Newer Cisco SBA Guides Available

This guide is part of an older series of Cisco Smart Business Architecture designs. To access the latest Cisco SBA Guides, go to http://www.cisco.com/go/sba

Cisco strives to update and enhance SBA guides on a regular basis. As we develop a new series of SBA guides, we test them together, as a complete system. To ensure the mutual compatibility of designs in Cisco SBA guides, you should use guides that belong to the same series.

Help Desk Deployment Guide

SMART BUSINESS ARCHITECTURE

February 2012 Series

Preface

Who Should Read This Guide

This Cisco® Smart Business Architecture (SBA) guide is for people who fill a variety of roles:

- Systems engineers who need standard procedures for implementing solutions
- Project managers who create statements of work for Cisco SBA implementations
- Sales partners who sell new technology or who create implementation documentation
- Trainers who need material for classroom instruction or on-the-job training

In general, you can also use Cisco SBA guides to improve consistency among engineers and deployments, as well as to improve scoping and costing of deployment jobs.

Release Series

Cisco strives to update and enhance SBA guides on a regular basis. As we develop a new series of SBA guides, we test them together, as a complete system. To ensure the mutual compatibility of designs in Cisco SBA guides, you should use guides that belong to the same series.

All Cisco SBA guides include the series name on the cover and at the bottom left of each page. We name the series for the month and year that we release them, as follows:

month year Series

For example, the series of guides that we released in August 2011 are the "August 2011 Series".

You can find the most recent series of SBA guides at the following sites:

Customer access: http://www.cisco.com/go/sba

Partner access: http://www.cisco.com/go/sbachannel

How to Read Commands

Many Cisco SBA guides provide specific details about how to configure Cisco network devices that run Cisco IOS, Cisco NX-OS, or other operating systems that you configure at a command-line interface (CLI). This section describes the conventions used to specify commands that you must enter.

Commands to enter at a CLI appear as follows:

```
configure terminal
```

Commands that specify a value for a variable appear as follows:

```
ntp server 10.10.48.17
```

Commands with variables that you must define appear as follows:

```
class-map [highest class name]
```

Commands shown in an interactive example, such as a script or when the command prompt is included, appear as follows:

```
Router# enable
```

Long commands that line wrap are underlined. Enter them as one command:

```
wrr-queue random-detect max-threshold 1 100 100 100 100 100
100 100 100
```

Noteworthy parts of system output or device configuration files appear highlighted, as follows:

```
interface Vlan64
  ip address 10.5.204.5 255.255.255.0
```

Comments and Questions

If you would like to comment on a guide or ask questions, please use the forum at the bottom of one of the following sites:

Customer access: http://www.cisco.com/go/sba

Partner access: http://www.cisco.com/go/sbachannel

An RSS feed is available if you would like to be notified when new comments are posted.

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What's In This SBA Guide

About SBA

Cisco SBA helps you design and quickly deploy a full-service business network. A Cisco SBA deployment is prescriptive, out-of-the-box, scalable, and flexible.

Cisco SBA incorporates LAN, WAN, wireless, security, data center, application optimization, and unified communication technologies—tested together as a complete system. This component-level approach simplifies system integration of multiple technologies, allowing you to select solutions that solve your organization's problems—without worrying about the technical complexity.

For more information, see the *How to Get Started with Cisco SBA* document:

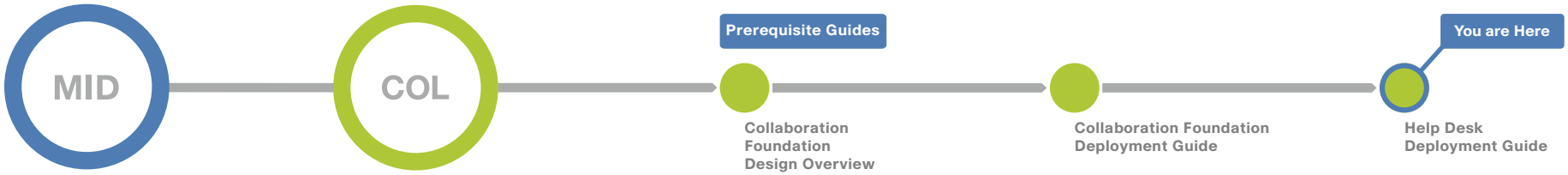
http://www.cisco.com/en/US/docs/solutions/Enterprise/Borderless_Networks/Smart_Business_Architecture/SBA_Getting_Started.pdf

About This Guide

This *additional deployment guide* includes the following sections:

- **Business Overview**—The challenge that your organization faces. Business decision makers can use this section to understand the relevance of the solution to their organizations' operations.
- **Technology Overview**—How Cisco solves the challenge. Technical decision makers can use this section to understand how the solution works.
- **Deployment Details**—Step-by-step instructions for implementing the solution. Systems engineers can use this section to get the solution up and running quickly and reliably.

This guide presumes that you have read the prerequisites guides, as shown on the Route to Success below.



Route to Success

To ensure your success when implementing the designs in this guide, you should read any guides that this guide depends upon—shown to the left of this guide on the route above. Any guides that depend upon this guide are shown to the right of this guide.

For customer access to all SBA guides: http://www.cisco.com/go/sba
For partner access: http://www.cisco.com/go/sbachannel

Introduction

Business Overview

The ability to easily add functionality into the telephony environment for corporate help desks has been challenging. Corporations use help desks in their Human Resources departments to answer personnel questions, in IT departments to help employees with their computer problems, and in their facilities departments to maintain and manage their buildings. A help desk minimizes the time it takes to answer employees' questions and helps maximize the available internal resources.

Traditional contact center solutions are difficult to implement because of the additional hardware components and the complexity of the software needed to implement them. The work is normally done by highly trained engineers who spend the majority of their time working with contact centers. The complexity makes the installation a long process and the additional expertise makes the installation and maintenance quite expensive. Agents are required to work at the location of the contact center equipment because the inherent limitations of the hardware prevent them from working remotely. It is very difficult to integrate the overall system with the corporate data because common interfaces are not readily available.

Technical Overview

The next-generation IP help desk takes advantage of a company's internal network by making use of the IP private branch exchange (PBX) and other IP-based applications to create a better experience for the callers. Calls are routed to available agents who have the expertise to answer the questions, regardless of their physical location in the company. Agents can view information about the caller through integration with corporate databases; and historical data is saved and viewed in easily readable reports that help improve the day-to-day workings of the help desk. These are just a few of the benefits offered by a fully integrated IP help desk.

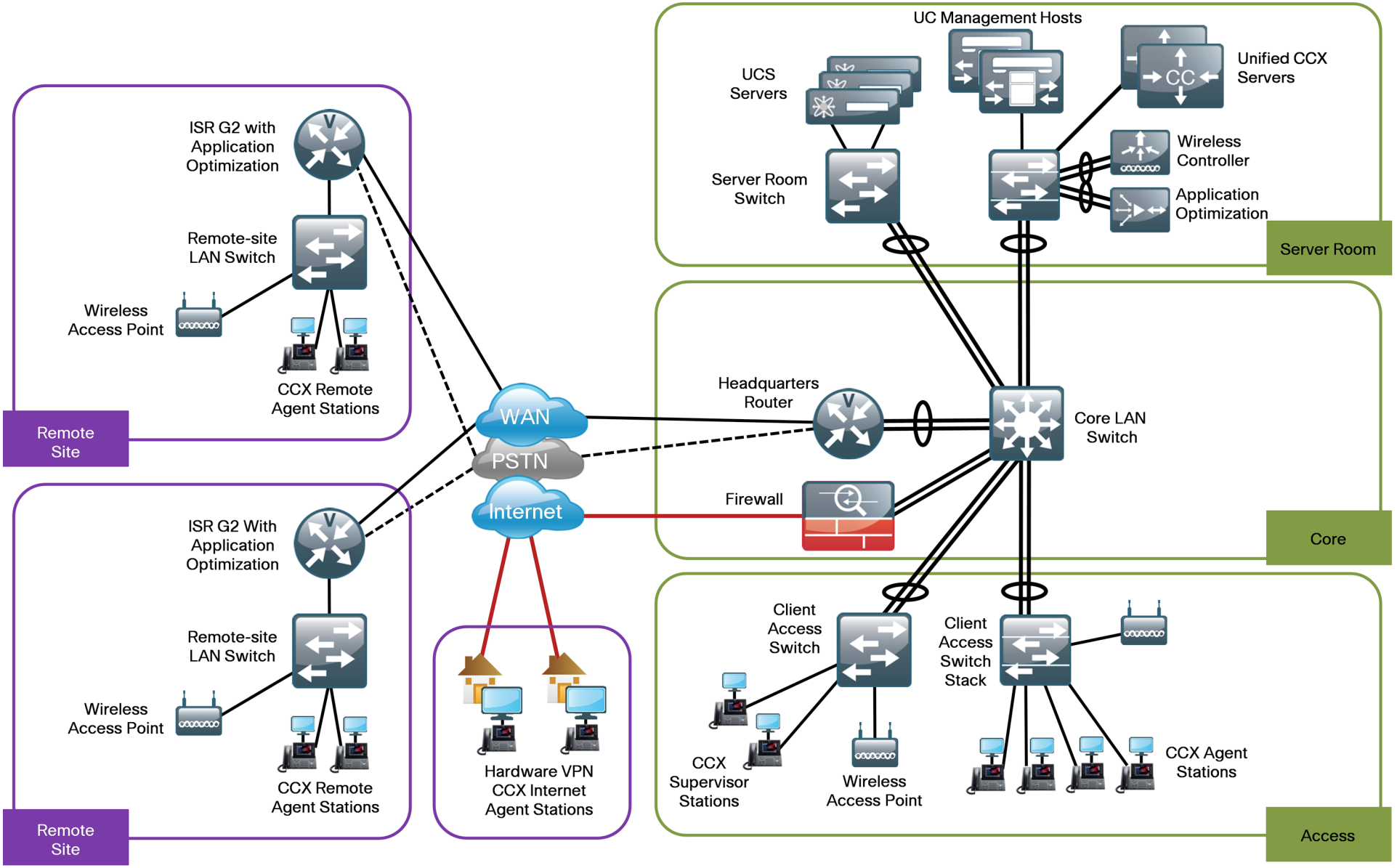
Cisco® Unified Contact Center Express (Unified CCX) is the IP-based help desk solution offered by Cisco Systems. It is tightly integrated with other Cisco Unified Communications platforms. Design and testing is performed on the suite of Unified Communications products as part of a complete solution. Configuration of Unified CCX is easier than traditional systems because the components talk to each other over the internal IP network, which helps streamline the procedures. For example, when a phone number is created on Unified CCX to reach a help desk application, no additional configuration is needed in the Cisco Unified Communications Manager (Unified CM). The configuration is sent over the network to Unified CM and the directory number is created. Unified CM is automatically configured to pass calls for the directory number to Unified CCX for further processing.

When a call is placed to the help desk, it is first processed by Cisco Unified CM, which recognizes that the number is destined for the Cisco Unified CCX application server. Unified CCX receives the incoming call and identifies which application script is needed to handle the request based on the extension number that was dialed. The script plays prompts and collects digits as dictated by the steps in the script and, if necessary, uses the information from the caller to select an appropriate agent. If an appropriate agent is not available, the call is put in queue and music is streamed to the caller. As soon as an agent is available, Unified CCX instructs Unified CM to ring the agent's phone. When the agent picks up, information about the caller is populated into the agent's desktop application and the conversation begins.

Cisco Unified CCX has the features of a large contact center packaged into a single- or dual-server deployment. The system scales up to 300 concurrent agents, 32 supervisors, and 150 queues. It includes email, outbound calling, inbound calling, workforce optimization, and reporting.

The following diagram shows a typical Cisco Unified CCX deployment in the Cisco Small Business Architecture (SBA) Midsize Foundation Architecture.

Figure 1 - Typical Cisco Unified CCX deployment in the midsize foundation architecture



Some of the features in Cisco Unified CCX are listed in more detail below.

Automatic Call Distribution (ACD)—Unified CCX routes calls by using skills or resource groups. Skills-based routing distributes the call based on the skill level of the agent for a particular topic. It is the method most often used. Resource-group routing distributes calls to agents based on the resource group to which the agents are assigned.

Interactive Voice Response (IVR)—IVR controls the interaction between the caller, prompts, and menus. Depending on the options the caller enters into the system, IVR uses an application script to determine how to handle the call. IVR can read or write corporate database information, play information such as tracking numbers to callers, and collect information from the caller via digits or speech recognition.

Agent Email—Agent Email allows customers to contact the help desk via email. Agents are assigned skills, and email is distributed to agents based on their skills. Email agents can use preset templates in their replies to avoid writing repetitive emails.

Agent Desktop—Cisco Agent Desktop is an application that resides on the agent's computer. Agents use the application to log in at the beginning of their shifts, indicate whether they are in a ready state or on a break, and log out at the end of the day. When an agent is logged in and ready, calls are sent to Agent Desktop, which presents information about the incoming call. The application has an integrated browser to access a customer database or browse the Internet to help answer a question. Agent Desktop is a great tool for agents because everything they need to do their job is in one place, which allows them to focus on answering the caller's question.

Supervisor Desktop—Cisco Supervisor Desktop helps supervisors keep track of real-time statistics such as how many calls are in queue, the number of agents available, and the average time a caller is spending in queue. Supervisors can also use Supervisor Desktop to coach agents by silently monitoring calls, chatting with agents, barging into a call, and pushing a webpage down to an Agent Desktop. Supervisor Desktop helps supervisors ensure that calls are being handled on a timely basis and agents are not giving callers incorrect information. If there is an issue, Supervisor Desktop allows them to quickly address the problem before it gets too far out of hand.

Reporting—Cisco Unified CCX saves statistics in an internal database that can be accessed by the historical reporting client application to create reports. Reports can be scheduled on a reoccurring basis or created as needed. Reports can be general, such as information about the entire help desk over a year, or specific, such as information about a particular agent for one day. Historical reports allow managers to get a big picture of their help desk and to make changes to address issues.

Workforce Management—Workforce Management is a tool that uses a sophisticated algorithm to look through historical data and create a schedule that will have the right number of agents on staff at the right times during the day. This tool helps ensure that more agents are on staff at busy times and agents have scheduled breaks during slow times.

Quality Manager—Quality Manager is a tool that records calls. Quality Manager randomly selects calls throughout the day to be recorded, or you can select specific calls to record. This tool also creates standardized score sheets to help determine how well the agent handled the call. Quality Manager is a great coaching tool designed to make the help-desk experience more satisfying for the caller.

