configured, but disabled. For more information on silent monitor setup see the *CTI OS System Manager's Guide*.
Step 8  Optionally, use the QoS link(s) to enable the Cisco Quality of Service (QoS) feature.

Set DSCP (DiffServ Codepoint) and 802.1p priority tagging as appropriate and allowed. The defaults are acceptable if your network is Cisco AVVID compliant. Otherwise, consult your network administrator or Cisco representative for the proper values for these fields.

See the *ICM Pre-installation Planning Guide for Cisco Unified ICM Enterprise* and the *Cisco Unified Contact Center Enterprise Solution Reference Network Design (SRND) Guide* for information on implementing Cisco QoS, including calculating bandwidth requirements and important information on using it with Microsoft Packet Scheduler.

Step 9  Specify the Preferred Central Controller as follows:

In a duplexed deployment that includes two standalone Administration & WebView Reporting machines, set each to use a different preferred Central Controller. Doing this provides protection against potential data replication issues resulting from failover.

In a simplexed deployment, or if your deployment includes only one Administration & WebView Reporting machine, set the preferred Central Controller to the Side A machine.

**Note:** Deploying only one Administration & WebView Reporting machine is not recommended, because it is a single point of failure. If it is compromised, all configuration and reporting functionality is lost.

Step 10  Click Next.

Step 11  If the machine you are currently configuring is a Multichannel Controller, click **Finish**. The machine will now be configured and the appropriate IPCC services started on it. When that process is complete, the Wizard prompts you to configure the next machine in your deployment.

If the current machine is not a Multichannel Controller, proceed to Wizard Page: Call Manager Connectivity Settings.

---

**Wizard Page: CallManager Connectivity Settings**

If the machine you are currently configuring includes an Agent/IVR Controller or an Outbound Controller, the next page to display prompts you for information on your Call Manager. (If you are not configuring an Agent/IVR or Outbound Controller, proceed to Wizard Page: Database Settings.)

On the CallManager Connectivity Settings page, complete the following:

**Step 1**  CallManager Machine Hostname or IP Address: Enter the DNS or IP address of the CallManager machine in your deployment; or, for Outbound Option, the CallManager TFTP Server.

**Step 2**  If the machine you are working with is an Agent/IVR Controller, enter or modify the following additional fields:
Call Manager Agent Extension Length: Enter the CallManager extension length you entered when you configured CallManager. Defaults to 7.

CallManager JTAPI User ID and Password: Enter the user ID and password of the JTAPI user you created when configuring CallManager.

**Step 3**  
Click Next.

**Step 4**  
If the machine you are currently configuring is a standalone Outbound Controller, click Finish. The machine will now be configured and the appropriate IPCC services started on it. When that process is complete, the Wizard prompts you to configure the next machine in your deployment.

If the current machine is not an Outbound Controller, proceed to Wizard Page: IVR Connectivity Settings.

---

### Wizard Page: IVR Connectivity Settings

If the machine you are currently configuring includes an Agent/IVR Controller, the next page to display prompts you for information on your IVR.

On the IVR Connectivity Settings page, complete the following:

**Step 1**  
Select the radio button for the IVR you want to deploy—either Unified IP IVR or Unified CVP.

The rest of the configuration on this screen applies to the first IVR Controller in your deployment.

**Step 2**  
Click Enable to enable the first IVR Controller for your deployment.

**Step 3**  
IVR Machine Hostname or IP Address: Enter the DNS or IP address of the IP IVR machine in your deployment.

**Note:** On the IVR Management > IVR Connectivity page, if you are deploying multiple IVRs, additional Unified IP IVRs or Unified CVPs can be added later.

**Step 4**  
IVR Connection Port Number: Enter the VRU Connection Port number specified in the CRS Administration Tool when your IVR was configured. This defaults to 5000 for both Unified IP IVR and Unified CVP.

**Step 5**  
Click Next.

**Step 6**  
Click Finish. The machine will now be configured and the appropriate IPCC services started on it. When that process is complete, the Wizard prompts you to configure the next machine in your deployment.
Wizard Page: Database Settings

If the machine you are currently configuring includes a Central Controller or Administration & WebView Reporting, the next page to display prompts you for IPCC database maintenance information.

IPCC can initiate a purge process on the Central Controller and Administration & WebView Reporting machine according to a set schedule. The purge process deletes records that are older than a specified number of days. By default, the purge process runs each night at 12:30 A.M.

On the Database Settings page, accept the default value or complete the following:

**Step 1** In Database Purge Schedule, indicate the time and days on which you want the purge job to execute.

**Step 2** Click **Next**.

**Step 3** Click **Finish**. The machine you are working with will now be configured and the appropriate services started on it. When that process is complete, the Wizard prompts you to configure the next machine in your deployment.

Re-Accessing and Disabling the Deployment Wizard

The Deployment Wizard displays automatically the first time you access the IPCC Web Administration Tool after installing IPCC. It continues to display in the Web Administration Tool until every machine in your deployment has been configured. After that, it never displays. Until then, you can also access it by clicking the Run Deployment Wizard button on the Machines page.

Experienced users, familiar with the configuration requirements for each IPCC machine type, may prefer to configure machines independent of the Deployment Wizard. To allow this, the first screen of the Deployment Wizard includes a Disable Deployment Wizard check box. Checking this box permanently disables the Deployment Wizard. There is also a Disable Deployment Wizard button on the Machines page. Choose carefully when selecting this option--once selected, the Deployment Wizard is permanently unavailable. The button on the Machines page that can be used to access it after initial configuration no longer appears.
Other Installed Administration Utilities

This section lists additional utilities that install with Unified SCCE for use by IPCC Enterprise Administrators and System Administrators.

IPCC Enterprise Administration Program Group Utilities

At installation, an IPCC Enterprise Administration Program Group is created on the desktop of each Administration & WebView Reporting machine. This program group includes the following IPCC Enterprise utilities:

<table>
<thead>
<tr>
<th>Application</th>
<th>Use</th>
<th>For More Information See</th>
</tr>
</thead>
<tbody>
<tr>
<td>CallTracer</td>
<td>Use to debug routing scripts. Call Tracer simulates a call (sends a routing request) to the Central Controller; returns a text-based description of the call activity (reporting on the response to the request).</td>
<td>The <em>ICM Scripting and Media Routing Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted</em> and the IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>CMS Control</td>
<td>Used to define the Web Administration connection to the distributor.</td>
<td>The <em>Installation and Configuration Guide for Cisco Unified Contact Center Enterprise</em> and the IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>Configuration Manager</td>
<td>If deploying Outbound Option, use to configure the outbound dialing campaign.</td>
<td>The <em>Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted</em> and the IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>Initialize Local Database</td>
<td>Use to copy the latest configuration data and routing scripts from the central IPCC Enterprise database to the local database on your Administration &amp; WebView Reporting machine. You can then monitor activity.</td>
<td>The <em>ICM Administration Guide for Cisco Unified ICM/Contact Center Enterprise</em> and the IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>Application</td>
<td>Use</td>
<td>For More Information See</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IPCC Enterprise Machine Initializer</td>
<td>Use to create the IPCC Enterprise Active Directory Root for your AD domain, and to create or specify the IPCC Enterprise AD Facility OU. Runs automatically during IPCC Enterprise installation.</td>
<td>The Installation and Configuration Guide for Cisco Unified Contact Center Enterprise, the Staging Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted, and the IPCC Enterprise Web Administration Tool online Help</td>
</tr>
<tr>
<td>Lock Admin</td>
<td>Use to place a lock on configuration information or scripts that you want to modify. By holding the lock for specific script or configuration data, you prevent other users from making changes to the same data.</td>
<td>The ICM Administration Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted and the IPCC Enterprise Web Administration Tool online Help</td>
</tr>
<tr>
<td>Router Log Viewer</td>
<td>Use to see how IPCC Enterprise has processed recent calls. For each call, the Router Log Viewer displays the call qualifiers and the routing label that it sent to the routing client. The Router Log Viewer also reports any errors that it encountered in routing the calls.</td>
<td>The ICM Scripting and Media Routing Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted and the IPCC Enterprise Web Administration Tool online Help</td>
</tr>
<tr>
<td>Scheduled Target Manager</td>
<td>Use to create and maintain scheduled targets and their associated schedules. A scheduled target is a routing target for which IPCC Enterprise has only scheduling information rather than real-time monitoring data. IPCC Enterprise can route calls to the scheduled target and the routing client informs IPCC Enterprise when a call ends. Based on this information and a defined scheduled, IPCC Enterprise determines how many agents are available at the target.</td>
<td>The ICM Configuration Guide for Cisco Unified ICM/Contact Center Enterprise and the IPCC Enterprise Web Administration Tool online Help</td>
</tr>
<tr>
<td>Script Editor</td>
<td>Use to create Unified SCCE Routing and Administrative scripts. A remote-access version of this application--Internet Script Editor--can be downloaded onto remote clients via the Downloads page in IPCC Enterprise Web Administration.</td>
<td>The ICM Scripting and Media Routing Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted and the IPCC Enterprise Web Administration Tool online Help</td>
</tr>
<tr>
<td>Service Account Manager (SAM)</td>
<td>Use to create and manage service accounts. SAM is launched from the Machine Initializer during the initial setup. It can be launched separately to manage service.</td>
<td>The ICM Setup and Installation Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted, the Staging Guide for Cisco Unified ICM/Contact Center Enterprise &amp; Hosted, and the IPCC Enterprise Web Administration Tool online Help</td>
</tr>
<tr>
<td>SSL Utility</td>
<td>By default, Secure Socket Layer (SSL) authentication is enabled for Unified SCCE Web applications (IPCC Enterprise Web Administration Tool, WebView, Agent Re-skilling Tool, and Internet Script Editor). If desired,</td>
<td></td>
</tr>
</tbody>
</table>
## Chapter 11: Other Installed Administration Utilities

### IPCC Enterprise Administration Program Group Utilities

<table>
<thead>
<tr>
<th>Application</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>you can use the SSL Utility to change this default setting.</td>
</tr>
</tbody>
</table>

For More Information See
Chapter 12

Post-Installation Configuration

This chapter contains the following topics:

- About Machine Roles, page 81
- Post-Installation Configuration: How to Configure Machines, page 82
- Post-Installation Configuration: Create Additional IVR Connections and Grant System Permissions, page 83
- Post-Installation Configuration: Create Agents and Skill Groups, page 83
- Post-Installation Configuration: Set Up Contact Routing, page 84

About Machine Roles

A System IPCC role must be assigned to each controller machine and Administration & WebViewReporting machine in your system. Typically this is done when the Deployment Wizard is run immediately after installation. However, if you need to modify the role or settings of a machine, or if you need to add a new machine to your deployment, you can do so through the Machines Wizard in the IPCC Web Administration Tool.

For machines that already have an assigned role, you can modify roles within the limits of the rules listed below. Typically, changing a machine role would only be done in the course of growing your deployment model. If the machine was installed as:

- A standalone Administration & WebView Reporting machine, the role cannot change.

- An Agent/IVR Controller or an Outbound or Multichannel Controller, the role can only be changed to one of those three.

- A Central Controller or a Central Controller + Agent/IVR Controller, the role can only be changed to one of those two.

- An All-In-One, it can change to a Agent/IVR Controller+Central Controller or a standalone Central Controller, but with a warning that it cannot subsequently be changed back. You
cannot make this change if you are running the IPCC Web Administration Tool on the All-In-One you are attempting to change. You would first need to install a standalone Administration & WebView Reporting machine, and then make the change from the Web Administration Tool running on that machine.

