



This lab will guide you through the basics of Unified Contact Center Express (UCCX). It will include the initial integration with Cisco Unified Communications Manager (CUCM), uploading a pre-built script, configuring a basic ACD application, using the IP Phone Agent (IPPA), Cisco Agent Desktop (CAD), and supervisor desktop. We will also take a quick look at the script editor – how to access it, how it is laid out, and how to perform some basic edits.

Since this is a UCCX lab, most (but not all) of the configuration has been pre-built for you on CUCM. Further, the UCCX software has been pre-loaded for you since we assume you are *not* here to spend time waiting for DVD's to load. Lastly before we begin, the system is running in a VMWare environment. This will make the system slower to respond than a production system, so please be patient as you move through the labs. Running Cisco UC applications in a VMWare environment is in fact NOT supported on a production system. VMWare is used here as it makes the lab easier to manage.

As you move through the labs, feel free to explore the options presented on the setup screens but be sure to configure as shown or subsequent labs may fail. So, here we go....

General Lab Info

Server Info:

Name	IP Address	Userid	Password
CUCMPub	192.168.60.10	Administrator	Cisc0123
UCCX7	192.168.60.20	Administrator	ciscocisco

Both CUCM and UCCX can be accessed via a web browser. The userid/password information for UCCX is valid for the initial configuration only.

DHCP is used with a typical configuration of a separate data and voice vlan.

Data: 192.168.60.0/24

Voice: 192.168.61.0/24

User Information:

User	Userid	Primary DN	UCCX DN
Sally Supervisor	Sally	2000	6000
Ann Agent1	Ann1	2001	6001
Andy Agent2	Andy2	2002	6002

Lab 1 – Initial Configuration

Full installation documentation can be found at:

http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_7_0/installation/guide/uccx70ig.pdf

Yes – UCCX 7.0 clients work on Vista (Ultimate, Enterprise and Business Editions)

Step 1 – Access UCCX from a web browser.

The url is: <http://192.168.60.20/appadmin> . Login as Administrator.



The screenshot shows the login interface for the Unified Contact Center Express Administration. At the top, there is a blue header with the text "Unified Contact Center Express Administration" and "For Cisco Unified Communications" on the left, and the Cisco logo on the right. Below the header, the word "Authentication" is written in a large, bold, red font, accompanied by a yellow key icon. The login form consists of two input fields: "User Identification*" with the value "Administrator" and "Password*" with the value "ciscocisco". Below these fields are two buttons: "Log On" and "Cancel". A horizontal line separates the login form from a message that reads: "The Cisco Unified CCX Admin website uses pop-up windows. If you have pop-up blocker software installed, configure it to enable pop-ups for this site." Below this message, there is a note: "* indicates required item" and another note: "Note: please bookmark this page only after successfully logging in."

Step 2 – Cluster setup. Select “Single Node”. Click “Setup”.

The screenshot shows the 'Cisco Unified CCX Administrator Setup' page. At the top, there is a blue header with the text 'Unified Contact Center Express Administration' and 'For Cisco Unified Communications' on the left, and the Cisco logo on the right. Below the header, the main title is 'Cisco Unified CCX Administrator Setup' in a large, bold, red font. Underneath, it says 'Welcome to the Cisco Unified CCX Cluster Setup.' The main content area is yellow and contains the instruction 'Please select the type of Cisco Unified CCX Setup.' followed by a dropdown menu currently set to 'Single Node'. Below this is a 'Setup' button. At the bottom of the yellow area, there is a note: 'Note: Please do not minimize your browser during setup. Just close it after the setup is completed.'

Step 3 – UCCX must have AXL access to CUCM to make updates. You can setup a separate user account on CUCM to be an AXL administrator. For this lab, use the CUCM Administrator account. Click “Next”.

The screenshot shows the 'Cisco Unified CM Configuration' page. At the top, there is a blue header with the text 'Unified Contact Center Express Administration' and 'For Cisco Unified Communications' on the left, and the Cisco logo on the right. Below the header, the main title is 'Cisco Unified CM Configuration' in a large, bold, red font. Underneath, there is a section titled 'Service Provider Configuration' with a dark background. The main content area is yellow and contains three input fields: 'Unified CM Server Host Name or IP address*' with the value '192.168.60.10', 'AXL Admin User Name*' with the value 'Administrator', and 'Password*' with the value 'Cisc0123'. Below these fields, there is a note: '* Indicates required item'. At the bottom of the yellow area, there are two buttons: '<Back' and 'Next>'. The 'Password' field has a small red asterisk next to it, indicating it is a required field.

Step 4 – License installation. Normally, you would have obtained a license key from licensing@cisco.com. For this lab, we have placed the license file on the laptop. The

name is shown below. Browse to the license file and click “Next”.

Unified Contact Center Express Administration
For Cisco Unified Communications

License Information

Add License(s)
Enter a license or zip file name

License File*

*Required..