Cisco Unified CCX is a powerful application. Through its strong scripting engine, easy-to-use desktops, extensive reporting tools, and sophisticated workforce optimization, it can successfully operate even the most complicated corporate help desks. The next several sections of this document will guide you through the process of installing and configuring Cisco Unified CCX in a Unified CM environment.

Deployment Details

Cisco Unified CCX runs on the same Linux operating systems as several other Unified Communications platforms from Cisco. You install the operating system with the application by using the standard installation DVD. This document leverages the largest server configuration, which supports up to 300 agents, 32 supervisors, 120 email agents, and 150 contact service queues. Other servers support smaller numbers; you can find details for each type in the Unified CCX data sheet.

For a quick and easy installation experience, it is essential to know up-front what information you will need. For Unified CCX, make sure you have completed the following steps before you start:

- If you are installing Unified CCX on a new virtual machine (VM), download the Open Virtualization Archive (OVA) file from the Cisco website at: http://www.cisco.com/cisco/software/release.html?mdfid=270569179&softwareid=283733053
- Check the Cisco website to determine if there is a patch for your version of Unified CCX: http://www.cisco.com/cisco/software/release.html?mdfid=270569179&flowid=5217&softwareid=280840578

Make sure you have the following information available:

- Time zone for the server
- Host name, IP address, network mask, and default gateway
- Domain Name System (DNS) server IP addresses
- Administrator ID and password
- Organization and unit
- Location, state, and country
- Network Time Protocol (NTP) server IP addresses
- Security password
- Application username and password

Process

Preparing Server Hardware

1. Prepare a virtual machine
2. Prepare a standalone server

You can deploy Cisco Unified CCX on a virtual machine or on a standalone server depending on your preferred option. The steps for each type of installation are listed below.

Procedure 1 Prepare a virtual machine

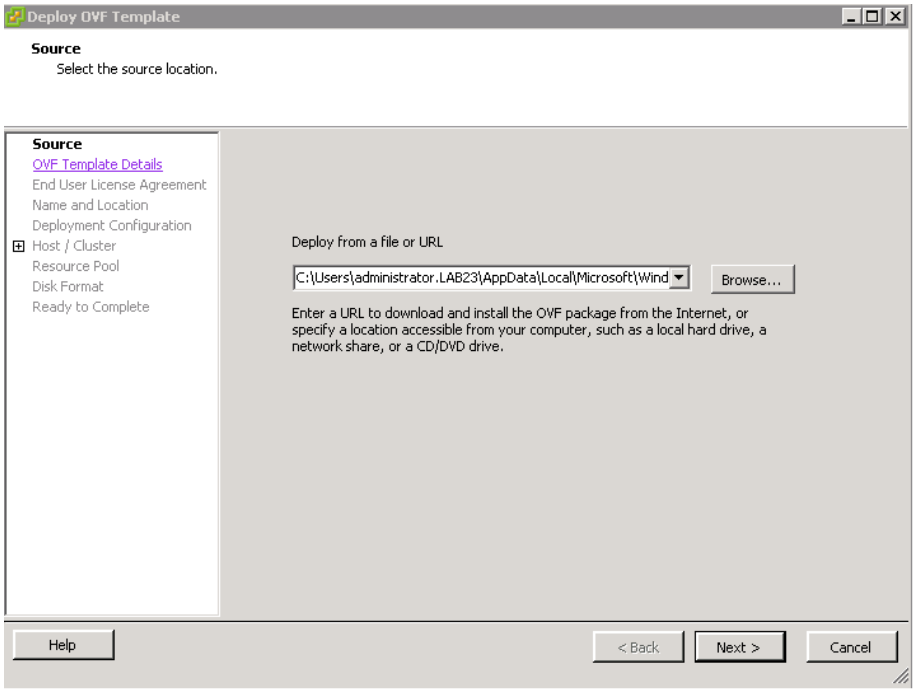
When you install Cisco Unified CCX on VMware, follow the steps below to deploy an OVA file to define the virtual machine requirements. You use the Open Virtualization Format (OVF) support of VMware to import and deploy the OVA file.

The Cisco Unified CCX OVA file defines the following virtual machine:

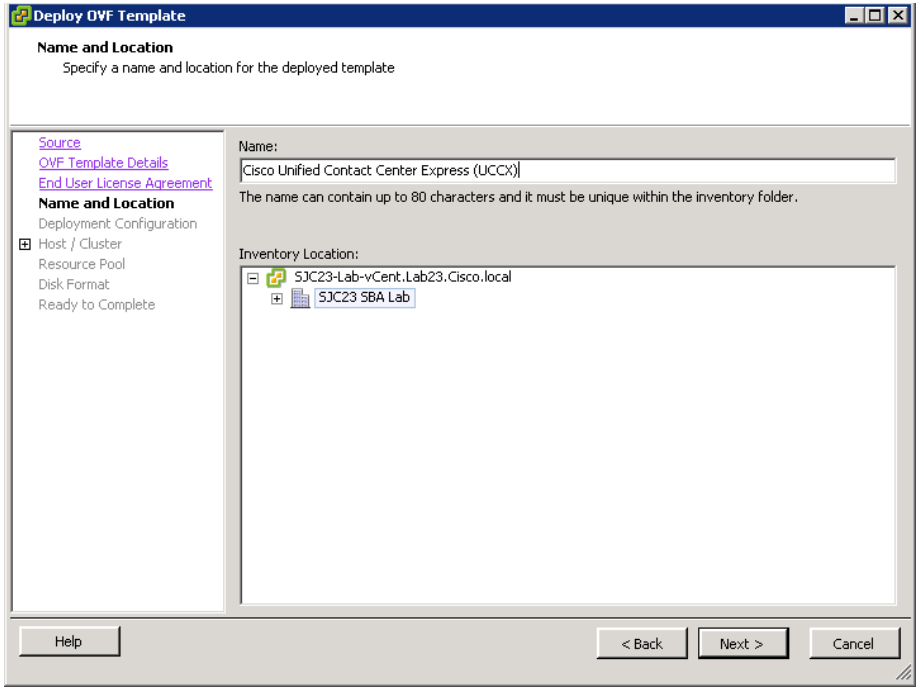
- Number of virtual CPUs—2 (minimum of Nehalem-class CPU)
- Amount of RAM—4 GB
- Hard disks—2 x 146 GB (contains aligned partitions for the Unified CCX application)
- ESXi support—ESXi 4.0 (VM version 7)
- OS support—Red Hat Enterprise Linux 4 (32-bit)

Step 1: In the VMware vSphere client, choose **File** > **Deploy OVF Template**. The client imports the OVA file.

Step 2: Click the **Browse** button next to the **Deploy from a file or URL** box, find the location of the OVA file that you downloaded from Cisco, and then click **Next**.

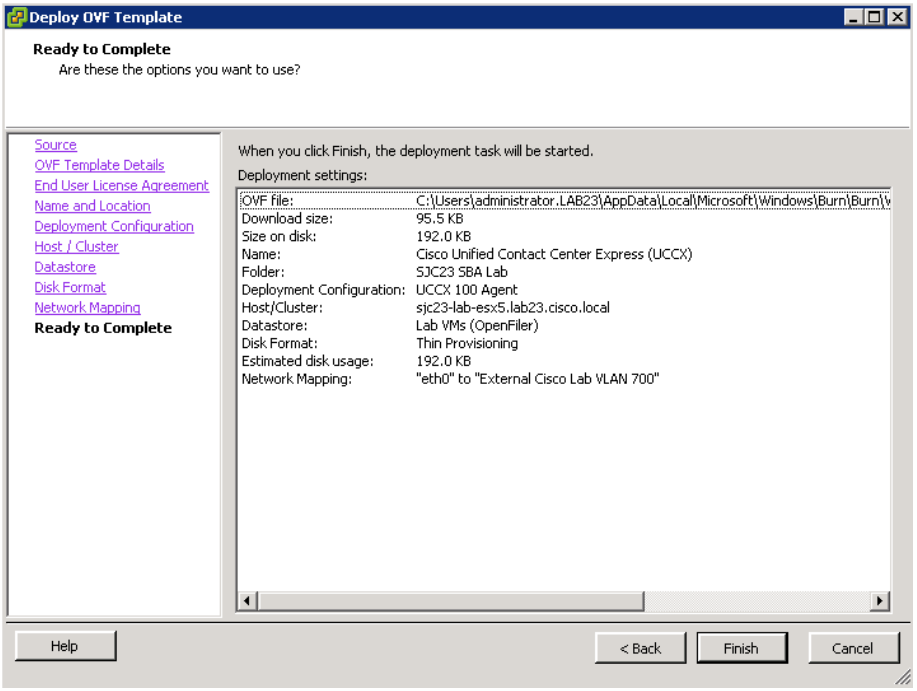


Step 3: Enter the virtual machine name, and then choose the physical server and the data store.



Step 4: On the next several screens, select the site-specific settings that will work for your environment.

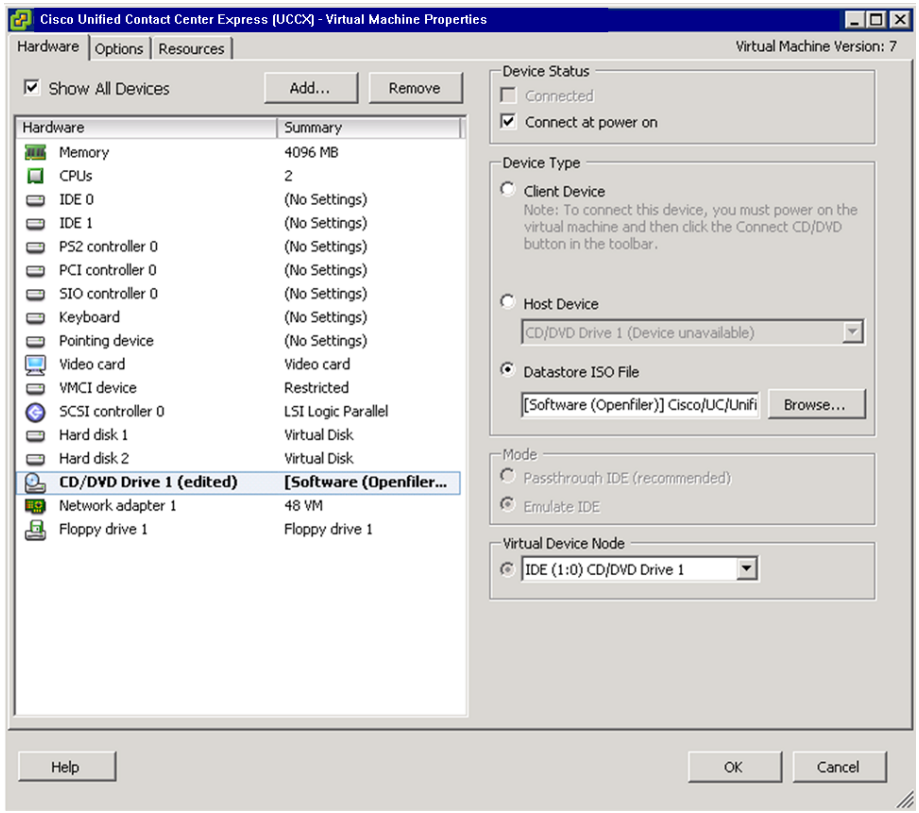
Step 5: Verify the settings, and then click **Finish**.



Step 6: After the virtual machine is created, on the **Getting Started** tab, choose **Edit virtual machine settings**.

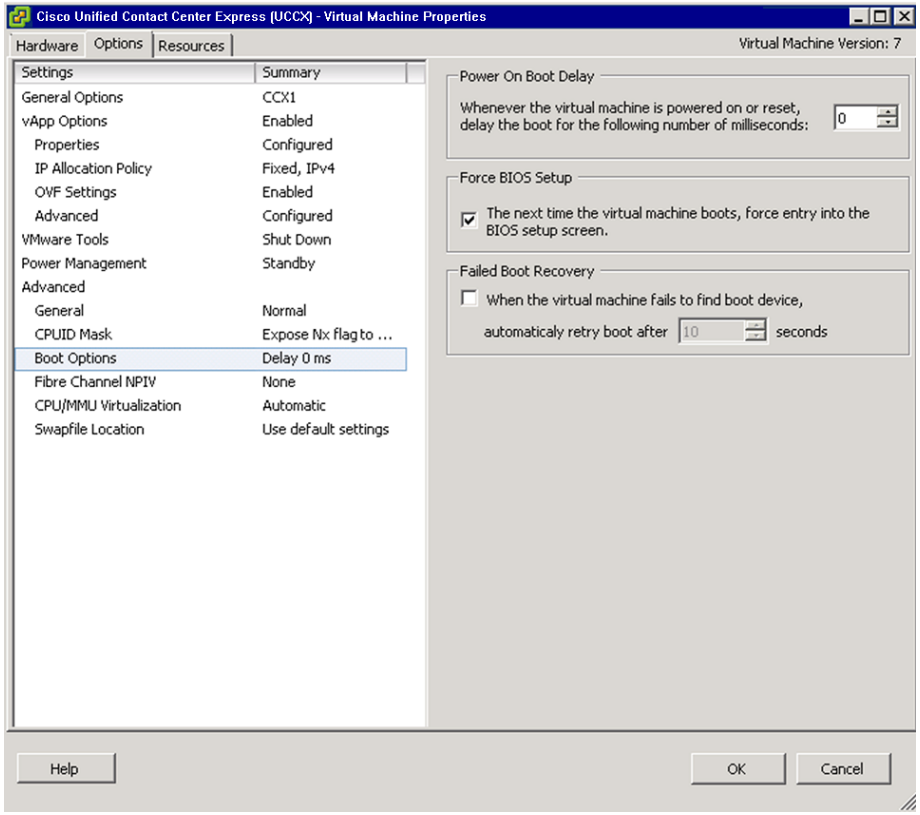
Step 7: On the Hardware tab, select **CD/DVD Drive 1**.

Step 8: Select the **Datastore ISO File** radio button, click **Browse**, and then navigate to the location of the Cisco Unified CCX bootable installation file.