Post-Installation Configuration: How to Configure Machines

After the Controllers and Administration & WebView Reporting have been installed on each machine in your deployment, use the Deployment Wizard in the IPCC Enterprise Web Administration Tool to set basic configuration information for each of these machines. This basic configuration sets system connection information, writes critical registry settings, and enables required services.

The Web Administration Tool is installed on the Administration & WebView Reporting machine. If your deployment includes two Administration & WebView Reporting machines, you can access the Web Administration Tool from either of these machines. However, it is still the case that only one of these machines is the "deployment master"--the machine from which other machines can be initially configured. In a deployment that includes two Administration & WebView Reporting machines, the wizard will prompt you to specify which of your Administration & WebView Reporting machines is the deployment master.

To access the IPCC Enterprise Web Administration Tool:

**Step 1**

On any machine, open a Web browser (IE 6 or greater) and access the IPCC Enterprise Web Administration Tool at: https://<Administration & WebView Reporting machine DNS or IP Address>/IPCCAdmin.

The first time you access the IPCC Enterprise Web Administration Tool you will be prompted to accept a self-signed security certificate. Install the certificate as follows:

1. In the IE Security Alert dialog, click View Certificate.

2. Click Install Certificate, then follow prompts to complete the installation.

**Note:** See the Troubleshooting section of this document if you are prompted to accept a certificate subsequent to an initial login.

**Step 2**

On the Login page, enter the Administrator user name and password you used to install System IPCC.
Post-Installation Configuration: Create Additional IVR Connections and Grant System Permissions

Perform the tasks listed below to create, as necessary, connections to additional Unified IP IVR or CVP call servers in your system and to grant user permissions to the IPCC Enterprise Web Administration Tool and WebView Reporting.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>IPCC Enterprise Web Administration Tool Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create IVR Connections; Configure the Network IVR.</td>
<td>Once IPCC Enterprise software has been installed, connection information to any additional Unified IP IVR or CVP call servers in your deployment must be specified in the IPCC Enterprise Web Administration Tool. Also, the Network IVR (which serves as a virtual IVR connection to multiple physical IVR call servers) must be configured.</td>
<td>IVR Connectivity page; Network IVR page</td>
</tr>
<tr>
<td>Assign IPCC Enterprise System privileges. Assign WebView Reporting access.</td>
<td>There are three levels of IPCC Enterprise privilege: System Administrator; Administrator; and WebView User. All require that the prospective user first have an Active Directory account on IPCC Enterprise's AD domain. System Administrators and (Contact Center) Administrators both have access to the IPCC Enterprise Web Administration Tool, with System Administrators having access to a wider range of pages. WebView users have access to WebView Reporting. Note: Agent supervisors can also be given access to WebView (via the Agents page) their access will be limited to reports on the agent teams they supervise.</td>
<td>Administrative Permissions page</td>
</tr>
</tbody>
</table>

Post-Installation Configuration: Create Agents and Skill Groups

Perform the tasks listed below to create agent records and agent groupings for your IPCC Enterprise System. Tasks do not need to be performed in the order shown below; however, this order offers expediency as it reflects dependencies of certain record types on the pre-existence of others.
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>IPCC Enterprise Web Administration Tool Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Agent Desk Settings.</td>
<td>Agent Desk Settings associate a set of permissions or characteristics with specific agents, such as how and when calls to these agents are redirected, how and when they enter various works states, and whether they can make outbound calls. You can create a Default Desk Setting that is the set of permissions automatically assigned to all new agents unless overridden.</td>
<td>Agent Desk Settings page</td>
</tr>
<tr>
<td>Create Agents and Agent Supervisors. Assign desk settings to agents.</td>
<td>In order to use IPCC Enterprise, all prospective agents first need an account which includes a login ID and password. You can designate certain agents as supervisors, allowing them to be later designated as supervisors of agent teams. Supervisors--provided they have an Active Directory account on IPCC Enterprise's AD domain--can be given access to WebView Reporting. You can assign different desk settings to different agents based on their needs, and, as necessary, temporarily suspend their login privileges or turn on Agent State Trace, which allows you to track their transition through various states of readiness.</td>
<td>Agents page</td>
</tr>
<tr>
<td>Create Skill Groups and assign agents to skill groups.</td>
<td>A skill group is a collection of agents that share a common set of skills. In IPCC Enterprise, skill groups are one of the primary devices for routing and reporting. An agent can be associated with multiple skill groups and each skill group is associated with a specific media routing domain (MRD) such as voice, chat, or e-mail.</td>
<td>Skill Groups page</td>
</tr>
<tr>
<td>Create Agent Teams. Assign agents and supervisors to teams.</td>
<td>Agent teams allow you to associate a set of agents with a specific supervisor. In addition to reporting uses, this association allows IPCC Enterprise to determine to which supervisor an agent’s Supervisor Assist requests are to be routed.</td>
<td>Agent Teams page</td>
</tr>
<tr>
<td>Optionally, create Enterprise Skill Groups. Assign skill groups to enterprise skill groups.</td>
<td>An enterprise skill group is a logical grouping of skill groups, and can include skill groups from different MRDs. Through enterprise skill groups, you can generate reports that include any grouping of skill groups you desire.</td>
<td>Enterprise Skill Groups page</td>
</tr>
</tbody>
</table>

**Post-Installation Configuration: Set Up Contact Routing**

Perform the tasks listed below to configure contact (voice and non-voice) routing for your IPCC Enterprise System. Tasks do not need to be performed in the order shown below; however, this...
order offers expediency as it reflects dependencies of certain record types on the pre-existence of others.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>IPCC Enterprise Web Administration Tool Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Call Types.</td>
<td>A call type is a category of incoming routable task. Specific call types are associated with Dialed Numbers. In this association, each call type has a schedule that determines which routing script(s) are active for that call type at any time. Because the call type determines which routing script is run for a call, the call type defines call treatment in a IPCC Enterprise system. There are two classes of call type/dialed number associations: voice and non-voice.</td>
<td>Call Types page</td>
</tr>
<tr>
<td>Create Dialed numbers. Map Call Types to Dialed Numbers.</td>
<td>In IPCC Enterprise, you set up a Dialed Number List, which identifies all of the phone numbers in your contact center that customers can dial to initiate contact. Dialed numbers are mapped to call types; this mapping is used to identify the appropriate routing script for each call. A typical call center requires a number of dialed number definitions. In addition to answered calls, dialed numbers also need to be set up for redirect on no answer, dialed number plan entries, and for supervisor/emergency assist calls.</td>
<td>Dialed Numbers page</td>
</tr>
<tr>
<td>Optionally, create Call and User Variables, Application Gateways, and Database Lookups.</td>
<td>As desired, you can create IPCC Enterprise Call and User variables that can then be used to pass call and user data to routing scripts.</td>
<td>Call Variables page; User Variables page; Application Gateway page; Database Lookups page</td>
</tr>
<tr>
<td>Optionally, identify IVR Scripts.</td>
<td>As desired, identify scripts used by your IVR so that IPCC Enterprise can interact with them. <strong>Note:</strong> IVR scripts should be tagged as &quot;Interruptible.&quot; This allows a script to be interrupted once a routing target becomes available. If not so tagged, a call queued in the IVR will not be transferred until the script completes, even if the agent becomes available beforehand.</td>
<td>IVR Script page</td>
</tr>
</tbody>
</table>
### Table: IPCC Enterprise Web Administration Tool

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>IPCC Enterprise Web Administration Tool Location</th>
</tr>
</thead>
</table>
| Install Internet Script Editor; Create IVR scripts, IPPC Enterprise routing and administration scripts | After you have completed your IPCC Enterprise configuration in the IPCC Enterprise Web Administration Tool, you can write IVR scripts, IPCC Enterprise routing and administrative scripts, and as necessary, scripts for your multichannel applications:  
  - An IVR script is a routing script that controls voice treatment activity on an IVR (in System IPCC, your IVR product is Unified IP IVR or CVP). The content of the voice treatment activity is entirely determined by the IVR. It can be as simple as playing a single recorded announcement or as complex as an entire self-service operation.  
  - An IPCC Enterprise routing script processes call routing requests from a routing client. Typically it examines several targets and applies selection rules to find an available qualified agent or a target with the shortest expected delay. You can set up different routing scripts to execute for different types of tasks. You can define call types in terms of the telephone number the caller dialed, the number the caller is calling from, and additional digits entered by the caller. For each call type, you can schedule different routing scripts to execute on different days or at different times of the day.  
  - An IPCC Enterprise administrative script runs periodically to perform a task, such as setting variables. | Create IVR scripts (for Unified IP IVR) using the CRS Editor application.  
Create IPCC Enterprise routing and administration scripts using the Internet Script Editor application (or its local-access version on the Administration & WebView Reporting machine), Script Editor.  
You can install Internet Script Editor on any client machine that can access the IPPC Enterprise Web Administration Tool. To install Internet Script Editor on a client machine: 1) From the client machine, login to IPPC Enterprise Web Admin; 2) On the Downloads page, download the Script Editor installer; 3) Run the installer on the client.  
Scripts for use with multichannel applications and/or outbound options typically require additional setup in the administration interfaces for these products. Multichannel applications will be available in a future release.  
For detailed information on creating and deploying scripts for IPCC Enterprise, see the *ICM Scripting and Media Routing Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted* (for IPCC Enterprise routing and administration scripts), the *Cisco Customer Response Solutions Editor Step Reference Guide* (for IVR scripts), and your multichannel and outbound option documentation. |
Installing Agent and Supervisor Desktop Software for Unified SCCE

This section provides information on installing agent and supervisor desktop software for Unified SCCE. To provide agent and supervisor desktop software, you can deploy either Cisco CTI OS or Cisco Agent and Supervisor Desktops with Unified SCCE.

The following Cisco documents provide more detailed information on the installation/configuration tasks described in this section:

- **CTI OS System Manager's Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted**
- **Cisco Agent Desktop Installation Guide**
- **Administration Guide for Cisco Unified Contact Center Enterprise**

This chapter contains the following topics:

- **About Cisco Agent and Supervisor Desktops for Unified SCCE**, page 87
- **About the CTI Server and the CTI OS Server**, page 88
- **About Agent and Supervisor Desktop Installation Prerequisites**, page 88
- **How to Install CTI OS Desktops**, page 89
- **How to Install and Configure Cisco Agent Desktop (CAD)**, page 91

**About Cisco Agent and Supervisor Desktops for Unified SCCE**

Cisco Computer Telephony Integration Object Server (CTI OS) and Cisco Agent Desktop are server-based CTI solutions that provide desktops used by contact center agents and supervisors. Both desktop packages are supported by Unified SCCE. You deploy one or the other in your Unified SCCE system:
CTI OS includes the CTI OS Server, CTI OS Agent Desktop, Unified SCCE Supervisor Desktop, CTI OS Toolkit, and Client Interface Library (CIL). It provides an object-oriented software development toolkit for development and deployment of CTI applications.

Cisco Agent and Supervisor Desktops includes the Desktop Administrator, Agent Desktop, and Supervisor Desktop.

### About the CTI Server and the CTI OS Server

Regardless of which agent desktop software you deploy; that is, Unified AM or CTI OS, both communicate to Unified SCCE via the CTI server, which is a software process that runs on the Agent/IVR Controller. The CTI Server is the CTI gateway into the Unified SCCE data and services. It allows Unified SCCE to deliver agent, call, and customer data in real-time to a server and/or workstation application as events occur throughout the life of a call.