Step 5 – If you had additional license files, you could keep on adding them. Look for the message “Validation completed” to ensure the license file was accepted. Also, review the warning messages that follow on this screen to familiarize yourself with the impact of some options.

Unified Contact Center Express Administration
For Cisco Unified Communications

License Information

Add License(s)
Enter a license or zip file name

License File

*Required..

License file uploaded to the server successfully, validating license...

Validation completed.

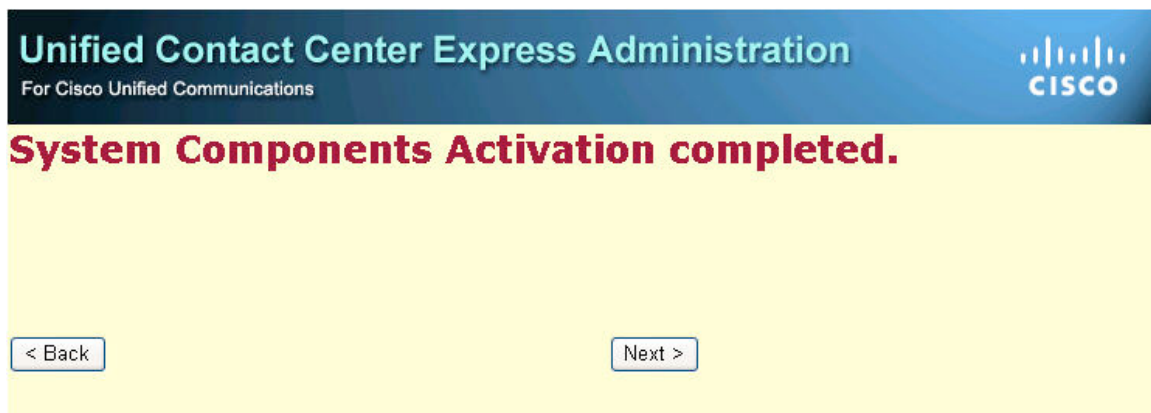
Warning: License package has been changed, please restart the engine for this to take effect.

Click “Next”

Step 6 – After the license validation, the system will retrieve the configuration data. This may take several minutes – *please be patient!*




Step 7 – Click “Next”



Step 8 – Setup AXL Service provider

Unified Contact Center Express Administration

For Cisco Unified Communications



Cisco Unified CM Configuration

Cisco Unified CM Cluster: default

AXL Service Provider Configuration

Selected AXL Service Providers	Available AXL Service Providers
<div style="border: 1px solid gray; padding: 5px;">192.168.60.10</div>	<div style="border: 1px solid gray; height: 40px;"></div>

User Name*

Password*

Cisco Unified CM Telephony Subsystem - Cisco Unified CM Telephony Provider Configuration

Selected CTI Managers	Available CTI Managers
<div style="border: 1px solid gray; height: 40px;"></div>	<div style="border: 1px solid gray; padding: 5px;">192.168.60.10</div>

User Prefix*

Password*

Confirm Password*

RmCm Subsystem - RmCm Provider Configuration

Selected CTI Managers	Available CTI Managers
<div style="border: 1px solid gray; height: 40px;"></div>	<div style="border: 1px solid gray; padding: 5px;">192.168.60.10</div>

User Id*

Password*

Confirm Password*

The UCCX AXL Service Provider Configuration area for a CUCM Cluster setup displays a list of IP addresses of the AXL Service Providers sorted by priority, where the Unified CM Publisher is listed first followed by the Unified CM Subscribers. During the AXL Service Provider Authentication in the Unified CM Cluster deployment, the priority is given to the Unified CM Publisher. If the

CUCM Publisher is offline or not available, the next available CUCM Subscriber is chosen for user authentication. You can also change the priority of the AXL Service Providers, if necessary, by selecting the IP address of an AXL Service Provider in the list and clicking the up and down arrow.

In the AXL Service Provider Configuration area, move the IP address of the CUCM server you want to use from the Available AXL Service Providers list box to the Selected AXL Service Providers list box. The Selected AXL Service Providers list box is pre-populated with the IP address of the server that you specified previously. This is 192.168.60.10 in our case.

Please leave the AXL User Name and Password unchanged. These have been pre-populated for you.

Step 9 – Complete cluster configuration

The screenshot displays the configuration interface for the Cisco Unified CM Telephony Subsystem, divided into three main sections: Cisco Unified CM Telephony Provider Configuration, RmCm Subsystem - RmCm Provider Configuration, and NTP.

Cisco Unified CM Telephony Subsystem - Cisco Unified CM Telephony Provider Configuration

- Selected CTI Managers:** A list box containing the IP address 192.168.60.10. It has up and down arrow controls on its left side.
- Available CTI Managers:** An empty list box with up and down arrow controls on its left side.
- User Prefix*:** A text field containing the value UCCXuser.
- Password*:** A text field containing the value Cisc0123.
- Confirm Password*:** A text field containing the value Cisc0123.