Step 9: On the **Options** tab, choose **Boot Options.**

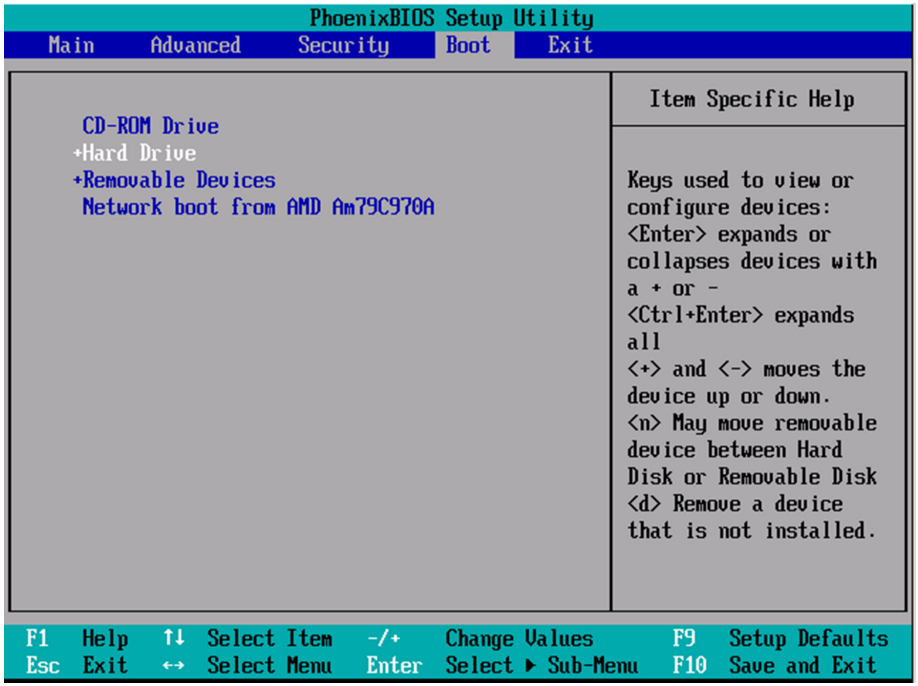
Step 10: Select the **The next time the virtual machine boots, force entry into the BIOS setup screen** check box, and then click **OK**.



Step 11: On the **Getting Started** tab, choose **Power on the virtual machine**, and then click the **Console** tab to watch the server boot

Step 12: After the machine boots into the PhoenixBIOS Setup Utility, use the right arrow key to move to the **Boot** tab.

Step 13: Edit the boot order with the + and - keys to make CD-ROM Drive the first item and Hard Drive the second.



Step 14: To save the BIOS settings, press the **F10** key.

Step 15: To complete the installation, follow the procedures in "Installing and Setting Up Cisco Unified CCX,"

Procedure 2 Prepare a standalone server

When installing Cisco Unified CCX on a standalone server, use the system requirements listed below.

- RAM—4 GB
- Hard disks—2 x 146 GB
- OS support—Red Hat Enterprise Linux 4 (32-bit)

Step 1: Insert the bootable DVD into the drive, and then reboot the server.

Step 2: After the DVD loads, follow the procedures in "Installing and Setting Up Cisco Unified CCX" to complete the installation.

Process

Installing and Setting Up Cisco Unified CCX Software

1. Install the software
2. Set up application administration

Procedure 1 Install the software

The following steps will be the same whether you are installing in a virtual environment or on a standalone server.

Step 1: On the DVD Found screen, choose to perform a media check by choosing **Yes**.

Step 2: If the media check is successfully completed, choose **OK** in order to continue with the installation process. If the media check does not pass, contact Cisco Technical Assistance Center or your local representative to replace the media.

Step 3: On the Product Deployment Selection page, choose **OK**.

Step 4: On the Proceed with Install page, verify that the version is correct, and then choose **Yes**.

Step 5: On the Platform Installation Wizard page, choose **Proceed**.

Step 6: On the Apply Patch page, do one of the following:

If no upgrade patch exists for the version you are installing, choose **No**.

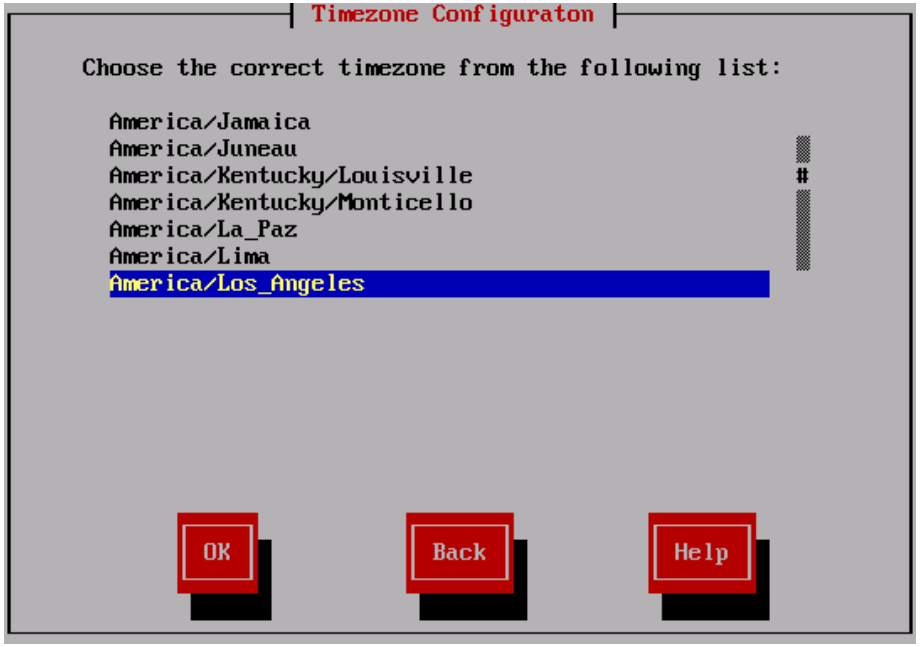
If there an upgrade patch does exist, choose **Yes**, and then follow the instructions on the screens to complete the process.

Step 7: On the Pre-existing Configuration Information page, choose **Continue**.

Step 8: On the Platform Installation Wizard page, choose **Proceed**.

Step 9: On the Basic Install page, choose **Continue**.

Step 10: On the Timezone Configuration page, choose the correct time zone for the server location, and then choose **OK**.

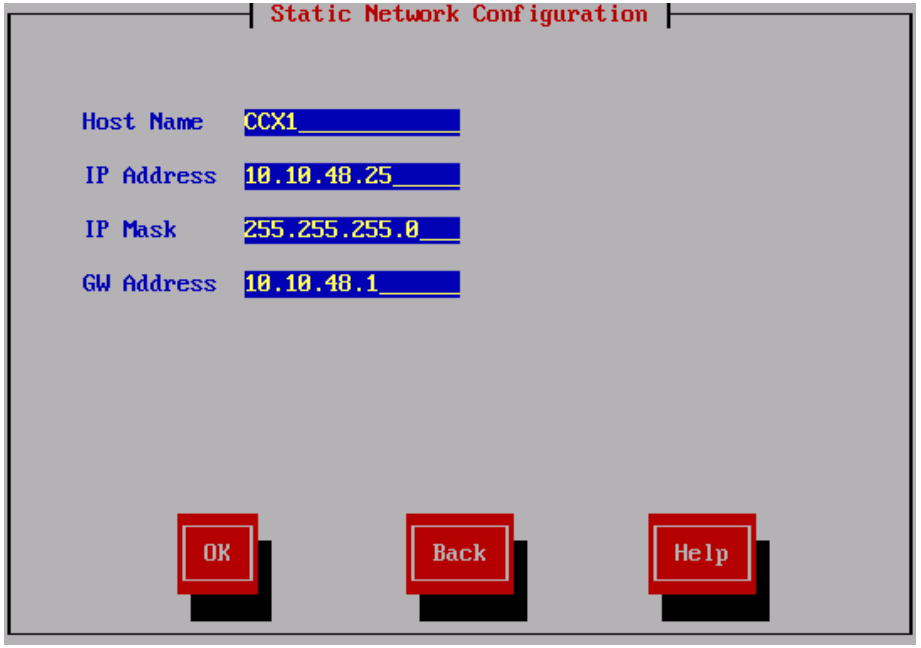


Step 11: On the Auto Negotiation Configuration page, choose **Yes**.

Step 12: On the MTU Configuration page, choose **No**. This keeps the default maximum transmission unit (MTU) size.

Step 13: On the Static Network Configuration page, enter the following information, and then choose **OK**.

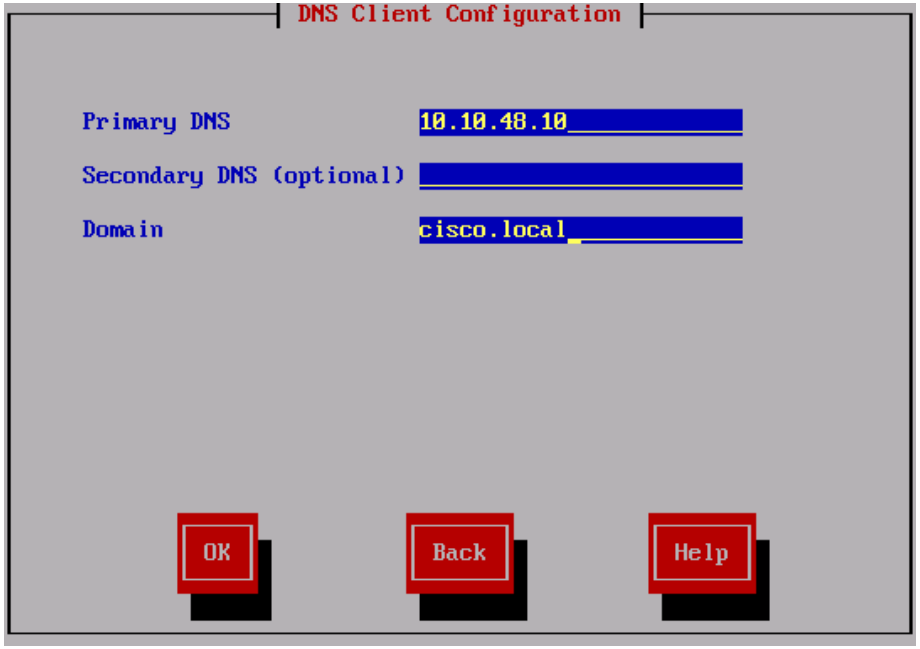
- Host Name—CCX1
- IP Address—10.10.48.25
- IP Mask—255.255.255.0
- GW Address—10.10.48.1



Step 14: On the first DNS Client Configuration page, click **Yes**.

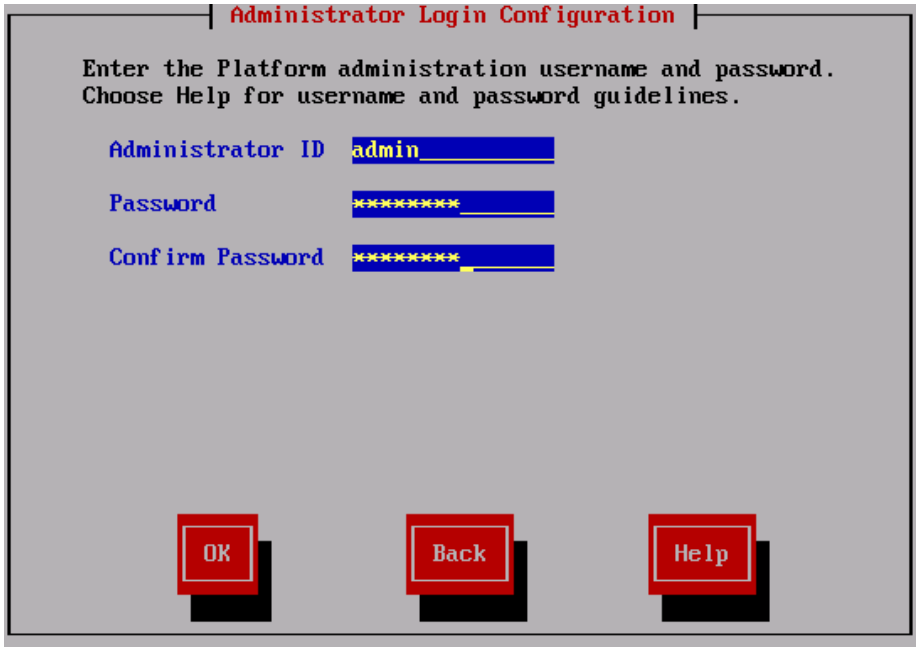
Step 15: On the second DNS Client Configuration page, enter the following information, and then choose **OK.**

- Primary DNS—10.10.48.10
- Domain—cisco.local



Step 16: On the Administrator Login Configuration page, enter the following information, and then choose **OK**.

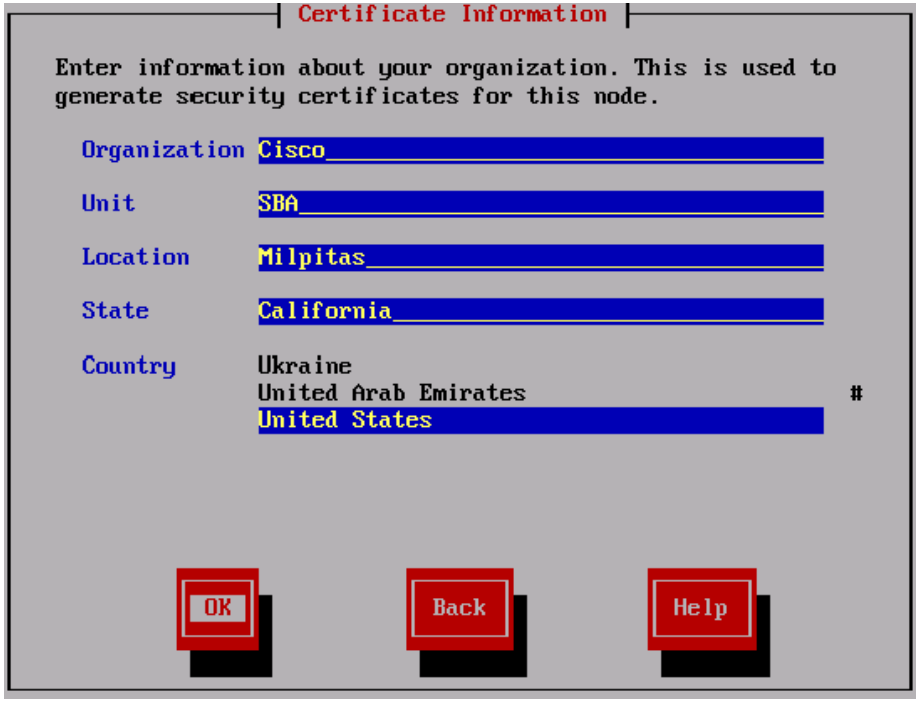
- Administrator ID—admin
- Password—[password]
- Confirm Password—[password]



Step 17: On the Certificate Information page, enter the information that will be used to generate security certificates, and then choose **OK**.