Both also require the CTI OS Server. The CTI Server and CTI OS Server are both installed automatically and reside on your Agent/IVR Controller. No manual installation or configuration of these components is necessary.

### About Agent and Supervisor Desktop Installation Prerequisites

Before installing and configuring agent and supervisor desktop software for use with Unified SCCE, you must:

<table>
<thead>
<tr>
<th>Desktop Installation Prerequisite</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install and configure Cisco Unified CM</td>
<td></td>
</tr>
<tr>
<td>Install and configure Unified IP IVR</td>
<td></td>
</tr>
<tr>
<td>Install and configure the controllers and Administration &amp; WebView Reporting</td>
<td></td>
</tr>
<tr>
<td>Create agents, supervisors, and teams</td>
<td></td>
</tr>
<tr>
<td>If you are deploying CTI OS and want to use the CTI OS Silent Monitoring feature...</td>
<td>CTI OS includes a Silent Monitor feature, which enables a supervisor to listen to an agent's call by forwarding voice traffic from an agent's phone to the supervisor's computer. The supervisor listens to the call through the sound card on his/her computer, not the phone.</td>
</tr>
</tbody>
</table>
How to Install CTI OS Desktops

CTI OS incorporates the CTI OS Server, the CTI OS Toolkit, Agent Desktop, Supervisor Desktop and Client Interface Library. Step-by-step installation instructions for CTI OS are included in the CTI OS System Manager's Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted.

Note: The CTI OS Server is installed automatically and resides on your Agent/IVR Controller. No manual installation or configuration of this components is necessary.

How to Install the CTI OS Supervisor Desktop

Warning: CTI OS uses certificates (self-signed or third-party) for authentication between the CTI OS server and desktop clients. Before you install the supervisor desktop, you must know which (self-signed or third party) certificate type your company uses. After you install the supervisor desktop, you will need to copy key and request files from the client to the CA machine, sign them, and then return signed files to the client. If you are not already familiar with the CTI OS certificate signing procedures used at your company, please consult your CTI OS administrator or the CTI OS System Managers Guide before proceeding with desktop software installation.

To install the CTI OS Supervisor Desktop, complete these steps:

Step 1
Open a browser on the client machine where you want to install the software and log into the IPCC Enterprise Web Administration Tool.

Note: Access IPCC Enterprise Web Administration at: https:<Administration & WebView Reporting machine IP or DNS name>/IPCCAdmin. You will need to login using an account that has Administrator or System Administrator privileges for Unified SCCE.

Step 2
Go to System Management Pages > Downloads.
How to Install CTI OS Desktops

Step 3  Click the link for the CTIOSClient.zip file and select Save to download the file.

Step 4  After the download is complete, unzip the file and double-click setup.exe to launch the installer.

Step 5  Click Yes on the Software License Agreement screen.

Step 6  On the Destination Location screen, accept the default installation directory or click the Browse button to specify another directory. Click OK.

Step 7  On the Select Components screen, select IPCC Enterprise Supervisor Desktop. Click Next.

Step 8  On the CTI OS Server Information screen, enter the name or IP address for your Agent/IVR Controller. Accept the default Port number 42028. Click Next.

Step 9  Click Next to start the installation.

Step 10  In the Client Security dialog, select the Certificate Authority type used by your company. Enter a security password 8-30 characters long. Click OK.

Note: Record this password. You will need to provide it when the certificate request file from this client is signed on the CA machine.

Step 11  The next screen displays further actions that must be taken to sign files based on the Certificate Authority type. Please review this information if you are unfamiliar with it. Click Next.

Step 12  When the installation of files is complete, Click Finish.

Step 13  Reboot the machine to complete the installation.

How to Install the CTI OS Agent Desktop

Warning: CTI OS uses certificates (self-signed or third-party) for authentication between the CTI OS server and desktop clients. Before you install the supervisor desktop, you must know which (self-signed or third party) certificate type your company uses. After you install the supervisor desktop, you will need to copy key and request files from the client to the CA machine, sign them, and then return signed files to the client. If you are not already familiar with the CTI OS certificate signing procedures used at your company, please consult your CTI OS administrator or the CTI OS System Managers Guide before proceeding with desktop software installation.

To install the CTI OS Agent Desktop, complete these steps:

Step 1  Open a browser on the client machine where you want to install the software and log into the Cisco IPCC Enterprise (Unified SCCE) Web Administration Tool.

Note: Access the Web Administration at: https://<Administration & WebView Reporting machine IP or DNS name>/IPCCAdmin. You will need to login using an account that has Administrator or System Administrator privileges for Unified SCCE.
Step 2  Go to **System Management Pages > Downloads.**

Step 3  Click the link for the CTOSSClient.zip file and select Save to download the file.

Step 4  After the download is complete, unzip the file and double-click setup.exe to launch the installer.

Step 5  Click **Yes** on the Software License Agreement screen.

Step 6  On the Destination Location screen, accept the default installation directory or click the Browse button to specify another directory. Click OK.

Step 7  On the Select Components screen, select Agent Desktop. Click **Next.**

Step 8  On the CTI OS Server Information screen, enter the name or IP address for your Agent/IVR Controller. Accept the default Port number 42028. Click **Next.**

Step 9  Click **Next** to start the installation.

Step 10 In the Client Security dialog, select the Certificate Authority type used by your company. Enter a security password 8-30 characters long. Click OK.

**Note:** Record this password. You will need to provide it when the certificate request file from this client is signed on the CA machine.

Step 11 The next screen displays further actions that must be taken to sign files based on the Certificate Authority type. Please review this information if you are unfamiliar with it. Click **Next.**

Step 12 When the installation of files is complete, Click **Finish.**

Step 13 Reboot the machine to complete the installation.

---

**How to Install and Configure Cisco Agent Desktop (CAD)**

**CAD Pre-Installation Requirements**

For CAD applications to work properly, your agents must be organized into teams and some must be designated as supervisors. Create agents, teams, and supervisors in Unified SCCE (using the Cisco IPCC Enterprise Web Administration Tool) before you install CAD software.

Use the following worksheet to assemble the configuration information required during Unified AM installation. Depending on your configuration, you may not need to complete every section of the worksheet.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Directory Services</td>
<td>Host name / IP address</td>
</tr>
<tr>
<td>Item</td>
<td>Value</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Logical contact center name</td>
<td></td>
</tr>
<tr>
<td>Secondary Directory Services</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Base Services</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Recording &amp; Playback service(s)</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>VoIP Monitor Service(s)</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Unified CM (Publisher)</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Unified CM (Subscribers)</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Unified CM Database</td>
<td></td>
</tr>
<tr>
<td>Unified CM version</td>
<td></td>
</tr>
<tr>
<td>Database login ID</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Value</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Database password</td>
<td></td>
</tr>
<tr>
<td>Unified SCCE SQL Logger Database</td>
<td>ipcc</td>
</tr>
<tr>
<td>(Located on Central Controller)</td>
<td></td>
</tr>
<tr>
<td>Instance name</td>
<td></td>
</tr>
<tr>
<td>Login ID</td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td></td>
</tr>
<tr>
<td>Side A Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Side B Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>CTI Service Associated with Unified CM</td>
<td>1000</td>
</tr>
<tr>
<td>Peripheral ID</td>
<td></td>
</tr>
<tr>
<td>Side A Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td>Side B Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td>CTI Service Associated with Unified IP IVR</td>
<td></td>
</tr>
<tr>
<td>Peripheral ID</td>
<td></td>
</tr>
<tr>
<td>Side A Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td>Side B Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td>CTI OS (Server 1)</td>
<td></td>
</tr>
<tr>
<td>(Located on Agent/IVR Controller)</td>
<td></td>
</tr>
<tr>
<td>Peripheral ID</td>
<td></td>
</tr>
</tbody>
</table>
### How to Install and Configure Cisco Agent Desktop

To install CAD, follow the step-by-step installation instructions included in the *Cisco Agent Desktop Installation Guide*.

Unified AM components must be installed in this order:

1. Services
2. Desktop Administrator
3. Supervisor Desktop and Agent Desktops

Unified AM Services and the Desktop Administrator are installed from the Unified AM CD. The Unified AM Configuration application runs automatically after you install the services and Desktop Administrator on the Unified CCX server. Following that, you can change your configuration settings by launching the Desktop Administrator.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Side A</strong> Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td><strong>Side B</strong> Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td><strong>CTI OS (Server 2)</strong></td>
<td></td>
</tr>
<tr>
<td>(Located on Agent/IVR Controller)</td>
<td></td>
</tr>
<tr>
<td>Peripheral ID</td>
<td></td>
</tr>
<tr>
<td><strong>Side A</strong> Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td><strong>Side B</strong> Host name / IP address</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
</tr>
<tr>
<td><strong>Backup Data</strong></td>
<td></td>
</tr>
<tr>
<td>Location path</td>
<td></td>
</tr>
</tbody>
</table>
The Supervisor and the Agent Desktops are installed from the Web server on which the Unified AM services are installed.

**Note:** Unified AM agents and supervisors that they must login to their Unified AM desktop application using their Login Name, not an Agent ID. Unified SCCE does not support desktop login using an Agent ID.

**See Also**

*Cisco Desktop Administrator User's Guide*
How to Install and Configure Cisco Agent Desktop (CAD)
Chapter 14

Installing and Configuring Outbound Option for Unified SCCE

This section describes how to configure the optional Outbound Option feature for Unified SCCE.

Note: This guide provides minimal information about installing and configuring the Outbound Option. For detailed instructions see the Outbound Option Guide for Cisco Unified Contact Center Enterprise & Hosted and the Cisco IPCC Enterprise Web Administration Tool online Help.

This chapter contains the following topics:

• About Outbound Option, page 97
• Outbound Option Fault Recovery, page 98
• How to Install Outbound Option for Unified SCCE, page 98
• Outbound Option Installation Tasks, page 98
• How to Configure General System Time Options, page 99
• How to Enable Call Variables, page 100
• Campaign Configuration Tasks, page 100
• About Scripting for Outbound Option, page 102

About Outbound Option

Outbound Option is a feature of Unified SCCE that provides outbound dialing functionality along with the existing inbound capabilities of Unified SCCE. With Outbound Option, contact centers can be configured for automated outbound activities. Agents who are not busy handling inbound requests can perform outbound calls, thereby maintaining a high level of agent productivity.

For Unified SCCE, a Cisco voice gateway is required to place customer calls.
Outbound Option Fault Recovery

Before Release 7.5(1), Unified SCCE supported a single, standalone, simplex Outbound Controller. New in Release 7.5(1), you can opt to co-locate the Outbound Controller on the Agent/IVR Controllers in your deployment.

This enables:

1. Duplexed Outbound Media Routing PGs for fault tolerance
2. An additional Dialer on the second Outbound Controller for more ports
3. Decreased box count

For information about how to upgrade to a duplexed Outbound Controller, see the section "Moving From a Standalone Outbound Controller" in the Upgrade Guide for Cisco Unified System Contact Center Enterprise & Hosted.

How to Install Outbound Option for Unified SCCE

Note: Unified SCCE automatically installs Outbound components to your deployment's side A Central Controller. These components are then enabled if and when you add an Outbound Controller to the deployment.

Outbound Option Installation Tasks

Complete these tasks to configure Outbound Option for use with Unified SCCE. Perform tasks in the order listed. Instructions for each are included later in this section.