Tech Tip

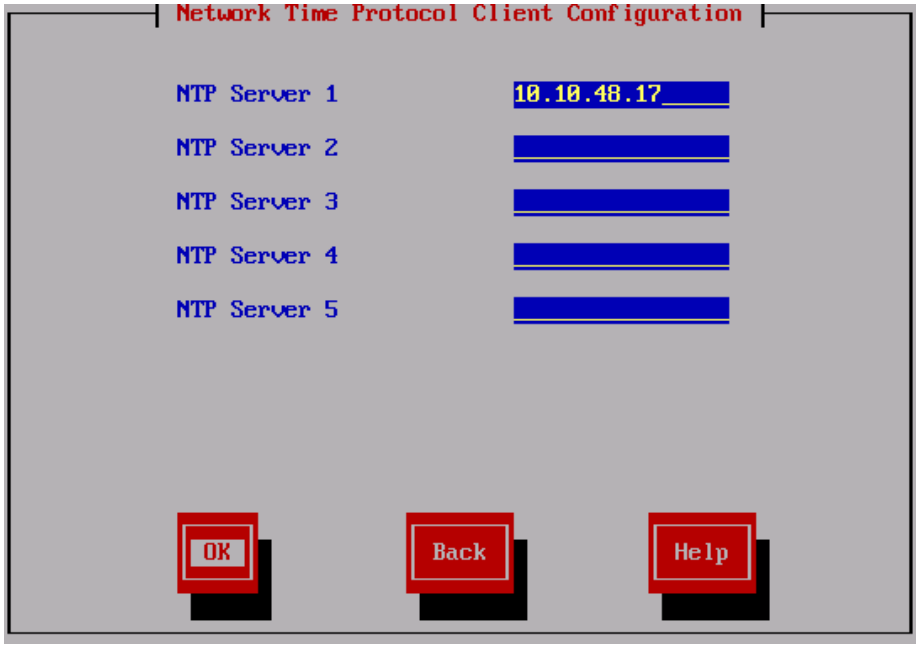
These fields must match the information submitted to Cisco, or the licenses will not be valid.



Step 18: On the First Node Configuration page, choose **Yes**.

Step 19: On the Network Time Protocol Client Configuration page, enter the following information, and then choose **OK**.

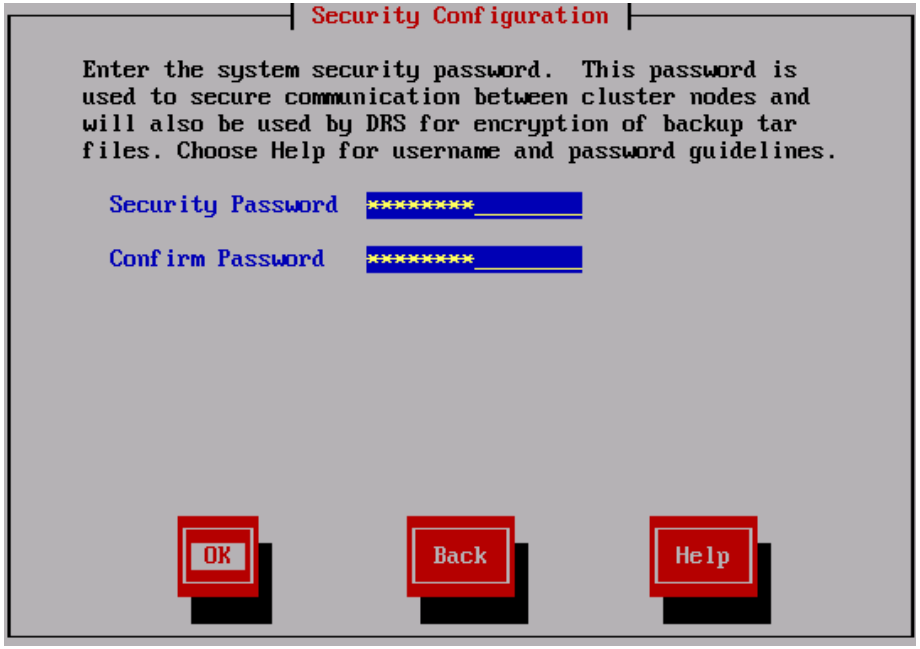
- NTP server 1—10.10.48.17



Step 20: On the Security Configuration page, enter the password for server-to-server communication, and then choose **OK**.

Tech Tip

These passwords must match the information submitted to Cisco, or the licenses will not be valid.



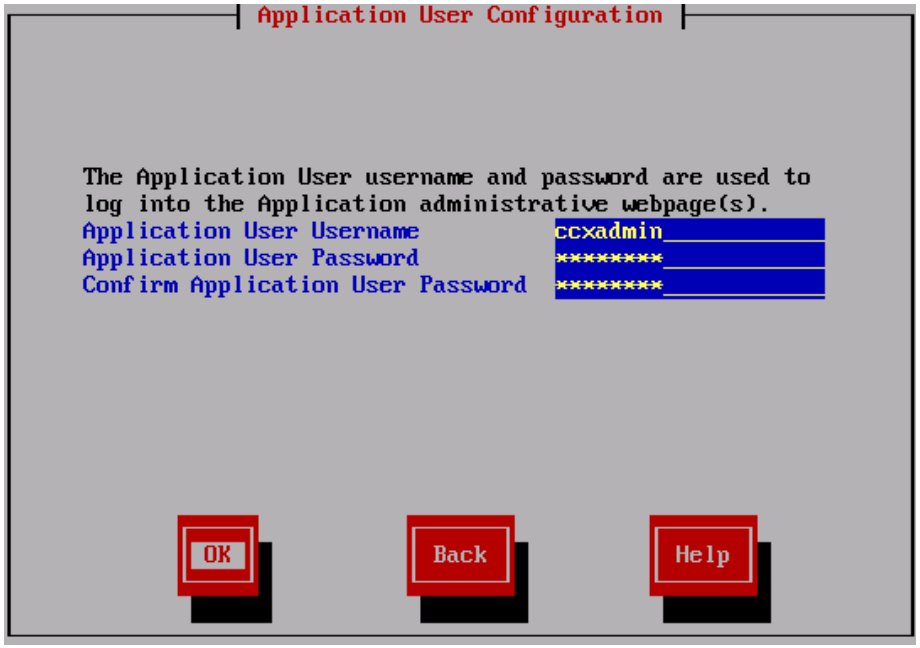
Step 21: If you plan to use Simple Mail Transfer Protocol (SMTP) in your environment, on the SMTP Host Configuration page, choose **Yes**. If you do not plan to use SMTP, choose **No** .

Step 22: On the Application User Configuration page, enter the following information, and then choose **OK**. These values are used to initially access the Cisco Unified CCX Administration page and must match the license information submitted to Cisco.

- Application User Username—ccxadmin
- Password—[password]
- Confirm Password—[password]

Tech Tip

When specific users are given administrative rights during the application setup procedure, the initial username and password will no longer work.



Step 23: On the Platform Configuration Confirmation page, choose **OK**.

Step 24: On the Unified CCX Deployment Type Selection page, choose **Cisco Unified Communications Manager**, and then choose **OK**.

The system will go through the rest of the installation process without user input. The system will reboot a few times during installation. The process will take 30 minutes or more,, depending on your hardware.

Eventually, the server will open the command-line interface (CLI). For access to the CLI, use the administrator credentials entered on the Administrator Login Configuration screen. This interface will not be used for the remaining procedures in this document,, but it is available when needed.

Procedure 2 Set up application administration

After the software is installed, use the web interface to complete the rest of the procedures.

Step 1: Using your PC, access the Cisco Unified CCX Administration interface at: http://ccx1.[yourdomain].com/

Step 2: In the center of the page, click the **Cisco Unified Contact Center Express** link.

Tech Tip

If you receive a warning about the website's security certificate, ignore it and continue to the page.

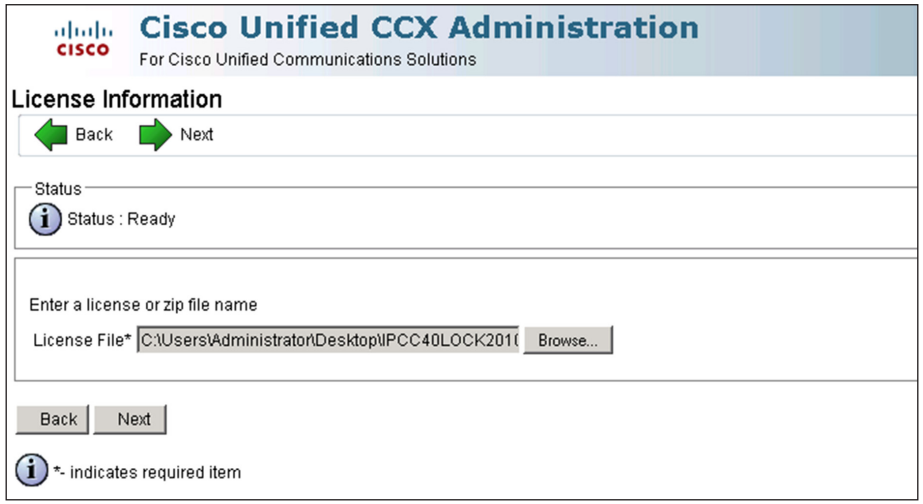
Step 3: Enter the name and password you entered on the Application User Configuration page in Step 22 of Procedure 1, "Install the software", and then click **Login**.

Step 4: Choose Fresh Install, and then click **Next**.

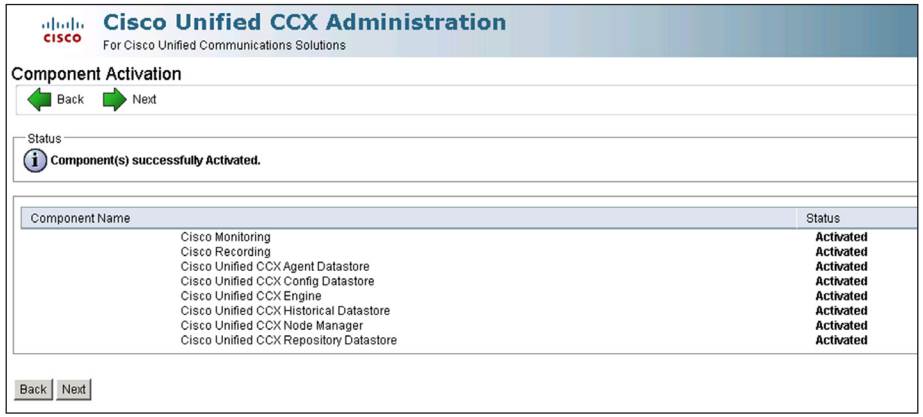
Step 5: On the Service Provider Configuration page, enter the IP address and the administrator username and password of the Cisco Unified CM Publisher.

- Unified CM server IP address—10.10.48.20
- AXL Admin UserName—CUCMAdmin
- Password—[password]: (must match the password on Cisco Unified CM)

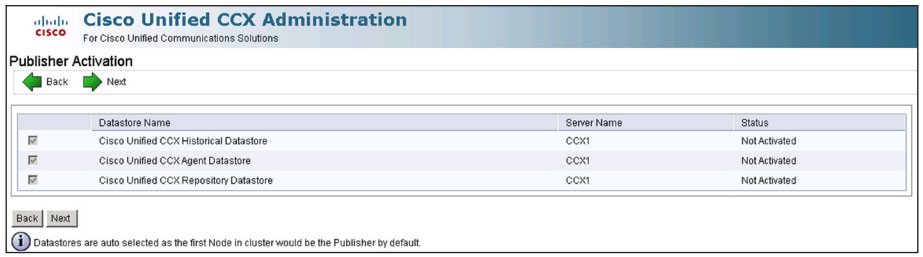
Step 6: Enter the location of the Unified CCX license file received from Cisco, and then click **Next**.



Step 7: After all of the components become activated, click **Next**.



Step 8: After all of the data stores become activated, click **Next**.

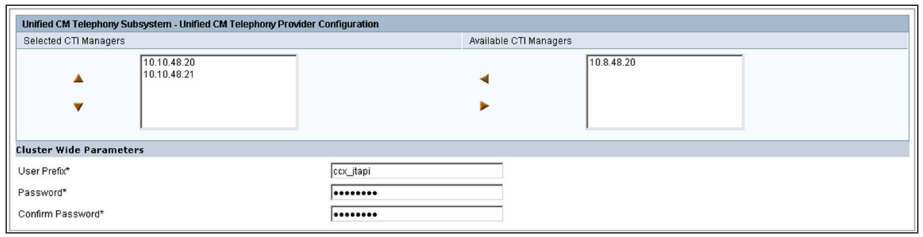


Step 9: On the Cisco Unified CM Configuration page in the Unified CM Telephony Subsystem - Unified CM Telephony Provider Configuration section, under Available CTI Managers, select the Unified CM servers (**10.10.48.20** and **10.10.48.21**), and then click the left-facing arrow to move them under Selected CTI Managers.

Step 10: In the Cluster Wide Parameters section, enter the following information:

- User Profile—**ccx_jtapi**
- Password—**[password]**
- Confirm Password—**[password]**

Unified CCX will send this information to the Unified CM server, and the application user will be created automatically.

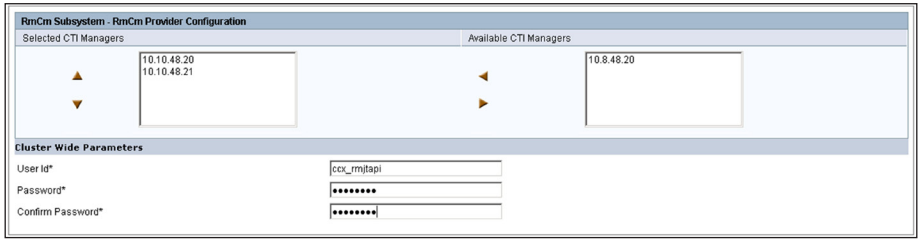


Step 11: In the RmCm Subsystem - RMCm Provider Configuration section, under Available CTI Managers, select the Unified CM servers (**10.10.48.20** and **10.10.48.21**), and then click the left-facing arrow to move them under Selected CTI Managers.

Step 12: In the Cluster Wide Parameters section, enter the following information, and then click **Next**.

- User Profile—**ccx_rmjtapi**
- Password—**[password]**
- Confirm Password—**[password]**

Unified CCX will send this information to the Unified CM server, and the application user will be created automatically.

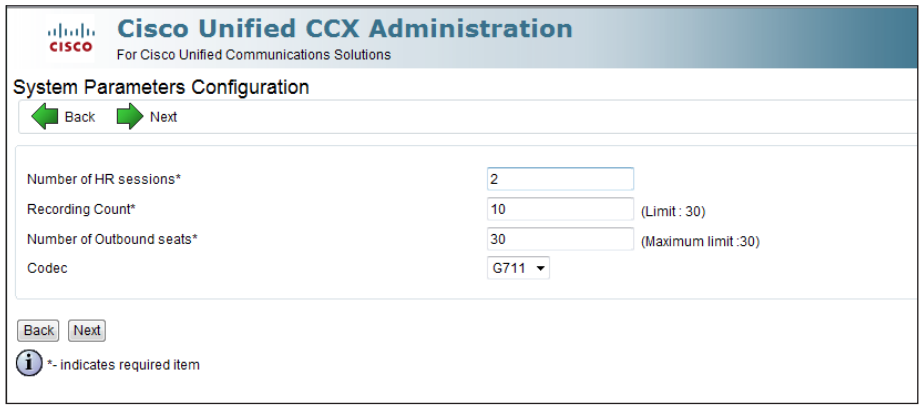


Step 13: On the System Parameters Configuration page, enter the following information, and then click **Next**:

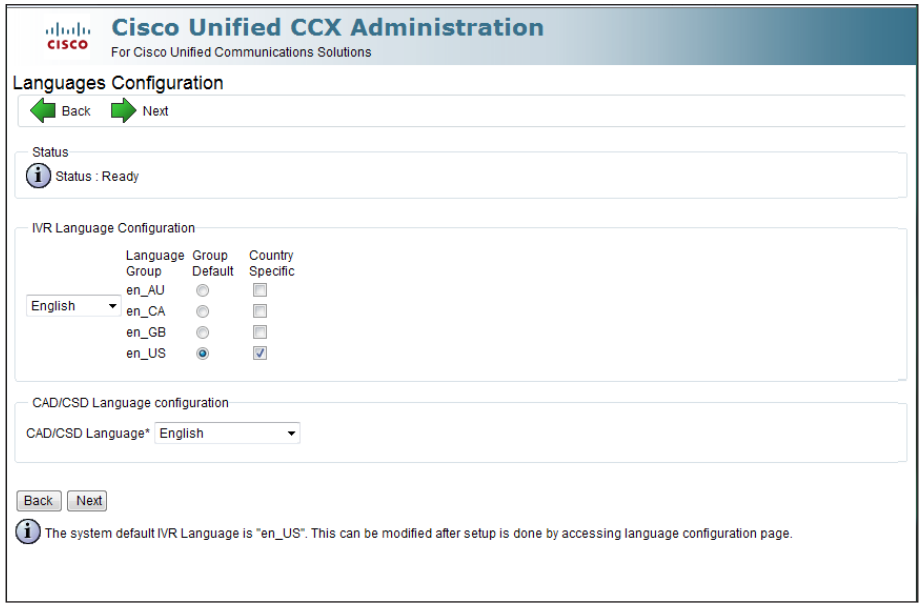
- Number of HR sessions—2
- Recording Count—10
- Codec—G.711

Tech Tip

For historical reporting of the number of HR sessions, use the maximum number of supervisors or administrators who will be running Unified CCX reports at the same time. For the Recording Count, enter the maximum number of concurrent ad-hoc recording sessions.



Step 14: On the Language Configuration page, enter the language that will be used for default IVR prompts as well as for the Cisco Agent Desktop and the Cisco Supervisor Desktop, and then click **Next**.



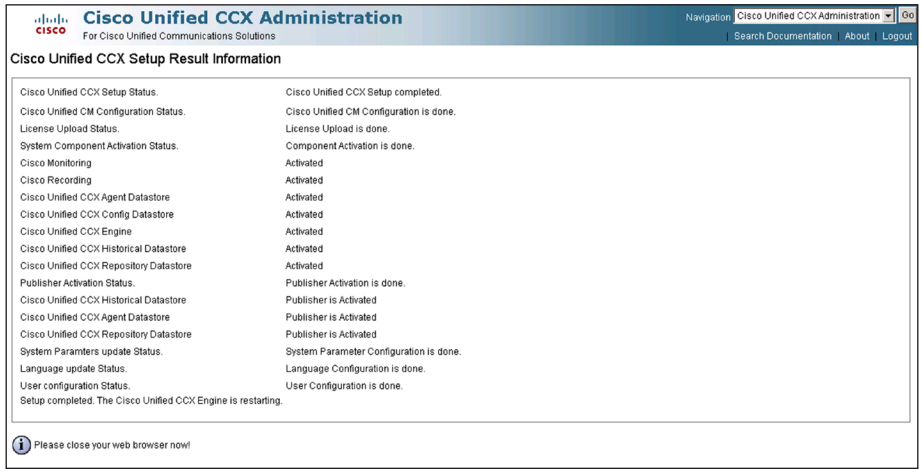
Step 15: On the Desktop Client Configuration Tool message, click **OK**.

Step 16: On the User Configuration page, configure the users who will need administrative rights on Unified CCX, and then click **Finish**.

Tech Tip

Make sure you give your own account administrator rights. After you give one of the Unified CM users administrator rights, the admin user account created during installation will not work.

The initial application administration setup is now complete.



Notes

Process

Configuring Helpdesk

1. Create the call control group
2. Create skills
3. Assign skills to contact service queues
4. Create resources
5. Configure the user's phone or extension
6. Assign skills to resources
7. Create the supervisors and teams
8. Create scripts and applications
9. Add a trigger
10. Create and upload the prompts

After you configure the application, your next task is to configure the help desk to allow the system to begin taking calls from end users.

Procedure 1 Create the call control group

A call control group creates a group of computer telephony integration (CTI) ports on Cisco Unified CM that are used to send calls to Unified CCX for IVR treatment and queuing. The call stays on the CTI port until it is sent to an agent.

Step 1: Navigate to **Subsystems** > **Cisco Unified CM Telephony** > **Call Control Group**.

Step 2: On the Cisco Unified UM Telephony Call Control Group search page, click **Add New**.

Step 3: Enter the following information, and then click **Add** at the bottom of the page:

- Description—Unified CM Telephony Group
- Number of CTI ports—4 (This is the maximum number of allowed calls, plus the maximum number of calls in the queue at one time.)
- Media Termination Support—No
- Group Type—Inbound
- Device Name Prefix—CTIP (This will be the first part of the CTI port device names in Unified CM.)
- Starting Directory Number—2010 (This will be the directory number of the first CTI port in this group. The rest of the ports will be assigned sequential, increasing directory numbers.)
- Device Pool—Default
- DN Calling Search Space—CSS_Base
- Location—Hub_None
- Partition—PAR_Base

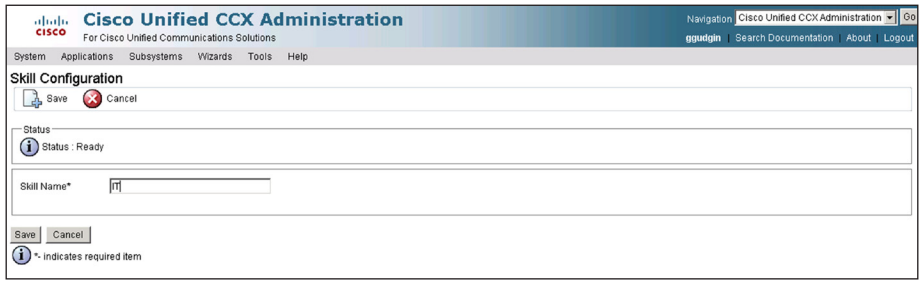
Leave the rest of the fields at their default settings.

Procedure 2 Create skills

Step 1: Navigate to **Subsystems** > **RmCm** > **Skills**.

Step 2: On the Skills search page, click **Add New**.

Step 3: On the Skill Configuration page, enter **IT**, and then click **Save**.



Step 4: On the Skills search page, click **Add New**.

Step 5: On the Skill Configuration page, enter **HR,** and then click **Save**.

Step 6: To create additional skills, repeat Step 2 and Step 3.

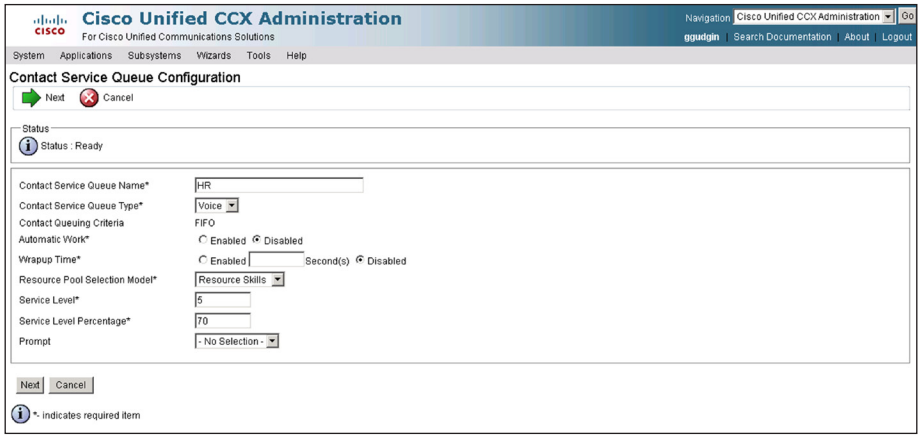
Procedure 3 Assign skills to contact service queues

Step 1: Navigate to **Subsystems** > **RmCm** > **Contact Service Queues**.

Step 2: On the Contact Service Queues search page, click **Add New**, and create two contact service queues (CSQs), one for the: **IT** skill and one for the **HR** skill.

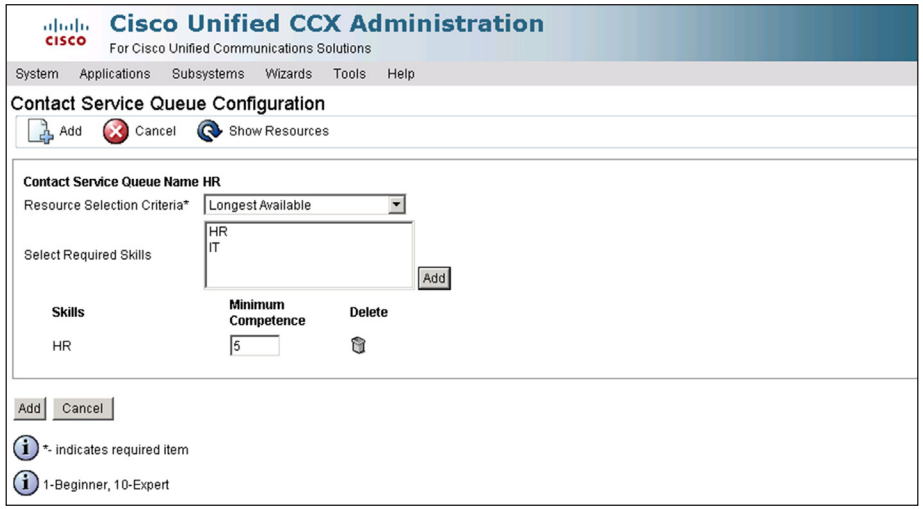
Step 3: On the first Contact Service Queue Configuration page, enter the following information, and then click **Next**:

- Contact Service Queue Name—**HR**
- Contact Service Queue Type—**Voice**
- Automatic Work—**Disabled**
- Wrap-up Time—**Disabled**
- Resource Pool Selection Model—**Resource Skills**
- Service Level—**5** (seconds)
- Service Level Percentage—**70**
- Prompt—**No Selection**



Step 4: On the second configuration page, enter the following, and then click **Add** at the bottom of the page:

- Resource Selection Criteria—Longest Available
- Select Required Skills—HR (and then next to the window, click **Add**)
- Minimum Competence—5



Procedure 4 Create resources

Perform the next two procedures on your Cisco Unified CM platform.

Step 1: From your browser, access the Unified CM Administration interface at: http://cucm1.[yourdomain].com/

Step 2: In the center of the page, click the **Cisco Unified CM Administration** link.

Tech Tip

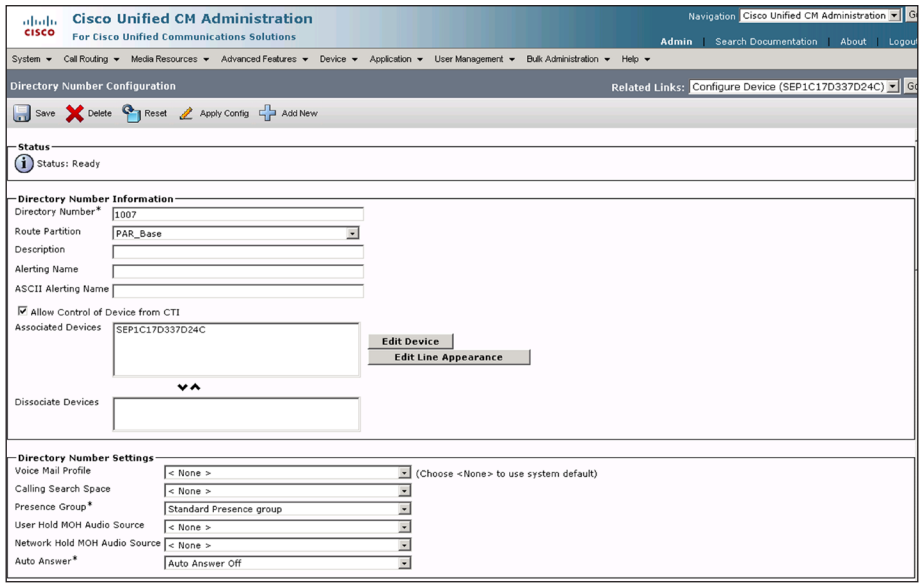
If you receive a warning about the website's security certificate, ignore it and continue to the page.

Step 3: Enter the administrator username and password for Unified CM, and then click **Login**.

Step 4: Navigate to **Device** > **Phone**, and on the Find and List Phones search page, click **Find**. If the agent phone is found, double-click it to proceed to the next page. If the phone does not yet exist, click **Add New**, and then create the phone.

Step 5: On the Phone Configuration page, click **line [1]** to add Unified CCX information for the specific line on the phone.

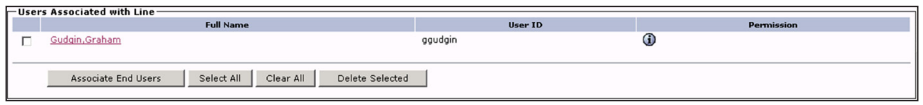
If this is a new phone, fill out the other fields on the Directory Number Configuration page that are important to your environment.



Step 6: Scroll down to the bottom of the page, and click **Associate End Users**. On the Find and List Users screen, click **Find**, and then choose the appropriate user for this line by selecting the check box next to their name

Step 7: Click **Add Selected** and you will return to the previous page.