<table>
<thead>
<tr>
<th>Tasks for Configuring Outbound Option with Unified SCCE</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enable the Outbound Option selection on the Agent/IVR Controller(s) in your deployment by setting the appropriate machine role using the Deployment/Machine wizard. Optionally, you can install and deploy the Outbound Controller on its own machine, simplex, but this is not the recommended deployment.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help for more information about IVR connectivity.</td>
</tr>
<tr>
<td><strong>Note:</strong> See the &quot;Wizard Page: Describe the IPCC Machine in your Deployment&quot; section in Chapter 10 of this guide for more</td>
<td></td>
</tr>
</tbody>
</table>


### Tasks for Configuring Outbound Option with Unified SCCE

<table>
<thead>
<tr>
<th>Information about deploying the Outbound Controller(s).</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Configure the dialer.</td>
<td>See information about how to configure the dialer in the <em>Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted</em>.</td>
</tr>
<tr>
<td>4. Configure general system time options</td>
<td>See How to Configure General System Time Options (page 99).</td>
</tr>
<tr>
<td>5. Enable call variables.</td>
<td>See How to Enable Call Variables (page 100).</td>
</tr>
<tr>
<td>6. Configure Unified CM to work with Outbound Option</td>
<td>See the <em>Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted</em> for instructions.</td>
</tr>
<tr>
<td>7. Configure personal callbacks.</td>
<td>See the section &quot;Configuring and Scheduling the Personal Callback Feature&quot; in the chapter Installing Outbound Option in the <em>Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted</em>.</td>
</tr>
</tbody>
</table>

### How to Configure General System Time Options

To comply with regulations concerning what time contacts might be called, specify the General System Time options. This time range entered here applies to all campaigns which the Outbound Option system will run, and supersedes any individual campaign time ranges. This guarantees that a contact is not called before or beyond a particular time. Outbound Option automatically converts the times specified to the contact’s local time.

To configure the system time options:

**Step 1**
In the System IPCC Enterprise Configuration Manager, double-click **Outbound Option - System Options** from the drop-down list.

**Step 2**
Enter values for the customer dialing time range, as desired.

**Step 3**
Click **OK**.
How to Enable Call Variables

To enable call variables using the Web Administration Tool, do the following:

**Step 1** Select **Contact Management > Call Variables**.

**Step 2** One-by-one, open all BAxxxx variables (BAAccountNumber, BABuddyName, BACampaign, BADialedListID, BAResponse, BAPreviousCall and BAResponse).

**Step 3** Check the **Enabled** check box and click **Save**.

Campaign Configuration Tasks

A campaign is made up of one or more query rule-generated dialing lists and one or more campaign skill groups. Campaigns are discussed in detail in the *Outbound Option Guide for Cisco Unified Contact Center Enterprise & Hosted*. Chapter 4 of that guide, "Configuring Campaigns and Imports," provides a configuration task map for Agent Campaign tasks and Transfer to IVR Campaign tasks. The following table provides an overview of these tasks and the section titles within the *Outbound Option Guide for Cisco Unified Contact Center Enterprise & Hosted* where the information can be found (or other documents that provide the information).

<table>
<thead>
<tr>
<th>Agent Campaign Tasks</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create Dialed Number (DN) on the Outbound Controller Routing Client using the Contact Management &gt; Dialed Numbers page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td><strong>Note:</strong> There are two available routing clients (OutboundController1 and</td>
<td></td>
</tr>
<tr>
<td>OutboundController2) in a duplexed system. If you are running a duplexed Outbound Option deployment, you must create a DN on both routing clients.</td>
<td></td>
</tr>
<tr>
<td>2. Create DN on the Agent Controller Routing Client using the Contact Management &gt; Dialed Numbers page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>3. Create DN for Answering Machine Detection (AMD) on the Agent Controller Routing Client using the Contact Management &gt; Dialed Numbers page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>4. Create Skill Groups using the Agent Management &gt; Skill Groups page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
</tbody>
</table>
## Agent Campaign Tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration Tool. The associated route is automatically created for you.</td>
<td>See the section &quot;Creating an Import Rule&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>5. Configure an Import Rule using the Outbound Option Import Rule tool.</td>
<td>See the section &quot;Creating a Query Rule&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>6. Configure Query Rule(s) using the Outbound Option Query Rule tool.</td>
<td>See the section &quot;Creating a Campaign&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>7. Configure a Campaign using the Outbound Option Import Rule tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>8. Create Call Types using the Contact Management &gt; Call Types page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>9. Configure the Reservation Script using Internet Script Editor.</td>
<td>See the section &quot;Setting up the Reservation Script&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>10. Configure transfer to IVR scripts for AMD and Abandon to IVR using Internet Script Editor.</td>
<td>See the section &quot;Setting up Outbound Transfer to IVR&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>11. Map Scripts to Call Types and DNs using Internet Script Editor.</td>
<td>See the section &quot;Mapping Scripts and Call Types and Dialed Numbers&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>12. Configure the Administrative Script using Internet Script Editor.</td>
<td>See the section &quot;Setting up the Administrative Script&quot; in the Outbound Option Guide for Cisco Unified Contact Center Enterprise &amp; Hosted.</td>
</tr>
<tr>
<td>13. Configure CTI Route Points for Abandon and AMD to IVR</td>
<td>See the Cisco Unified Communications Manager Administration Guide.</td>
</tr>
</tbody>
</table>

## Transfer to IVR Campaign Tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create DN on the Agent Controller Routing Client using the Contact Management &gt; Dialed Numbers page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>2. Create DN for AMD on the Agent Controller Routing Client using the Contact Management &gt; Dialed Numbers page in the Web Administration tool.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
<tr>
<td>3. Create Skill Groups using the Agent Management &gt; Skill Groups page in the Web Administration tool. The associated Route is automatically created for you.</td>
<td>See the Cisco IPCC Enterprise Web Administration Tool online Help.</td>
</tr>
</tbody>
</table>
### About Scripting for Outbound Option

For Outbound Option, you must create:

- A routing script that uses the dialed number for the Outbound Controller routing client and routes through a Select node to previously configured skill groups.

- An administrative script for each skill group to control the Outbound Control variable and the skill group reservation percentage.

Instructions for writing scripts for Outbound Option are provided in the *Outbound Option Guide for Cisco Unified Contact Center Enterprise & Hosted.*
Chapter 15

Configuring Reporting for Unified SCCE

This section describes tasks required to configure reporting for your Unified SCCE system. Refer to the Reporting Guide for Cisco Unified Contact Center Enterprise & Hosted for important Unified CCE reporting conceptual information information and planning considerations.

Most of the setup required for Unified SCCE reporting is accomplished in the course of normal Unified SCCE component configuration described elsewhere in this document. This section consolidates that information, and lists additional required and optional reporting configuration tasks beyond those covered earlier. The tasks described in this section are all performed using the Cisco IPCC Web Administration Tool, and in some cases, the ICM Configuration Manager.

This chapter contains the following topics:

- About Reporting Configuration Prerequisites, page 103
- Unified SCCE Reporting Configuration Tasks, page 104
- How to Configure Service Levels, page 104
- How to Configure Bucket Intervals, page 106
- How to Configure Short Calls, page 107
- About Other Reporting Setup Options, page 108

About Reporting Configuration Prerequisites

Before performing the reporting configuration tasks in this section, you must:

1. Install and configure Unified CM (formerly CallManager)
2. Install and configure Unified IP IVR or Unified CVP
3. Install and configure the Central Controller, Agent/IVR Controller, and Administration & Reporting
4. Create Call Types, agents and Skill Groups
Unified SCCE Reporting Configuration Tasks

Below are the basic reporting configuration tasks required in an Unified SCCE system. Perform tasks in the order listed. Instructions for each are included later in this section.

1. Configure Service Levels for Call Types and Skill Groups
2. Configure Bucket Levels
3. Optionally, modify Short Calls configuration
4. Optionally, modify other features that affect reporting

Note: See the topic "Reporting Related Tasks" in the Cisco IPCC Enterprise Web Administration Help. For information about configuring reporting when Unified CVP is the installed IVR application, see the Reporting Guide for Cisco Unified Contact Center Enterprise & Hosted.

How to Configure Service Levels

Service Level configuration allows you to set and measure goals for answering calls. For example, your goal might be to answer 80% of calls within two minutes. By configuring Service Level settings accordingly, your reports can then show you the percentage of calls that are answered within that time threshold. In Service Level configuration, you also determine how abandoned calls should impact the Service Level.

You define Service Level settings for Call Types and Skill Groups. Global Service Level settings must be defined for each. These can be overridden by local settings for specific Call Types and Skill Groups.

For Call Types, global Service Level settings are specified in Call Type Global Options. The system-default values for global Call Type Service Level are:

- Call Type Service Level Threshold: 20
- Call Type Service Level Type: Ignore abandoned calls

For Skill Groups, global Service Level settings are specified as an attribute of each media routing domain to which your Skill Groups belong. The system-default global Service Level values for all MRDs are:

- Skill Group Service Level Threshold: 30
- Skill Group Service Level Type: Ignore abandoned calls
How to Modify the Global Service Level for Call Types

To modify the global Call Type Service Level for your Unified CCE Enterprise system:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>In the Unified CCE Web Administration Tool, select <strong>Contact Management &gt; Call Types &gt; Global Options</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Specify a value for Service Level Threshold, in seconds.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Select the Service Level Type.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Click <strong>Save</strong>.</td>
</tr>
</tbody>
</table>

How to Set Service Levels for Specific Call Types

If desired, you can also configure the Service Levels for specific Call Types. These will override the system level setting:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>In the Cisco IPCC Web Administration Tool, select <strong>Contact Management &gt; Call Types</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Select the Call Type whose Service Level you want to set.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Set Service Level Threshold to Use Specified Threshold.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Specify a value for Service Level Threshold, in seconds.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Select the Service Level Type.</td>
</tr>
<tr>
<td>Step 6</td>
<td>Click <strong>Save</strong>.</td>
</tr>
</tbody>
</table>

How to Modify the Global Service Level for Skill Groups

To modify the global Skill Group Service Level for your Unified CCE Enterprise system:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>In the Cisco IPCC Web Administration Tool, select <strong>Multichannel Management &gt; Media Routing Domains</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Select the media routing domain you want to work with.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Specify a value for Service Level Threshold, in seconds.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Click <strong>Save</strong>.</td>
</tr>
</tbody>
</table>
Note: The global Service Level Type setting for Skill Groups is Ignore Abandoned Calls. This setting is not editable at the global level and is not visible in the Cisco IPCC Web Administration Tool interface.

How to Set Service Levels for Specific Skill Groups

If desired, you can also configure the Service Levels for specific Skill Groups. These will override the system level setting on the media routing domain:

Step 1 In the Cisco IPCC Web Administration Tool, select Contact Management > Skill Groups.
Step 2 Select the Skill Groups whose Service Level you want to set.
Step 3 Set Service Level Threshold to Use Specified Threshold.
Step 4 Specify a value for Service Level Threshold, in seconds.
Step 5 Select the Service Level Type.
Step 6 Click Save.

How to Configure Bucket Intervals

Bucket Intervals allow you to track data for calls abandoned or answered within specific time increments (for example, between 0 and 8 seconds, or under 60 seconds). Bucket Intervals are associated with Call Types and can be set for the system as a whole and for individual Call Types. Local settings override those set at the system level. By configuring intervals in relation to your Service Levels, you can track how closely to your Service Level calls are abandoned. You can create multiple Bucket Interval groups for use with different Call Types.

To avoid reporting inconsistencies, only modify Bucket Interval settings at specific time boundaries (that is, end of day, week, or month). Ensure that no one is running reports for the intervals that you are changing when you modify the boundaries.

Unified SCCE ships with a single system default Buckets Interval whose boundaries (increments) are: 8, 30, 60, 90, 120, 180, 300, 600, and 1200 (in seconds).

How to Create Bucket Intervals

Before you can assign a Bucket Interval (either as the new global default or to a particular Call Type) you must create its definition. To define a Bucket Interval:

Step 1 In the Cisco IPCC Web Administration Tool, select Contact Management > Advanced > Bucket Interval.
How to Reset the Global Bucket Interval

To reset the Global Bucket Interval for your Unified SCCE system:

Step 1  In the Cisco IPCC Web Administration Tool, select Contact Management > Call Types > Global Options.

Select the bucket interval to serve as the default for call types.

Step 2  Click Save .

How to Set Bucket Intervals for Specific Call Types

If desired, you can also configure Bucket Intervals for specific Call Types. These will override the global level setting:

Step 1  In the Unified CCE Web Administration Tool, select Contact Management > Call Types.

Step 2  Select the Call Type whose Bucket Interval you want to set.

Step 3  From the Bucket Intervals list, select the interval you want to use.

Step 4  Click Save.

How to Configure Short Calls

A Short Call is a call that is either abandoned or answered very quickly. By defining what you believe to be a short call, then you can filter out those calls that you believe did not stay in the system long enough to be counted as a real call. Short Calls are configured for Call Types only, and only at the global level, meaning you cannot create different short call definitions for specific Call Types. The system default is 5 seconds.

Note: The concept of Short Calls applies to the Voice media class only.
How to Configure Short Calls for Call Types

To configure Abandoned Short Calls for Call Types:

**Step 1**
In the Cisco IPCC Web Administration Tool, select **Contact Management > Call Types > Global Options**.

**Step 2**
Set Abandoned Call Wait Time to a value, in seconds. This value indicates the length of calls to be considered abandoned. Calls abandoned before the Abandoned Call Wait Time are NOT considered abandoned. To not track abandoned calls, leave the field blank.

**Step 3**
Click **Save**.

About Other Reporting Setup Options

This section lists additional Unified CCE Enterprise features whose configuration has reporting implications.

About Unified SCCE Supervisory Features

Supervisors of agent teams can take advantage of supervisory features available with their Agent Desktop software.

Supervisory features include:

- Supervisor and emergency assist: Allows agents to activate supervisor assist or emergency assist buttons on their desktop.
- Barge-In: Allows a supervisor to conference into an agent call from his or her desktop.
- Intercept: Allows a supervisor to intercept (take over) a call from his or her desktop.

**Note:** These supervisory features apply only to Unified CCE voice contact. They are not available to agents using Media Routing Domains (MRDs) other than Voice.

The *Reporting Guide for Cisco Unified Contact Center Enterprise & Hosted* provides guidelines and details for setting up supervisory features.

About Agent Transfer and Conferencing

Agents can transfer or conference a call by manually transferring the call to another agent or by conferencing-in another agent or party by dialing the recipient's extension directly.
The Reporting Guide for Cisco Unified Contact Center Enterprise & Hosted provides guidelines and details for setting up agent transfer and conferencing.

See Also

Administration Guide for Cisco Unified System Contact Center Enterprise
Reporting Guide for Cisco Unified Contact Center Enterprise & Hosted
Localizing WebView and Script Editor

You can localize WebView and Script Editor by installing the Language Pack.

This chapter contains the following topics:

- Supported Languages, page 111
- Installing the Language Pack, page 112
- Adjusting the WebView Date Format, page 113

Supported Languages

English is the default language and is installed with Unified SCCE Setup installer. If you want to localize WebView or Script Editor, you must run the Language Pack.

The following 15 languages are supported by WebView:

- English (US)
- French (France)
- French (Canada)
- German
- Spanish
- Italian
- Portuguese (Brazil)
- Japanese
- Chinese (Simplified)
Installing the Language Pack

In Unified SCCE 7.5(1) the Language Pack installation is a separate process from the Unified SCCE setup. You run the Language Pack after the Unified SCCE setup has been completed.

If you have installed Unified SCCE on a localized version of Windows 2003, you should be all set after running the Language Pack.

If you plan to install Unified SCCE on a multilingual version of Windows 2003 server, you need to follow the procedure listed in How to Install the Language Pack on An English Windows 2003 Server (page 113) to set up your Windows system.

How to Check the Language Setting

If you have installed Unified SCCE on a multilingual version of Windows 2003, you need to make sure that the language you selected during the Language Pack installation matches the language setting in Windows regional options.

To check that there is a match, do the following:

**Step 1** Select Start > Settings > Control Panel > Regional and Language Options.
Chapter 16: Localizing WebView and Script Editor

Adjusting the WebView Date Format

How to Install the Language Pack on an English Windows 2003 Server

To localize the Windows system, do the following:

- **Step 1** Set up an English Windows 2003 server with SP 2.
- **Step 2** Run the Multilingual User Interface (MUI) language pack to install a localized user interface. The InstallShield Wizard takes you through the steps. Click Next to proceed through the screens.
- **Step 3** On the Language Selection dialog box, select a language.
- **Step 4** Under Default User Settings, do the following:
  - a. Select the default user setting for the localized language.
  - b. Select the **Match the language for non-Unicode programs with the default user language** check box.
  - c. Select the **Match the default shell UI font with the default user language** check box.
- **Step 5** When the installation completes, reboot your machine.
- **Step 6** Select Start > Settings > Control Panel > Regional and Language Options. In the Regional Options tab under Standards and Formats, select a country to match its date format.
- **Step 7** In the Languages tab under Language used | menus and dialogs, select a localized language.
- **Step 8** Click OK and log off the Windows system.

The Windows system is now in the localized language.

Adjusting the WebView Date Format

After localizing your Windows system, adjust the date format in WebView. This is necessary because the Jaguar served used by WebView does not recognize the localized user interface applied on the MUI version of Windows 2003 server.
Finding the User Name of the Jaguar Server

To locate the user name complete these steps:

**Step 1**
On the desktop, right-click *My Computer* and click *Manage*.

The Computer Management dialog box appears.

**Step 2**
In the left panel of the Computer Management window, expand Services and Applications, and then click *Services*.

A list of services appears in the right panel of the Computer Management dialog box.

**Step 3**
Right click *Jaguar* and then click *Properties*.

The Jaguar Properties dialog box appears.

**Step 4**
On the Log On tab in the This account field, locate the name of the Jaguar server; for example, jagintlsrv-211.

Finding the Security ID (SID) of the Jaguar Server User

To locate the SID, complete these steps:

**Step 1**
Select *Start > Run*, enter `regedit`, and click *OK*.

The Registry Editor dialog box opens.

**Step 2**
Open *My Computer > HKEY_LOCAL_MACHINE > SOFTWARE > Microsoft > Windows NT > Current Version > Profile List*.

You will see a list of subfolders under this registry key. Open each of the folders and look for the Jaguar server user name in the Data column for the ProfileImagePath. The name of the folder in which the Jaguar server user name appears is the SID. Make a note of the SID, especially the last digits, which differentiate the SID from the names of the other folders; for example, S-1-5-21-789336058-1343024091-1801674531-2783.

Changing the Date Format for the Jaguar Service

To change the date format, complete these steps:

**Step 1**
While still in the Registry Editor, select *HKEY_USERS > <SID of the user> > Control Panel > International* and double click the *sShortDate* field.

The Edit String dialog box appears.
Step 2 Enter d/M/yyyy on a UK system, OR enter yyyy/M/d on a French Canadian system.

Step 3 Click OK.
Unified SCCE Troubleshooting

This chapter contains the following topics:

- Unified SCCE Installer Log Files, page 117
- IPCC Machine Initializer Log Files, page 117
- Installation Issues, page 118
- Troubleshooting the IPCC Machine Initializer, page 119
- Machine Initializer and Active Directory Issues, page 120
- Apache Tomcat and IIS Issues, page 120
- IPCC Web Administration Access Errors, page 121
- Machine Creation and Modification Errors, page 124
- Write to Database Issues, page 125
- Database Connection Issues, page 126
- Miscellaneous Issues/Information, page 127

Unified SCCE Installer Log Files

The Unified SCCE Installer Log files are named IPCCInstall.log and are located in:
c:\temp\IPCCInstallLogs

They are in date- and time-stamped directories.

IPCC Machine Initializer Log Files

IPCC Machine Initializer Log File is found in:
c:\temp\IpccMachineInitialization.log

When launched by the Installer, tracing and error message are in the installation log file under:
c:\temp\IPCCInstallLogs
This section offers workarounds for issues that can occur during installation of the Unified SCCE controllers and Administration & WebView Reporting machines.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Recommended Action</th>
</tr>
</thead>
</table>
| An error message occurs about missing dlls during installation. | Missing, inaccessible, or incomplete installation media. | Do the following:  
• Make sure the installation media is accessible during the entire installation.  
• If copying the installation from the DVD to a hard disk, be sure the copy completes successfully. |
| Installer reports that SQL Server is missing or there is an insufficient service pack. | Occurs if SQL Server 2005 has not been installed on a machine on which the Central Controller and/or Administration & WebView Reporting is being installed. | Do the following:  
1. Stop the installer.  
2. Install SQLServer 2005 using the setting specified in the *Staging Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted*  
3. Apply appropriate SQLServer service pack as specified in the *Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1)*  
4. When complete, restart the installer. |
| Installer reports that SQLServer protocols are in wrong order | Occurs if TCP IP protocol is ordered before Named Pipe in SQLServer configuration. | For SQL Server 2000:  
1. Stop installer.  
2. Reorder protocols via Start > Programs > MS SQL Server > Client Network Utility.  
3. When complete, restart the installer.  
For SQL Server 2005:  
1. Stop installer.  
3. When complete, restart installer. |
<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installer reports that SNMP or WMI are not detected</td>
<td>Occurs if Windows SNMP Services are not fully installed</td>
<td>Stop the installer and install SNMP/WMI as described below (Note: you may need to have the Windows OS install media to complete this operation):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Go to <strong>Start &gt; Control Panel &gt; Windows Add/Remove Programs &gt; Add Windows Components.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Select the <strong>Management and Monitoring Tools</strong> check box.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Click <strong>Details.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Select the <strong>SNMP</strong> and <strong>WMI</strong> check boxes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Click <strong>OK</strong> and <strong>Next</strong> to complete the Add Windows Components wizard. When complete, resume the installation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: SNMP/WMI is only needed for CDP, an optional monitoring feature of Unified SCCE. If you do not plan to use CDP, you can ignore the error message during the install.</td>
</tr>
<tr>
<td>Installer reports that a service could not be started because it is</td>
<td>Occurs if one or more services the installer attempts to start is already running.</td>
<td>Message can be safely ignored. If you get one of these errors, the installer will allow you to retry or cancel. It is all right to cancel.</td>
</tr>
<tr>
<td>service not be started because it is already running</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database does not exist error appears</td>
<td>On a fresh install, the following message is received: &quot;Database ipcc_sideA does not exist on this system. Please run Enhanced Data Migration Tool and select Technology refresh.&quot;</td>
<td>Any database name can replace &quot;ipcc_sideA.&quot; Your machine is not really clean. Use regedit and remove &quot;SOFTWARE\Cisco Systems, Inc.\ICM.&quot;</td>
</tr>
</tbody>
</table>

**Troubleshooting the IPCC Machine Initializer**

- Web Administration (database, registry and services configuration) and WebView Reporting depend on proper AD User and Group permissions.