Step 8: Scroll down to the bottom of the Directory Number Configuration screen, select the check box to the left of the user's name, and then click **Save**.



Procedure 5 Configure the user's phone or extension

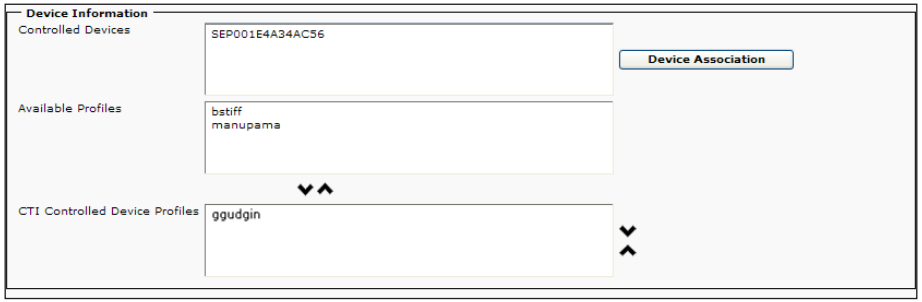
Step 1: Navigate to **User Management > End User**, and on the Find and List Users search screen, click **Find**. Select the user who you want to make an agent, and then click the user ID.

Step 2: On the End User Configuration page for that user, scroll down to the Device Information section, and then click **Device Association**.

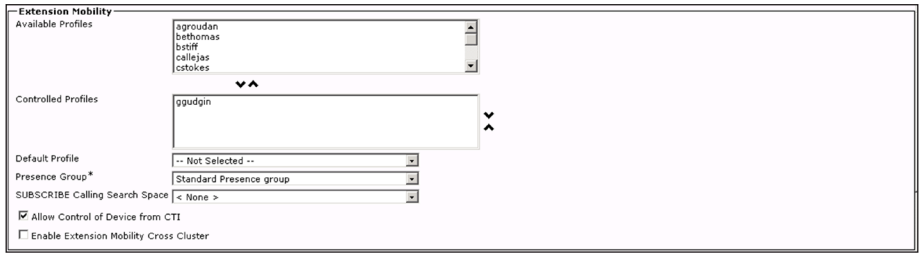
Step 3: From the User Device Association search page, click **Find**.

Step 4: Search for the agent device. The easiest way to search is by directory number. Select the check box next to the agent's phone, and then click **Save Selected/Changes**.

Step 5: In the upper-right corner of this page in the Related Links drop down list, select **Back to User**, and then click **Go**.



Step 6: On the End User Configuration page, scroll down to the Extension Mobility section. Ensure that the **Allow Control of Device from CTI** check box is selected.



Step 7: Scroll down to the Directory Number Associations section, set the IPCC Extension to the agent directory number that you created in the previous procedure, and then click **Save**.

Procedure 6 Assign skills to resources

Each Cisco Unified CM user added to Unified CCX shows up automatically as a resource. Using the resource list on the Cisco Unified CCX Administration page, you can assign skills to resources, making resources available to answer calls in particular CSQs.

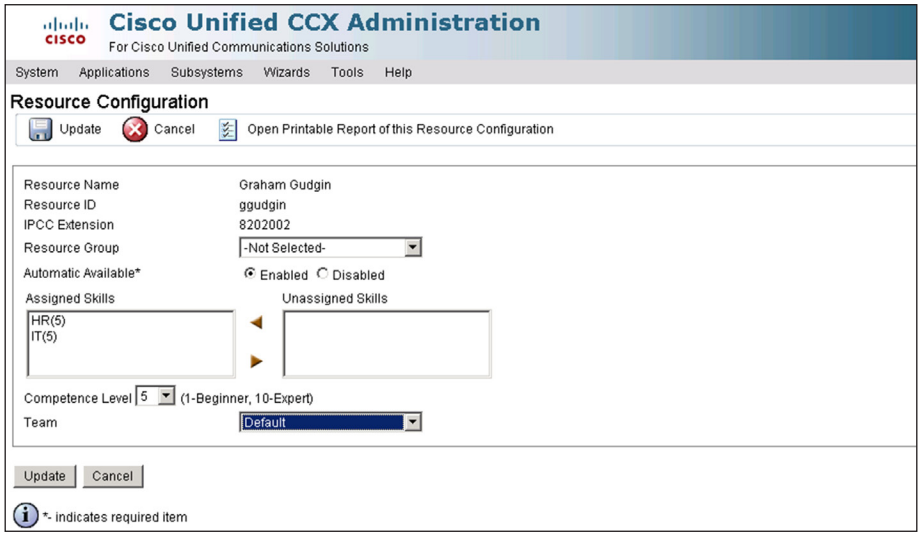
Step 1: Using your browser, access the Unified CCX Administration interface at: http://ccx1.[yourdomain].com/

Step 2: In the center of the page, click the **Cisco Unified Contact Center Express** link.

Step 3: Enter the name and password of one of the users who was assigned administrative rights to Unified CCX, and then click **Login**.

Step 4: From the Unified CCX Administration main page, navigate to **Subsystems > RmCm > Resources**. On the Resources search page, select the resource to which you want to add a skill, and then click the resource name.

Step 5: On the Resource Configuration page, in the Unassigned Skills field, select the skill that you want to assign, and then choose the competency level.



Step 6: Click the left arrow to move the skill to the Assigned Skills field.

Step 7: Choose a resource group, and then click **Update**. The skill is assigned to the resource.

Procedure 7 Create the supervisors and teams

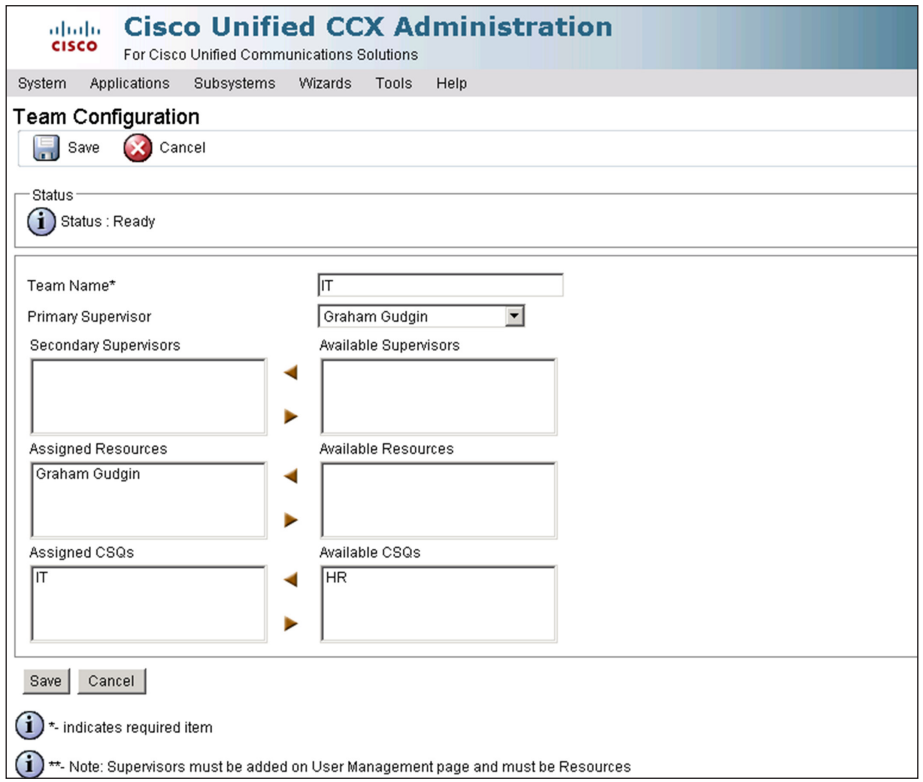
The first step in building a team is to create a supervisor. A supervisor has a full view of a team's performance and can monitor the agents by using the Cisco Supervisor Desktop.

Step 1: Navigate to **Tools > User Management > Supervisor Capability View**.

Step 2: On the Available Users field on the User Configuration page, select the user you want to designate as a supervisor, click the left arrow, and then click **Update**.

Step 3: Navigate to **Subsystems > RmCm > Teams**. On the Team search page, click **Add New**.

Step 4: On the Team Configuration page, enter a team name.



Step 5: In the Primary Supervisor list, choose the person who is going to be the supervisor of this team. The list only contains the names of supervisors you previously created.

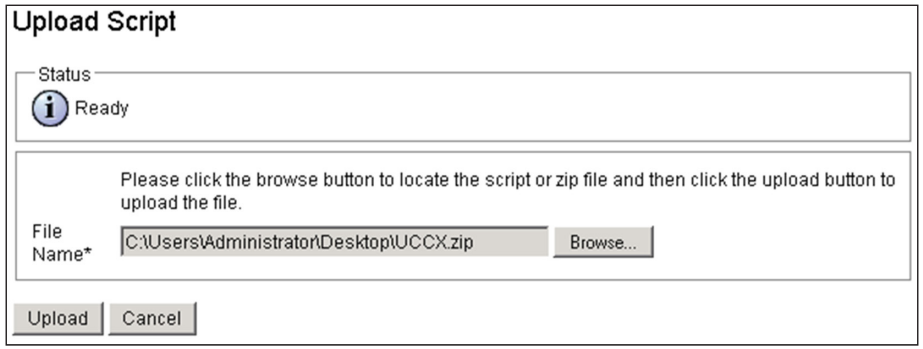
Step 6: Assign resources to this team by selecting their names from the **Available Resources** field and clicking the left arrow.

Step 7: Assign queues to the team by selecting their names from the **Available CSQs** field and clicking the left arrow, and then click **Save**.

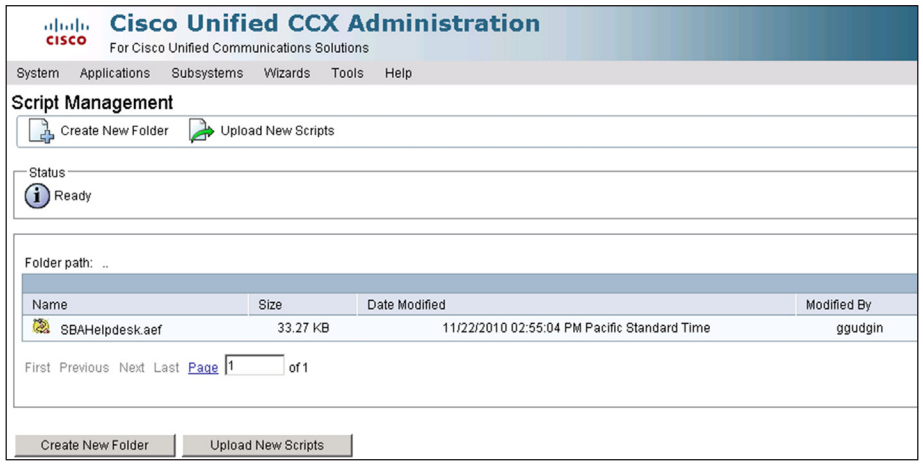
Procedure 8 Create scripts and applications

Step 1: Navigate to **Applications > Script Management**. On the Script Management search page, click **Upload New Scripts**.

Step 2: Enter the location of the script to be used, and then click **Upload**.

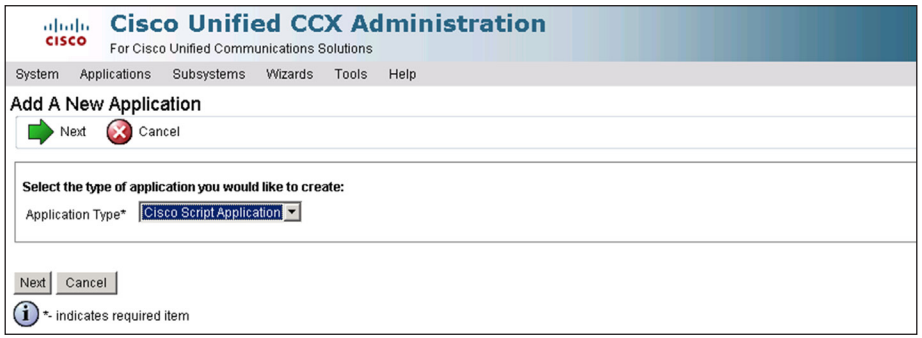


Step 3: After the file is uploaded, click **Return to Script Management**.

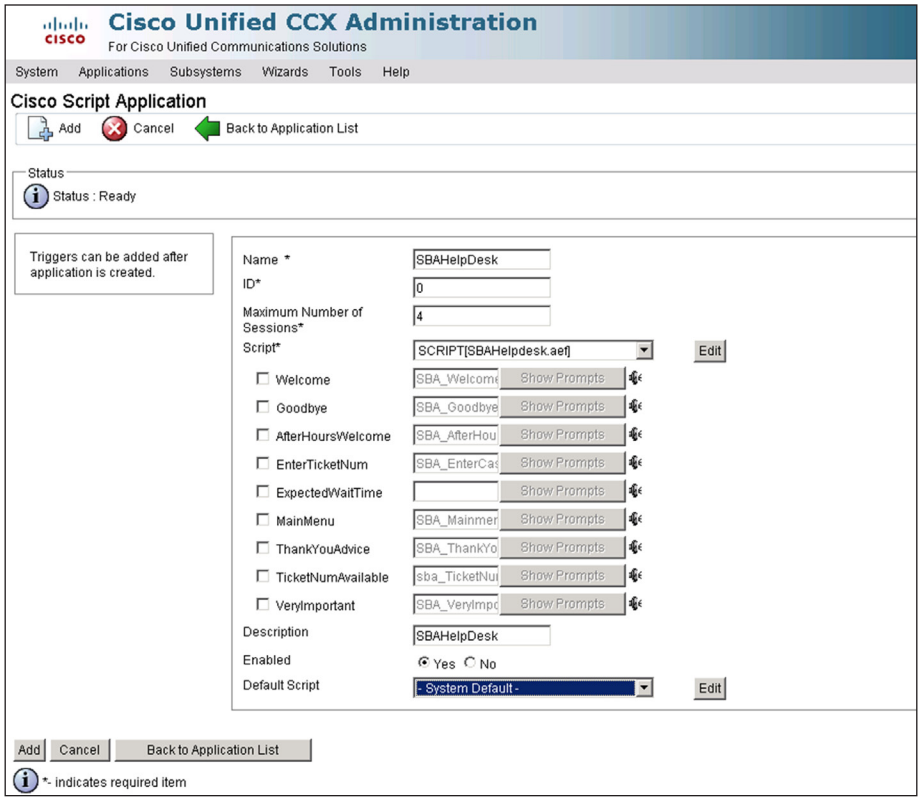


Step 4: Navigate to **Applications > Application Management**. On the Application Management search page, click **Add New**.