  Apache Tomcat, Cisco ICM IPCC Distributor, Cisco ICM IPCC Logger, and Jaguar services need proper permissions.

  Registry Configuration – `<HKLM>\SOFTWARE\Cisco Systems, Inc.` – relies on Remote Registry service access.

- All machines in a Unified SCCE deployment must belong to the same AD Domain.
• All machines in a Unified SCCE deployment must be registered in the same IPCC Facility.
• Make sure that Cisco Security Agent is not blocking access.
• If you have issues, re-run the IPCC Machine Initializer on 1 or all machines.

Machine Initializer and Active Directory Issues

This section offers workarounds for issues pertaining to the Unified SCCE Machine Initializer and/or Active Directory.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Initializer returns “…cannot bind to GUID…” error.</td>
<td>Occurs if machine cannot connect to the domain controller.</td>
<td>Run netdiag from Windows 2003 support tools. Verify your computer is in the domain and its DNS server can locate the Domain Controller. Verify the Domain Controller is up and running.</td>
</tr>
<tr>
<td>Cannot create a Cisco_ICM Root or Facility</td>
<td>Occurs if you do not have the necessary Active Directory privileges.</td>
<td>Make sure you are running with the correct permissions Run netdiag from Windows 2003 support tools</td>
</tr>
<tr>
<td>Error returned by Unified SCCE Machine Initializer</td>
<td>The domain controller is not in native mode.</td>
<td>Consult your Domain Administrator.</td>
</tr>
</tbody>
</table>

The Machine Initializer Log files are located at: c:\temp\IPCC Enterprise MachineInitialization.log. When launched, by the Unified SCCE Installer, Machine Initializer tracing and error messages appear in the installation log file located at: c:\temp\IPCCInstallLogs\<date_stamp>\IPCCInstall.log.

See the Staging Guide for Cisco ICM/Unified Contact Center Enterprise and Hosted for additional Active Directory troubleshooting instructions.

Apache Tomcat and IIS Issues

Apache Tomcat and IIS are required to serve Unified SCCE Web-based applications including the Cisco IPCC Enterprise Web Administration Tool, WebView, and the Agent Re-skilling Tool.

The Web Administration uses Tomcat as its servlet engine. Tomcat is installed to icm\tomcat and runs as a service--Apache Tomcat. The Tomcat service startup type is set to as Automatic and the service starts automatically after installation. It runs as a domain user with local administrator rights for JDBC access, remote registry, and services access. Access to Tomcat is allowed only through SSL and the IIS front-end. Direct access to Tomcat ports is disabled during installation.
Tomcat log files are located at: icm\tomcat\logs. Additional Web Administration log files are located at: icm\tomcat\webapp\uiroot\WEB-INF\logs. There are both error and trace log files.

As necessary, to troubleshoot Tomcat issues, turn up logging by modifying the value for the APIServer.TraceFilter.sysTraceFilter.verbosity property in this file: icm\tomcat\webapps\uiroot\WEB-INF\properties\common\apiserver\logManager\APIServer.properties. The default, value is VERBOSITY_NONE (logging is off). To turn logging up, change the value the LOCAL_DUMP then restart the Tomcat service.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Condition</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomcat service does not start.</td>
<td></td>
<td>Check the Windows Services panel and Tomcat log files for errors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Run the Service Account Manager tool from <strong>Start &gt; Programs &gt; IPCC Administration</strong> to diagnose and fix service account issues.</td>
</tr>
<tr>
<td>Tomcat starts up but cannot</td>
<td>Tomcat service path is incorrect.</td>
<td>Verify icm\bin is specified as the path to the service executable.</td>
</tr>
<tr>
<td>load sadlib.dll</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A page not found message</td>
<td>TLS 1.0 is not enabled or there</td>
<td>Be sure that TLS 1.0 is enabled on the Advanced tab of the <strong>Tools &gt; Internet Options</strong> dialog box of Internet Explorer.</td>
</tr>
<tr>
<td>appears.</td>
<td>could be a service account issue.</td>
<td>Run the Service Account Manager tool from <strong>Start &gt; Programs &gt; IPCC Administration</strong> to diagnose and fix any service account issues.</td>
</tr>
<tr>
<td>Pages served via Tomcat</td>
<td>Usually occurs the first time Tomcat must render a page.</td>
<td>Self-correcting; Pages will render more quickly on subsequent access.</td>
</tr>
<tr>
<td>render slowly.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Microsoft Internet Information Service (IIS) is used as the front-end to Tomcat. It uses Apache ISAPI dll to connect to Tomcat icm\tomcat\bin\i386\isapi_redirector2.dll. If you suspect issues related to IIS, ensure that:

- The IIS Virtual Directory points to the directory: icm\tomcat\bin\i386
- IIS manages the SSL layer. SSL is enabled by default during Unified SCCE installation with a self-signed certificate. Both “Require Secure channel (SSL)” and “Require 128-bit encryption” must be set.
- In IIS 6, Web Services Extensions lists jakarta as Allowed.

**IPCC Web Administration Access Errors**

This section offers workarounds for issues that can occur accessing the IPCC Web Administration Tool.
<table>
<thead>
<tr>
<th>Symptom</th>
<th>Condition</th>
<th>Workaround</th>
</tr>
</thead>
</table>
| Cannot access the IPCC Web Administration Tool. Browser returns page not found error | Possible causes:  
- Tomcat service is not started on Administration & WebView Reporting machine.  
- IIS is not started on Administration & WebView Reporting machine | Start the Apache Tomcat service and/or IIS via Windows Services panel. |
| Cannot access the IPCC Web Administration Tool...URL is accessible but UI fails to display | Occurs in Internet Explorer running on Windows 2003, the result of IE's Enhanced Security Configuration, standard on Windows 2003. | Do one of the following:  
- Access the IPCC Web Administration Tool from a browser on another machine not running Windows 2003.  
- In the 2003 browser, select Tools > Internet Options > Security, Select Trusted Sites > Sites and add your URL to the list of trusted sites. Note that you may have to reboot the machine to get the trusted site to work.  
- Turn off IE Enhanced Security Configuration for the machine via Start > Control Panel > Add/Remove Programs > Add/Remove Windows Components > Internet Explorer Enhanced Security Configuration. Then restart the browser. |
| Can't login via login page | Possible causes:  
- You are not using valid AD username/password or don't belong to proper AD Security Group.  
- The Domain Controller is down.  
- The connection between the Domain Controller and the Administration & WebView Reporting machine is down. | Do one of the following depending on the cause:  
- Verify you are using a valid AD username and password and belong to the proper AD Security Group.  
- Verify that the Domain Controller is up and running.  
- Verify that the network connection to the Domain Controller is up and running.  
- As a last resort, re-start the Administration & WebView Reporting machine. |
| IPCC Web Administration Tool forces you to accept a certificate each time you access it. | Occurs when you access the IPCC Web Administration Tool Login page. | Do one of the following  
- Install the certificate as follows: 1) In the IE Security Alert dialog, click View Certificate; 2) Click Install Certificate, and then follow prompts to complete the installation. |
### Workaround

- In the 2003 browser, select **Tools > Internet Options > Security**. Select **Trusted Sites > Sites** and add your URL to the list of trusted sites. Note that you may have to reboot the machine to get the trusted site to work.

- Turn off IE Enhanced Security Configuration for the machine via **Start > Control Panel > Add/Remove Programs > Add/Remove Windows Components > Internet Explorer Enhanced Security Configuration**. Then restart the browser.

### Symptom | Condition | Workaround
--- | --- | ---
IPCC Web Administration Tool functionality seems to be missing or incomplete. | Possible causes:  
- You are using an unsupported browser.  
- Popup blocking is enabled on your browser.  
- Javascript is not enabled on your browser. | Do one of the following depending on the cause:  
- Consult the *Hardware and System Software Specification (Bill of Materials) for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 7.5(1)* for supported browser versions.  
- Disable popup blocking.  
- Enable Javascript for your browser.

Accessing the login URL results in "This page cannot be displayed" error message. | Possible causes:  
- The Apache Tomcat services are not started and/or the IIS/WWW services are not started.  
- Transport Layer Security (TLS) 1.0 is not enabled in the browser. | Do one of the following depending on the cause:  
- Start the Apache Tomcat and/or IIS/WWW services using the Windows Services panel.  
- In Internet Explorer go to **Tools > Internet Options > Advanced tab**. Under Security, check the Use TLS 1.0 check box and click **Apply**; then Click **OK**.

Administrator cannot log in using the login page. | Possible causes are:  
- The Administrator is not using a valid Active Directory (AD) user name and password or does not belong to the proper AD Security Group (Web Administration User Role)  
- The Domain Controller is not up.  
- The connection between the Domain Controller and the Administration & WebView Reporting machine is down. | Do one of the following depending on the cause:  
- Make sure the Administrator is using a valid AD username and password and belongs to the proper AD Security Group.  
- Make sure the Domain Controller is up.  
- Restart the Administration & WebView Reporting machine.
## Machine Creation and Modification Errors

This section offers workarounds for some problems that can occur when creating or modifying machines in the IPCC Web Administration Tool.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Condition</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor cannot log into Web Re-skilling using login page</td>
<td>The Supervisor is not using valid Agent login name and/or password. Note that Supervisors log in to Web Re-skilling with their Agent credentials, which are the same as those used to log in to the Supervisor desktop</td>
<td>Make sure the Supervisor is using valid Agent login name and password. They should not use their AD username and password. Note that Supervisors log in to WebView Reporting with their AD credentials.</td>
</tr>
<tr>
<td>Supervisor cannot see Agents after logging in.</td>
<td>The Supervisor is either not associated with a Team or is not associated with a Team that has Agents.</td>
<td>Make sure that the Supervisor is configured as the Supervisor of a Team that has Agents.</td>
</tr>
</tbody>
</table>

### Machine Creation and Modification Errors

The IPCC Web Administration Tool returns a "unable to find registry" error when you attempt to create or modify a machine.

**Possible causes:**
- The machine Hostname or IP Address is incorrect.
- The machine is not running.
- Unified SCCE has not been installed correctly in the machine.
- The IPCC Machine Initializer has not been run on the machine.
- File and Printer Sharing for Microsoft Networks is not enabled on that machine.

**Workaround:**
Do one of the following depending on the cause:
- Verify the machine Hostname or IP Address.
- Verify that the machine is running.
- Verify IPCC has been installed correctly in the machine.
- Rerun the IPCC Machine Initializer on the machine.
- Enable "File and Printer Sharing for Microsoft Networks" at **Start > Settings > Network Connections... Local Area Connections > General tab > Properties**.

IPCC machines are created in the Web Administration Tool but later fail to display. It appears as if they do not exist or were deleted.

This situation can occur in a duplexed environment if machine data written to the Side A database is not replicated to the Side B database (for example, if the Central Controllers are mistakenly configured as Simplexed) AND the Side A db is brought down, causing Unified SCCE to look to the Side B db for data.

**Workaround:**
Run the Synchronize command in the ICMDBA utility on the Central Controller Side A machine to synchronize the Side A and B databases. To synchronize using ICMDBA:

1. On the Side A Central Controller machine, go to **Start > Run** and enter `icmdba` in the Run dialog.
2. Expand the tree under the selected machine in the ICMDBA dialog: **Servers > <MachineName> > Instances > ipcc > LoggerA. Select ipcc_sideA.**
3. From the Data menu, click **Synchronize**.
Make sure the Source Server and Database pull down display the Central Controller and database that contain the Machines data (usually the Side A Central Controller and database).

Make sure the Destination Server and Database pull-downs display the Central Controller and database that do not contain the Machines data (usually the Side B Central Controller and database).

4. Click **Synchronize**.

### Write to Database Issues

This section offers workarounds for issues that can occur when writing or connecting to the IPCC database.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Condition</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>The IPCC Web Administration Tool returns an &quot;Unable to start the Conapi Connection on this Administration &amp; WebView Reporting machine&quot; error.</td>
<td>Unified SCCE is timing out trying to make a write connection to the database. Typically the problem is caused by a software and/or hardware misconfiguration.</td>
<td>Start by double-checking the hostnames and/or IP addresses provided on the IPCC Network page of the wizard. Also, ensure proper configuration of NIC cards on the machines in question. Check the IPCC Web Administration Tool log files for more information.</td>
</tr>
<tr>
<td>Connection error displays during update operations. Here are the two types of error messages:</td>
<td>ConAPI requires a fully working path from AW to Central Controller. The Central Controller and Distributor processes must be up.</td>
<td>Run the Deployment Wizard.</td>
</tr>
<tr>
<td>• On the User Interface: <strong>Unable to establish database connection for updates operations.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In log files: <strong>05/10/2008 22:40:16.545 ERROR CRITICAL IPCCAdminErrors.7 DB_UPDATE_CONNECT-FAILED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error messages appear during attempted failover of the Central Controller.</td>
<td>ConAPI does not support Central Controller failover.</td>
<td>CMS must be restarted manually when the Central Controller side it is...</td>
</tr>
</tbody>
</table>
### Database Connection Issues

**JDBC**

The Cisco IPCC Enterprise Web Administration tool uses JDBC to talk to the local database on Administration & WebView Reporting machines for read operations. JDBC uses domain authentication so Tomcat service must be running as authorized account; this account is created automatically by the Unified SCCE Machine Initializer.

JDBC connection errors show up in error and log files as: ERROR CRITICAL IPCCAdminErrors.6 DB_QUERY_CONNECT_FAILED

JDBC connection properties are defined in: icm\tomcat\webapps\uiroot\WEB-INF\properties\default\ipccAdmin\client.properties. In this files, the following property values must appear (note that host name, user, password, and domain properties are commented out):

- JDBCDriver=net.sourceforge.jtds.jdbc.Driver
- JDBCUrлPrefix=jdbc:jtds:sqlserver://
- #JDBCHostname=host
- #JDBCUser=user
- #JDBCPassword=pass
- #JDBCDomain=domain
- JDBCICMInstance=ipcc

**ConAPI**

ConAPI requires a fully-working path from the Administration & WebView Reporting machine to the Central Controller. Unified SCCE automatically creates a ConAPI connection for the Cisco IPCC Enterprise Web Administration Tool in the CMS Control Console utility. It is currently connected to goes down. In the ipcc-Distributor cmsnode window, enter Exit and press Enter.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Condition</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following are the two types of messages:</td>
<td></td>
<td>currently connected to goes down. In the ipcc-Distributor cmsnode window, enter Exit and press Enter.</td>
</tr>
<tr>
<td>• On the User interface: <strong>Update connection down.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In logs: com.cisco.ics.ipccconfig.dbDBXupdateConnectionException at com.cisco.ics.ipcc.config.db.DBConnect.executeUpdate (DBConnect.java;318)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
normal for the ConAPI connection to be down until you run the Unified SCCE Deployment Wizard.

ConAPI connection error shows up in error and log files as: ERROR CRITICAL IPCCAdminErrors.7 DB_UPDATE_CONNECT_FAILED

Miscellaneous Issues/Information

This section offers workarounds for miscellaneous issues and other general system information.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Condition</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to reference the IPCC System PG Peripheral ID</td>
<td>In certain deployment scenarios, an external system or option may need to know the IPCC System PG Peripheral ID in order to establish a connection with System IPCC. One example of this is when trying to establish a System IPCC as a child in an IPCC Gateway deployment.</td>
<td>The IPCC System PG Peripheral ID is always 1000.</td>
</tr>
</tbody>
</table>
Overview of Unified SCCE Enterprise Databases

Depending on your deployment model, Unified SCCE might use up to five separate databases to store configuration and call transaction data. All Unified SCCE databases are created and sized automatically during installation. Initial sizing of databases is well in excess of system capacity needs, meaning you should never need to resize your Unified SCCE databases.
The table below lists the databases (excluding multichannel) created and used by Unified SCCE.

<table>
<thead>
<tr>
<th>Database</th>
<th>Stores</th>
<th>DB Name</th>
<th>Machine Location</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Database</td>
<td>All Unified SCCE configuration, script, and call transaction data.</td>
<td>ipcc_sideA or B</td>
<td>Central Controller sides A and B</td>
<td>14 Gb</td>
</tr>
<tr>
<td>Administration &amp; WebView Reporting</td>
<td>Copies of the Central database configuration data and scripts.</td>
<td>ipcc_awdb</td>
<td>Administration &amp; WebView Reporting</td>
<td>1.4 Gb</td>
</tr>
<tr>
<td>Local Database</td>
<td>All Unified SCCE historical data that has expired on the Central database.</td>
<td>ipcc_hds</td>
<td>Administration &amp; WebView Reporting</td>
<td>14 Gb</td>
</tr>
<tr>
<td><strong>Note:</strong> All-in-One deployments do not include or support a Historical database. They DO support historical reporting from the Central Database. On an All-in-One system, you only have about 14 days of historical data because the historical data is being extracted from the Central Controller database instead of an Historical Data Server (HDS) database. An All-in-One system does not have an HDS database.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebView Database</td>
<td>WebView configuration data.</td>
<td>wvdb</td>
<td>Administration &amp; WebView Reporting</td>
<td>100 Mb</td>
</tr>
<tr>
<td>Outbound Option Database</td>
<td>Outbound Option data.</td>
<td>ipcc_baA</td>
<td>Central Controller side A only</td>
<td>1.4 Gb</td>
</tr>
</tbody>
</table>
Note:

- In duplexed deployments (deployments that include physical side A and side B machines), copies of side A machines are maintained on side B and automatically synchronized with their side A counterparts.

- The "up to five separate databases" total above does not include the additional databases created by multichannel options (if you include multichannel options in your deployment). Multichannel options will be available in a future release.

- For specific information on the tables of the Unified SCCE databases, see the Database Schema Handbook for Cisco Unified ICM/Contact Center Enterprise & Hosted.

About Unified SCCE Data

Unified SCCE handles three types of data:

- Configuration data is stored in the Central, Historical, and local databases.

- Historical data is stored in the Central and the Historical databases.

- Real-time data is stored in the local database.

Configuration and Script Data

Configuration data describes your call center; for example, all of your agents, call types, and dialed numbers are part of the configuration data. Configuration data can also include data that has been imported from other systems, such as workforce scheduling data. In duplexed Central Controller systems, configuration data is kept duplexed on both Central databases. It is always re-synchronized when a Central Controller is restarted. Script data is also kept in both Central databases. Script data includes all call routing and administrative scripts that Unified SCCE uses in call routing.

Historical and Real-time Data

Historical data and Real-time data provide information about certain objects in the system such as skill groups and agents. Real-time data provide current information on these objects.

Historical data fall into four categories: five-minute snapshots, half-hour summaries, call detail records, and events. The five-minute tables contain snapshot data, which are values that are derived from real-time data. Snapshot data provides a view of contact center activity at a particular instant. Since the five-minute values change frequently, they are not synchronized across the Central databases of a duplexed Central Controller.

About the Unified SCCE Central Database

The Unified SCCE Central database is the main configuration and call data database for Unified SCCE. It resides on the Central Controller machine. If the Central Controller is duplexed, each
physical Central Controller has its own copy of the database. The name of the central database is ipcc_side<A or B>.

Call data is maintained in the Central DB for a period of up to two weeks. Thus, it serves as the real-time database for Unified SCCE. Data in excess of two weeks old is transferred to the Historical DB.

The Central database stores:

• Full configuration information for Unified SCCE
• All routing scripts—current and, if you choose to save them, past versions
• Event data
• Call detail data
• Five-minute summary data
• Half-hour historical data

The Central database maintains 5-minute summary data for each:

• Skill group
• Routing client
• Script

The Central database maintains half-hour historical data for each:

• Skill group
• Application Gateway

Although you can view the Central database data in reports, you cannot modify them directly or indirectly.

Administration & WebView Reporting Local Database

Each Administration & WebView Reporting machine has a copy of the Central database configuration data and scripts in its local database. This database is used to make changes to configuration and script data; when you change the Unified SCCE configuration through the Cisco IPCC Enterprise Web Administration Tool, or you create scripts with the Internet Script Editor, the data is written first to the Central Database and then replicated out to the Administration & WebView Reporting local database. As necessary, the Central Controller forwards any changes in historical data to the Historical Data Server (HDS) machine.
The Administration & WebView Reporting Local database is named ipcc_awdb.

The Administration & WebView Reporting local database contains the following information:

- Configuration information (copied from the Central database)
- Scripts (copied from the Central database)
- Real-time data

The real-time client process on the Administration & WebView Reporting machine keeps the real-time data in the local database up-to-date. It receives real-time data from the real-time server approximately every 10 seconds. Old real-time data is constantly overwritten by new real-time data.

Temporary Database

Because real-time data is written and read frequently, the real-time tables are stored in memory as temporary tables. Although these tables physically reside in the temporary database--TEMPDB--you can access them as if they were in Administration & WebView Reporting local database.

About the Historical Database

Administration & WebView Reporting components need to access historical data (half hour data, call detail, etc.). Unified SCCE stores historical data in the Central database on the Central Controller. The Central Controller also forwards historical records to the Historical Data Server (HDS) machine for storage in a special local database--the Historical database. The Historical database resides on the Administration & WebView Reporting machine. It is sized at installation to 14 gigabytes, more than sufficient for ongoing historical data storage requirements. It's database name is ipcc_hds.

In deployments that include two Administration & WebView Reporting machines both serve as the HDS machines.

**Note:** On an All-in-One system, you only have about 14 days of historical data because the historical data is being extracted from the Central Controller database instead of an Historical Data Server (HDS) database. An All-in-One system does not have an HDS database.

About the WebView Database

The WebView database resides on the Administration & WebView Reporting machine. It stores WebView configuration data (such as saved report definitions)--but not actual report data. The WebView database is sized at installation to 100 megabytes which is more than sufficient to store all WebView configuration data. It's database name is wvdb.
About the Outbound Option Database

The Outbound Option database resides on the machine that includes the Central Controller. The Outbound Option database is sized at installation to 1.4 gigabytes which is more than sufficient to store all Outbound Option data. Its database name is ipcc_baA.

Configuration Management Service (CMS)

The Configuration Management Service (CMS) authenticates the connection between Unified SCCE and its database for database writes.

CMS includes the following components:

- A set of client libraries that reside on the application instance system and are called by the application.
- A service process that runs on Administration & WebView Reporting.