Step 5: On the Add A New Application page, select an application type of **Cisco Script Application**, and then click **Next**.



Step 6: Enter a name of your choosing.



Tech Tip

Do not modify the ID field. Its value is generated automatically.

Step 7: In the Maximum Number of Sessions field, enter the maximum number of calls that should be able to access this application concurrently.

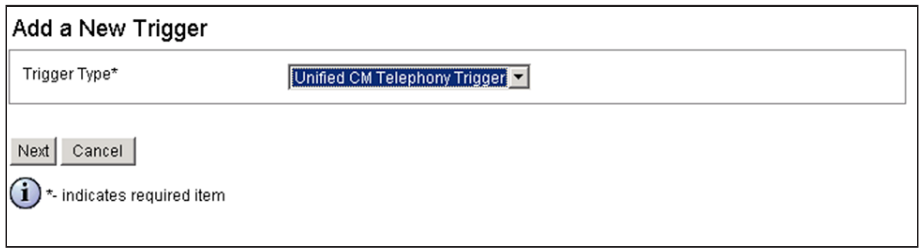
Step 8: In the Script list, choose the uploaded script for this application. Parameter variables may appear, depending on the script you select, but you can ignore them for now.

Step 9: Under Enabled, select the **Yes** radio button, and then click **Add**.

Procedure 9 Add a trigger

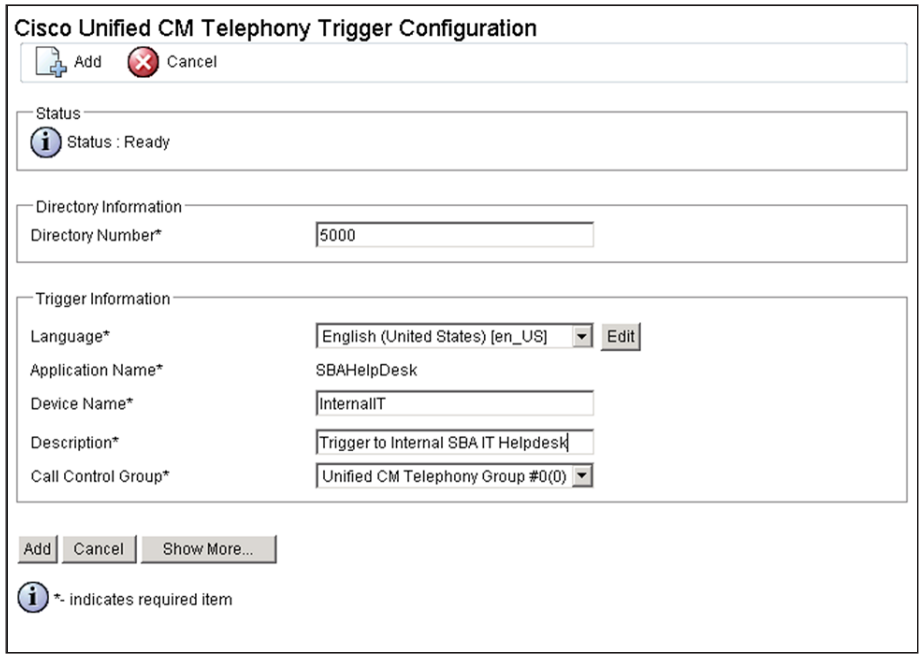
Step 1: In the upper-left corner of the page, click **Add New Trigger**.

Step 2: In the Trigger Type drop-down list, choose **Unified CM Telephony Trigger**, and then click **Next**.



Step 3: On the Cisco Unified CM Telephony Trigger Configuration page, enter the following information:

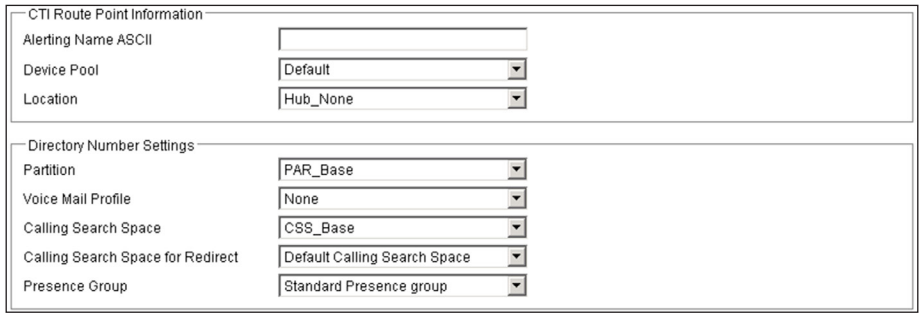
- Directory Number—5000 (This is the extension for the CTI Route Point that will be automatically created in Unified CM to call this application.)
- Language—English (United States)
- Device Name—InternalIT
- Description—Trigger to Internal SBA IT Helpdesk
- Call Control Group—Choose the group of CTI ports you created in Procedure 1



Step 4: Click **Show More,** enter the following information, and then click **Add**:

- Device Pool—**Default**
- Location—**Hub_None**
- Partition—**PAR_Base**
- Calling Search Space—**CSS_Base**

Leave the other fields at their defaults



Step 5: From a new browser window, access the Cisco Unified CM Administration interface at: http://cucm1.**[yourdomain]**.com/

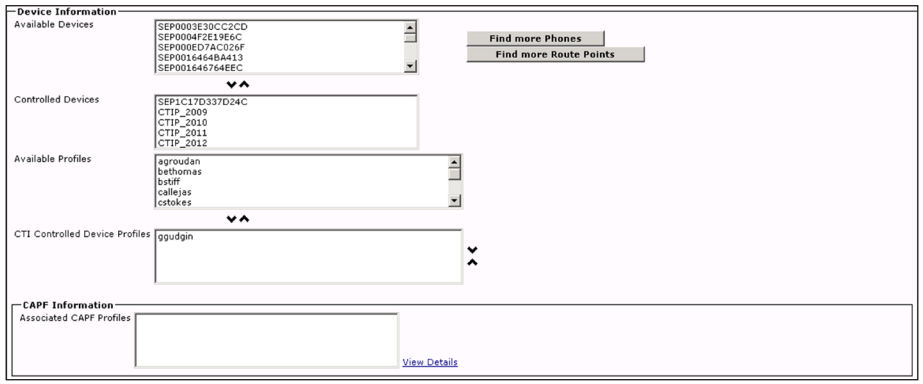
Step 6: In the center of the page, click the **Cisco Unified CM Administration** link.

Step 7: Enter the administrator username and password for Unified CM and then click **Login**.

Step 8: Navigate to **User Management** > **Application User**.

Step 9: On the Application User search page click **Find,** and then select the ccx_rmjtapi application user.

Step 10: On the Application User Configuration page, scroll down to the Device Information section. In the Available Devices field, select the agent phone, the CTI ports, and the CTI route point, click the down arrow, and then click **Save.** They will be added to the list of controlled devices.



Reader Tip

For more information about configuring Unified CM, see the Solution Reference Network Design (SRND) at this location: http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_implementation_design_guides_list.html

Procedure 10 Create and upload the prompts

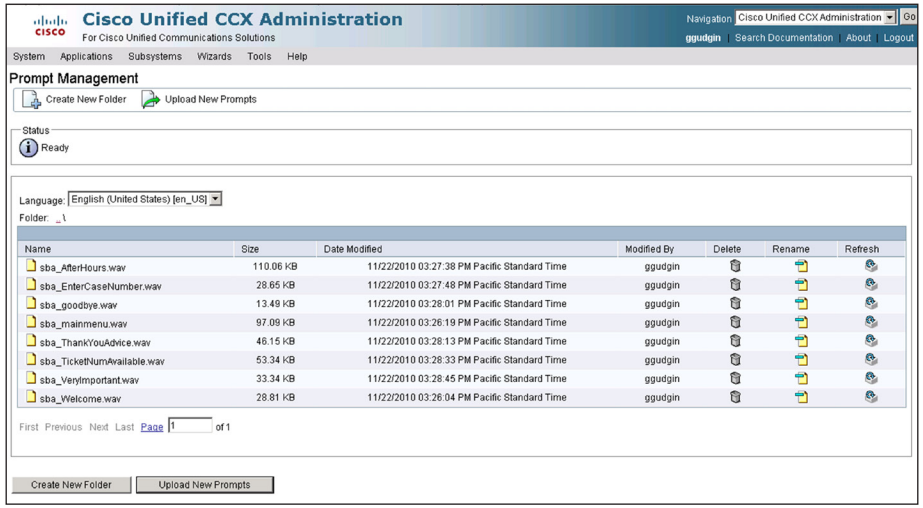
Prompts are played to the customers when they call. You must record prompts as .wav files and save them in a location reachable by the PC accessing the Cisco Unified CCX Administration page.

Step 1: Return to the Cisco Unified CCX Administration main page.

Step 2: Navigate to **Applications** > **Prompt Management**, and then click the **en_US** folder.

Step 3: After the folder opens, click **Upload Prompts**.

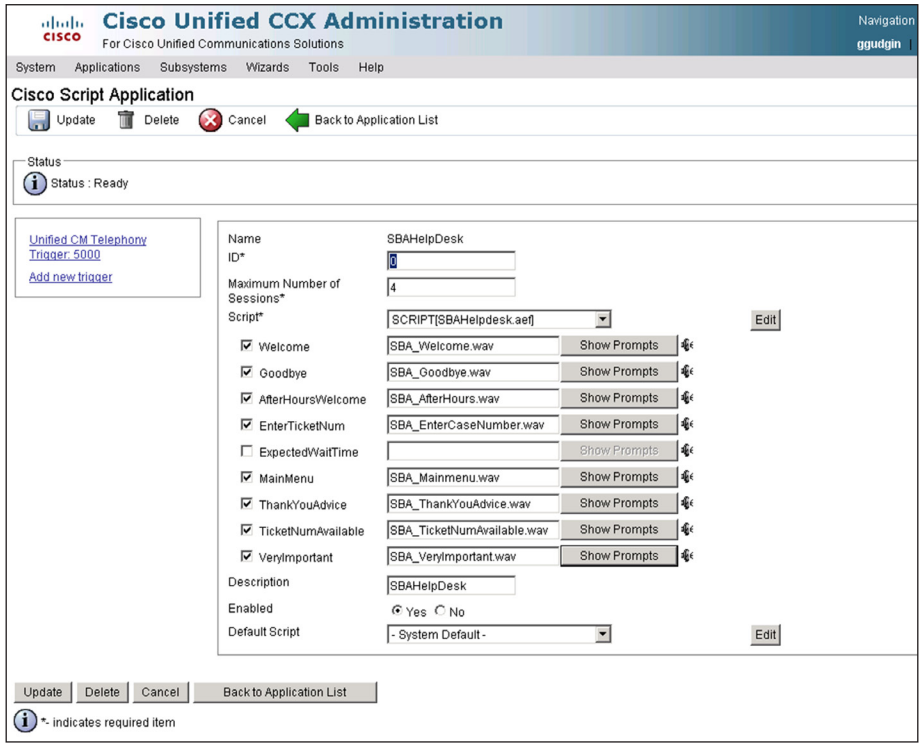
Step 4: Browse to the prompt, select it, and then click **Upload**. The file is transferred to the server, and the new prompt appears in the specified folder in the list of prompts.



Step 5: For each of the prompts you need, repeat Step 3 and Step 4.

Step 6: Navigate to **Applications** > **Application Management**, and click the application that you created in Procedure 8.

Step 7: Click **Show Prompts**, and for each prompt variable in the application script, choose the appropriate prompt. Click **Update**.



Process

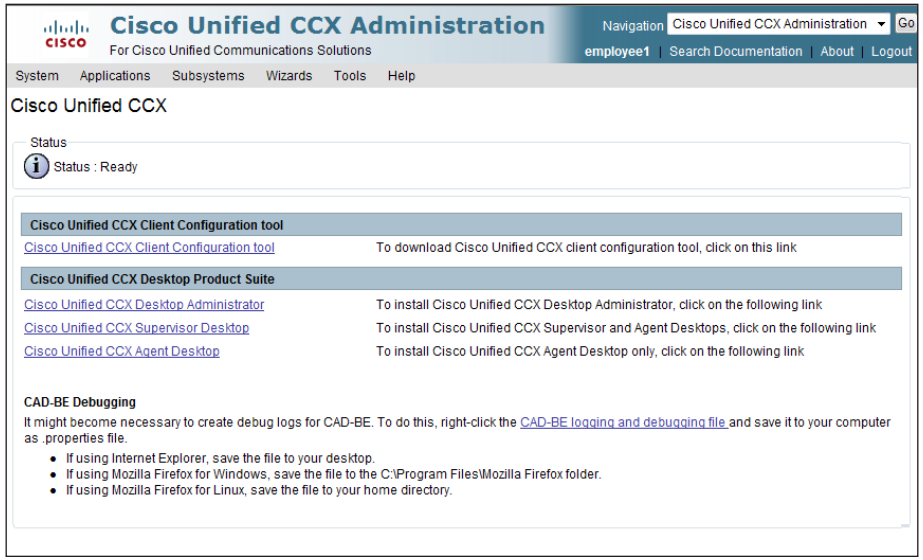
Setting Up the Client Software

1. Download the client
2. Configure reason codes
3. Set up caution and warning levels

In this process, you download Cisco Agent Desktop, Cisco Supervisor Desktop, and Cisco Desktop Administrator clients from the server to a user's PC. You can download these applications to any PC that has network access to the server through the Cisco Unified CCX Administration page.

Procedure 1 Download the client

Step 1: Navigate to **Tools > Plug-ins**, and then click **Cisco Unified CCX Desktop Suites**.