The server process reads configuration data from the Administration & WebView Reporting database and writes configuration data to Unified SCCE via the Central Controller API (CCAPI). The CMS client library communicates with the CMS server process using a message bus.

Historical Data Administration

Unified SCCE maintains a database on each side of the Central Controller and a local database on each Administration & WebView Reporting machine. Each database consists of a group of interrelated tables. As you add or update data in the database, you must ensure that logical relationships are maintained. For example, if you delete a call type, you must not leave dialed numbers in the database that reference that call type. If you do, the integrity of the database is broken. The Cisco IPCC Enterprise Web Administration Tool prevents you from making certain changes that disrupt the integrity of the data in the database. However, it cannot prevent all such changes. Usually, if data integrity in the local database is temporarily disrupted, no major problems occur. However, integrity problems in the Central database could cause errors in system processing.

Note: To protect the integrity of the Unified SCCE databases, do not use third-party tools to modify them. These tools do not protect against disruptions of database integrity. (You can use third-party tools to view Unified SCCE data.)

When Unified SCCE is installed, it automatically performs integrity checks to make sure that the database is configured correctly. After that, the integrity of the Central database is maintained by the Unified SCCE software. You do not need to manually check the integrity of the Unified SCCE Central database. If you ever have a problem with data integrity in the Central database, the problem is most likely a software problem that needs to be addressed by your Unified SCCE support provider.
Note: Any manual integrity checks of the central database must involve your Unified SCCE support provider. Do not run the DBCC CHECKDB procedure on the Central database while the Unified SCCE system is running. This procedure will stop the logger process running on the Central Controller.

About the Database Purge Procedure

Unified SCCE initiates a purge process on the Central Controller and the HDS Administration & WebView Reporting machine once every day. The purge process deletes records that are older than a specified number of days. By default, the purge process runs each night at 12:30 A.M. You can specify a different purge schedule on the Database page in the Cisco IPCC Enterprise Web Administration Tool.

<table>
<thead>
<tr>
<th>Historical Tables</th>
<th>Default Retention Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application_Event, Config_Message_Log, Event</td>
<td>14 days</td>
</tr>
<tr>
<td>Logger_Admin, Recovery</td>
<td>30 days</td>
</tr>
<tr>
<td>All other historical tables</td>
<td>14 days in Central Controller, 1095 days in Administration &amp; WebView Reporting</td>
</tr>
</tbody>
</table>

Note: On an All-in-One system, you only have about 14 days of historical data because the historical data is being extracted from the Central Controller database instead of an Historical Data Server (HDS) database. An All-in-One system does not have an HDS database.
Chapter 19

Increasing Fault Tolerance in a Unified SCCE System

This appendix provides information on how to configure Unified SCCE for enhanced fault tolerance. For more information on designing and implementing fault tolerance in Unified SCCE system, see the Cisco Unified Contact Center Enterprise 7.5 Solution Reference Network Design Guide.

This chapter contains the following topics:

- How to Set Up a Recovery Number for Your Unified SCCE System, page 137
- How to Improve Failure Detection, page 137

How to Set Up a Recovery Number for Your Unified SCCE System

Cisco recommends setting up your system with a recovery number for fail-over situations. For example, you might forward calls to voice mail. You might also decide to forward calls to another CTI Route Point or dialed number that sends the call to a special recovery script on the system.

Once you have determined an appropriate recovery number for your system, configure Call Forward No Answer and Call Forward Busy on the CTI Route Points for the Agent/IVR Controller and the Unified IP IVR to point to this recovery number.

Also configure the CallForward on Busy (CFB) option on your phones to point to this number as well. You can use the Unified CM Bulk Administration Tool to do this for a group of phones, or you can configure each line individually using the Unified CM administration Web pages.

How to Improve Failure Detection

The Agent/IVR Controller will detect a failure after two successive heartbeats are missed. You can improve failure detection by reducing the time between heartbeats sent by the Unified CM.
You use the Server Heartbeat Interval (sec) field on the Unified CM to set the time interval between heartbeats. The default is 30 seconds; Cisco recommends changing this to the minimum value of 5.

To change the heartbeat interval:

**Step 1** From the Start menu, select Programs -> Cisco JTAPI -> JTAPI Preferences.

**Step 2** Set the Advanced -> Server Heartbeat Interval (sec) field to 5 seconds.

**See Also**

If you are using Outbound Option, you can provide fault tolerance by upgrading from a simplex Outbound Option controller to a duplexed Outbound Option controller. For instructions, see the Upgrade Guide for Cisco Unified System Contact Center Enterprise & Hosted.
Uninstalling and Reinstalling Unified SCCE

This chapter contains the following topics:

- How to Uninstall the Controllers and Administration & WebView Reporting, page 139
- How to Re-Install the Controllers and Administration & WebView Reporting, page 140

How to Uninstall the Controllers and Administration & WebView Reporting

As necessary, you can uninstall the controllers and Administration & WebView Reporting from any machine. Care must be taken not to uninstall a component that is still referenced by other components in an active system.

Note: Uninstalling Unified SCCE will not uninstall the following: the Unified SCCE database, Cisco JTAPI, and the JDK. As desired, the database can be deleted manually in SQLServer. Cisco JTAPI must be uninstalled through Windows Add/Remove Programs. On the Administration & WebView Reporting machine, the JDK MUST be uninstalled following the third-party software uninstallation instructions for Unified SCCE deployments located in the WebView Installation and Administration Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted.

Step 1
In Cisco IPCC Enterprise Web Administration, on the Machines page, delete the machine you want to uninstall.

Note: Always delete a machine prior to uninstalling its Unified SCCE software, even if you later plan to reinstall Unified SCCE on that machine. Failing to do this will cause an condition whereby Cisco IPCC Enterprise Web Administration believes the machine still exists and is properly configured, resulting in communication errors.

Step 2
Select Start > Control Panel > Add/Remove Programs where Cisco IPCC Enterprise is listed.

Note: It is not necessary to stop Unified SCCE services prior to an uninstall, the uninstall program will do this for you.
Chapter 20: Uninstalling and Reinstalling Unified SCCE

How to Re-Install the Controllers and Administration & WebView Reporting

**Step 3**  
After the uninstall is complete, reboot the machine. In some instances, uninstall may fail to remove the System IPCC Enterprise directory and some of its files. After reboot, you can remove it by deleting this directory: `<root>`\icm.

---

**How to Re-Install the Controllers and Administration & WebView Reporting**

You can reinstall Controller and Administration & WebView Reporting software only if it has first been uninstalled. You cannot re-install the software over itself. Further, Cisco JTAPI and the JDK MUST be uninstalled prior to reinstalling Unified SCCE software. Uninstall Cisco JTAPI through Windows Add/Remove Programs.

**Important**: On the Administration & WebView Reporting machine, you must uninstall the JDK following the third-party software uninstallation instructions for Unified SCCE deployments located in the WebView Installation and Administration Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted.

**Note**: Always delete a machine (in Cisco IPCC Enterprise Web Administration, on the Machines page) prior to uninstalling its Unified SCCE software. Do this even if you later plan to reinstall Unified SCCE on that machine. Failing to do this will cause an condition whereby Cisco IPCC Enterprise Web Administration believes the machine still exists and is properly configured, resulting in communication errors.

During a re-install, if you did not manually delete the old Unified SCCE database, Unified SCCE will use the old database rather than overwriting it.
Unified System Contact Center Enterprise to Unified Intelligent Contact Management Enterprise Component and Feature Comparison

Cisco Unified System Contact Center Enterprise (Unified SCCE) shares many components and functionality in common with Cisco Unified Intelligent Contact Management Enterprise (Unified ICME). In Unified SCCE, some of these components have been rebranded, although their functionality remains the same.

While this document was produced specifically for Unified SCCE and reflects this rebranding, it may refer readers to other documents that use the Unified ICME naming conventions for these components. Further, certain utilities available to Unified SCCE users may also use the Unified ICME naming conventions in their interfaces. Therefore, this section maps Unified SCCE machine types to their Unified ICME equivalents, and also describes Unified ICME objects that are either non-applicable or have been rebranded in Unified SCCE.

This chapter contains the following topics:

- Unified SCCE to Unified ICME Component Mapping, page 141
- Unified SCCE to Unified ICME Object Mapping, page 142
- Unified SCCE to Unified ICME Installation Differences, page 142

Unified SCCE to Unified ICME Component Mapping

The table below maps Unified System CCE machine types to their equivalent ICM Enterprise components.

<table>
<thead>
<tr>
<th>Unified SCCE Machine Type</th>
<th>Corresponding Unified ICME Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Controller</td>
<td>CallRouter and Logger</td>
</tr>
</tbody>
</table>
Unified SCCE to Unified ICME Object Mapping

<table>
<thead>
<tr>
<th>Unified SCCE Machine Type</th>
<th>Corresponding Unified ICME Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent/IVR Controller</td>
<td>Agent Peripheral Gateway (IPCC System PG), CTI Server, and CTI Object Server</td>
</tr>
<tr>
<td>Administration &amp; WebView</td>
<td>Distributor Administrative Workstation (AW), WebView, Historical Data Server (HDS), and Internet Script Editor Server</td>
</tr>
<tr>
<td>Reporting</td>
<td>Outbound Dialer and Media Routing Peripheral Gateway for Outbound (though the Outbound Controller can be co-located on the Agent/IVR Controller in 7.5(1)).</td>
</tr>
<tr>
<td>Outbound Controller</td>
<td></td>
</tr>
<tr>
<td>Multichannel Controller</td>
<td>Media Routing Peripheral Gateway for future multichannel applications</td>
</tr>
</tbody>
</table>

Unified SCCE to Unified ICME Object Mapping

Following is a list of ICM Enterprise objects either not used or renamed in Unified System CCE:

- While the following Unified ICME objects are supported by Unified SCCE, they are configured automatically and therefore are not exposed through the configuration tools: labels, persons, device targets, and trunk groups.

- Configuration of translation routes is automatic; no manual configuration is required.

- Unified SCCE does not support post routing within a Unified SCCE deployment. Post routing is supported between a child Unified SCCE and its parent in an IPCC Gateway deployment. (See your IPCC Gateway documentation for more information.)

- Unified SCCE does not support services, sub-skill groups, or Dialed Number Plan configuration.

- Unified SCCE call variables are equivalent to Unified ICME expanded call context variables.

- Unified SCCE network IVR is equivalent to Unified ICME network VRU.

Unified SCCE to Unified ICME Installation Differences

Following is a list of differences between the way certain shared ICM Enterprise/System components are installed in Unified SCCE versus in Unified ICME:

- Unified SCCE supports a single customer instance per Active Directory Facility OU. This instance is automatically named "ipcc."
• All Unified ICME databases and the Outbound Option database are installed, sized, and configured automatically in Unified SCCE installs. No manual configuration of these databases is required.

• The IPCC System PG is installed and configured transparently in Unified SCCE. This is the only Agent PG type supported by Unified SCCE. No manual configuration of PG client type, and PIMs, for example, is required.

• WebView and the WebView third-party utilities are installed automatically in Unified SCCE. No manual install of these product components is required.

• Agent Reporting is automatically enabled in Unified SCCE; It does not need to be manually enabled.

• All prospective WebView users must first have an account on the Unified SCCE Active Directory domain.

• Outbound Option reporting templates are installed automatically and appear in WebView whether Outbound Option is deployed or not.
Unified SCCE to Unified ICME Installation Differences
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