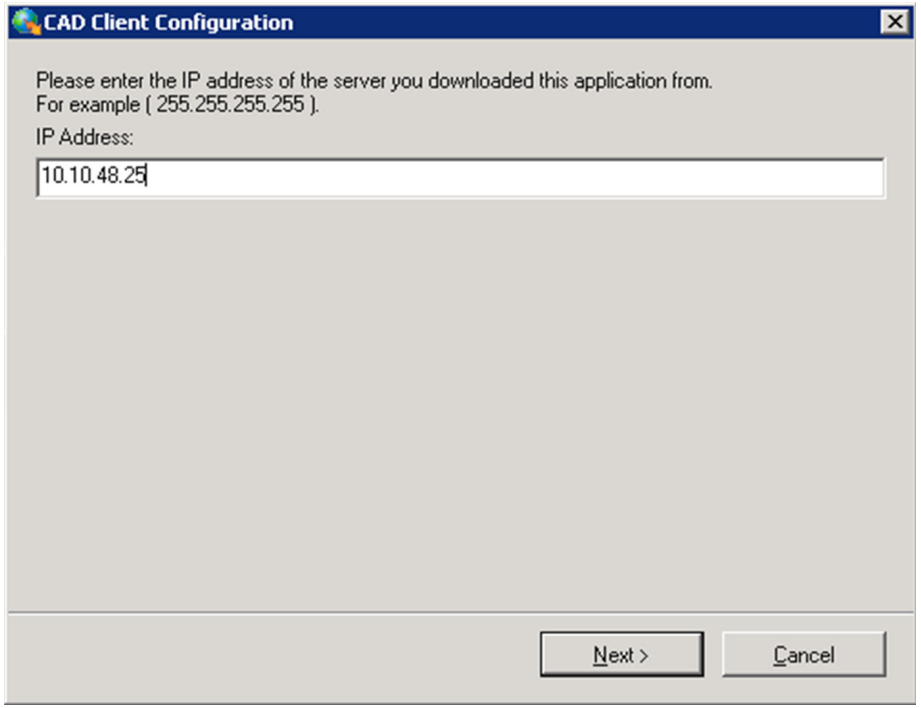


Tech Tip

Because this is the first time you're downloading the desktop applications, you must run the Cisco Unified CCX Client Configuration Tool. You only have to do this once per installation or upgrade.

Step 2: Click **Cisco Unified CCX Client Configuration Tool**.

Step 3: On the **CAD Client Configuration** page, enter **10.10.48.25** (the IP address of the Unified CCX server), and then click **Next**.



The Client Configuration wizard then configures the desktop applications into a format that can be downloaded by users of the system. After the wizard is finished, it returns to the download page of Unified CCX Administration.

Step 4: Under Cisco Unified CCX Desktop Product Suite, click **Cisco Unified CCX Workflow Administrator**, and then follow the installation prompts.

Step 5: After installing Workflow Administrator, click the link for the type of desktop that is appropriate for this end user's role, and then follow the installation prompts.

Tech Tip

Install either the supervisor or agent desktop on a particular PC, but not both. The Supervisor Desktop installation includes both the agent and supervisor applications. The Agent Desktop installation includes only the agent application.

After downloading the software, the user will be able to use the desktop applications.

Procedure 2 Configure reason codes

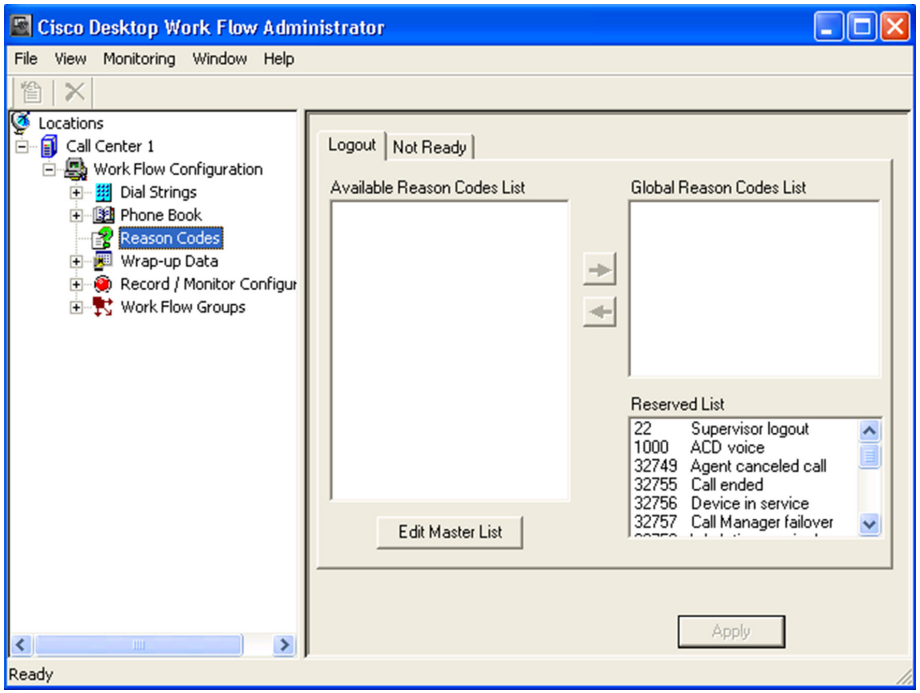
Reason codes are used to identify the different tasks an agent may be doing before and after taking a call.

Step 1: Navigate to **Start > Programs > Cisco > Desktop > Admin**, and then click **Cisco Desktop Workflow Administrator**.

Tech Tip

The default path to the application on your hard drive is as follows: **C:\Program Files\Cisco\Desktop\bin\SplkView.exe**

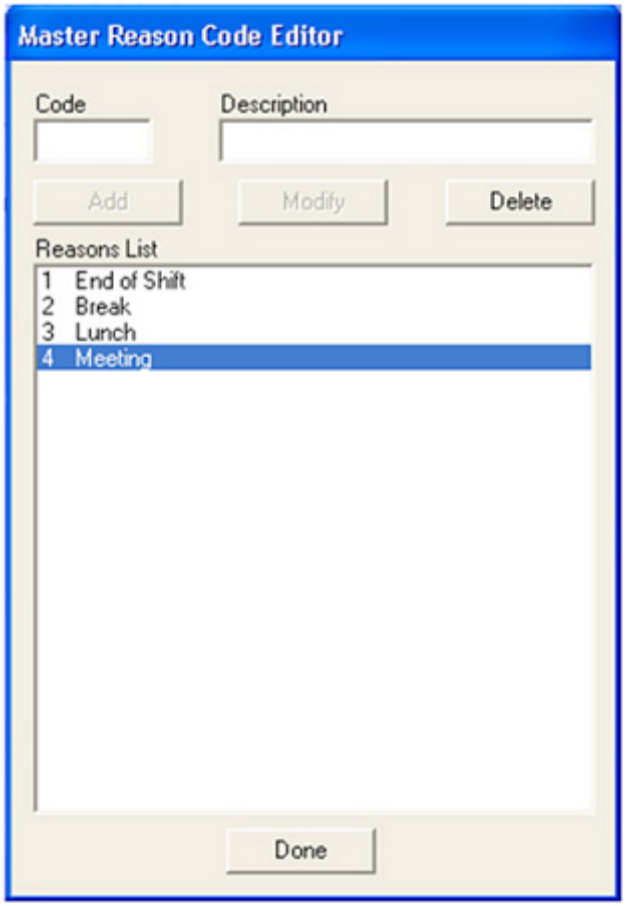
Step 2: Navigate to **Call Center 1 > Work Flow Configuration > Reason Codes**. A screen appears in the right panel of the application window.



Step 3: Click **Edit Master List**.

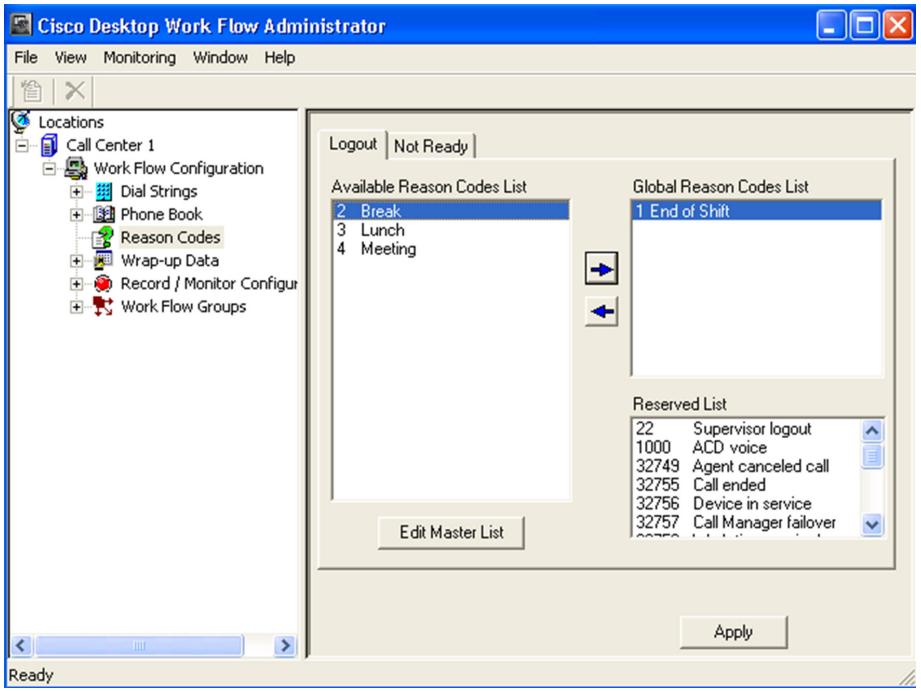
Step 4: On the **Master Reason Code Editor** page, enter the following information, and then click **Add**:

- Code—0 to 999 (Each reason must have a unique number.)
- Description—Describe the reason code.

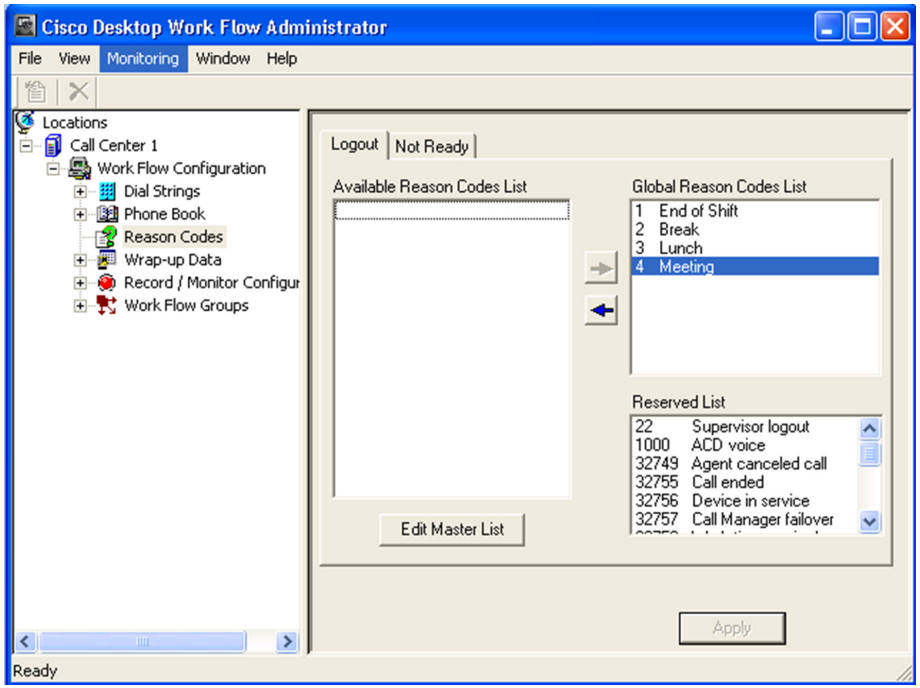


Step 5: To add more reasons, repeat Step 4, and then click **Done**.

Step 6: After you have created the master reason list, on the **Logout** tab, select the appropriate reasons for logging out, and then click the right arrow to make them available.



Step 7: On the **Not Ready** tab, select the appropriate reasons that an agent might not be ready, and then click the left arrow to make them available. Click **Apply**.

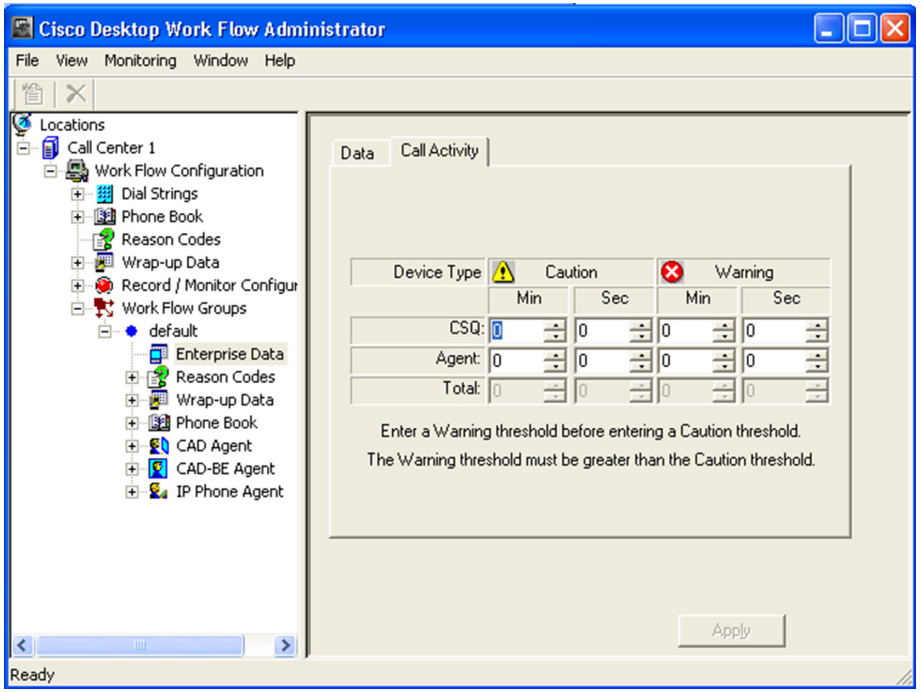


Procedure 3 Set up caution and warning levels

Caution and warning levels are thresholds set up by the administrator to let call center agents know when the call is going on longer than what is ideal for the given call center. You set the thresholds by using Cisco Desktop Workflow Administrator.

Step 1: Navigate to **Call Center 1** > **Work Flow Configuration** > **Work Flow Groups** > **Enterprise Data**.

Step 2: On the **Call Activity** tab, specify the time thresholds for the CSQ (time the caller was in queue) and agent (time the caller has been speaking to the agent), and then click **Apply**.



The baseline helpdesk configuration is now complete.

Appendix A: Product List

The following products and software versions have been validated for the Cisco Smart Business Architecture.

Functional Area	Product	Part Numbers	Software Version
Unified Contact Center Express Servers	Cisco Unified Contact Center Express—MCS 7835	MCS-7835-I3-CCX1	8.5.1
	UCS Virtual Server	UCS-C200M2-VCD2	ESXi 4.1
Unified Communications Manager Servers	Cisco Unified Communications Manager—MCS 7835	MCS7835I3-K9-CMD1 (2 required)	8.6.2
	Cisco Unified Communications Manager Business Edition 6000 - UCS C200M2	UCS-C200M2-BE6K	8.6.2
	UCS Virtual Server	UCS-C200M2-VCD2	ESXi 4.1

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