RmCm Subsystem - RmCm Provider Configuration

- Selected CTI Managers:** A list box containing the IP address 192.168.60.10. It has up and down arrow controls on its left side.
- Available CTI Managers:** An empty list box with up and down arrow controls on its left side.
- User Id*:** A text field containing the value RmCmuser.
- Password*:** A text field containing the value Cisc0123.
- Confirm Password*:** A text field containing the value Cisc0123.

NTP

- Host Name or IP Address*:** A text field containing the value 192.168.60.1.

Complete the CTI, RmCm, and NTP section of the configuration screen as shown above. Click “Next”.

Step 10 – System Parameters Configuration

The screenshot shows the 'System Parameters Configuration' screen in the Cisco Unified Contact Center Express Administration interface. The page has a blue header with the title 'Unified Contact Center Express Administration' and the Cisco logo. Below the header, the main content area is yellow and contains the following configuration fields:

- Number of HR session licenses***: A text input field containing the value '1'.
- Recording Count***: A text input field containing the value '1', with '(Limit : 6)' displayed to its right.
- Number of Outbound seats***: A text input field containing the value '6'.
- Codec**: A dropdown menu currently set to 'G711'.

Below the fields, there is a red asterisk note: '* indicates required item'. At the bottom of the form, there are two buttons: '< Back' and 'Next >'.

Appropriate values for this screen are determined by a combination of capacity planning in the system design and licensing. “Number of Outbound seats” will only show if that capability is included in the purchased license.

Complete this screen as shown above and click “Next”.

Step 11 – Language Selection

Unified Contact Center Express Administration
For Cisco Unified Communications

Languages Configuration

English ▾

Language Group	Group Default	Country Specific
en_CA	<input type="radio"/>	<input type="checkbox"/>
en_GB	<input type="radio"/>	<input type="checkbox"/>
en_US	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>

< Back Next >

Make selections as shown above and click “Next”.

Step 12 – Select a new administrator.


The screenshot shows the 'User Configuration' page in the Unified Contact Center Express Administration interface. At the top, there is a blue header with the text 'Unified Contact Center Express Administration' and 'For Cisco Unified Communications', along with the Cisco logo. Below the header, the page title 'User Configuration' is displayed in a large, bold, red font. A search bar with a 'Search' button is located at the top left. Below the search bar, a message reads: 'Please add or remove the Administrators from the following list:'. There are two main sections: 'Cisco Unified CCX Administrator*' and 'Cisco Unified CM Users'. The 'Cisco Unified CCX Administrator*' section contains a list box with 'Sally' selected. The 'Cisco Unified CM Users' section contains a list box with 'Andy2' and 'Ann1'. Two yellow arrows point from the 'Cisco Unified CM Users' list to the 'Cisco Unified CCX Administrator*' list. At the bottom left, there is a note: '* indicates required item'. At the bottom right, there are two buttons: '< Back' and 'Finish'.

The Administrator / ciscocisco login was for the initial configuration only. It is necessary to setup a permanent system administrator for UCCX. The names shown are users that have been defined on CUCM. You can setup a specific user account for UCCX system administration. For our lab, we will make “Sally Supervisor” the system administrator.

Select “Sally” from the list shown. Click “Finish”.

Step 13 – Setup Complete!

Unified Contact Center Express Administration
For Cisco Unified Communications



Cisco Unified CCX Setup Result Information.

Cisco Unified CCX Setup Status.	Cisco Unified CCX Setup completed.
Setting Setup Type Status.	Setting Cisco Unified CCX Setup type is done.
Cisco Unified CM Configuration Status.	Cisco Unified CM Configuration is done.
License Upload Status.	License Upload is done.
System Component Activation Status.	Component Activation is done.
Cisco Unified CCX Config Datastore	Activated
Cisco Unified CCX Agent Datastore	Activated
Cisco Unified CCX Engine	Activated
Cisco Unified CCX Historical Datastore	Activated
Cisco Recording	Activated
Cisco Monitoring	Activated
Cisco Unified CCX Repository Datastore	Activated
Cisco Unified CCX Node Manager Warning	Activated If the system has multiple NIC cards, you may run the Post Install Tool from C:\Program Files\Cisco\Desktop\bin\PostInstall.exe to ensure that right card has been selected.
Publisher Activation Status.	Publisher Activation is done.
Cisco Unified CCX Historical Datastore	Publisher is Activated
Cisco Unified CCX Agent Datastore	Publisher is Activated
Cisco Unified CCX Repository Datastore	Publisher is Activated
System Paramters update Status.	System Parameter Configuration is done.
User configuration Status. Setup completed. The Cisco Unified CCX Engine is restarting.	User Configuration is done.

Please close your web browser now!

Review the information shown to be sure everything was setup successfully. Close your browser when done.

Step 14 – Associate agent phones with RmCmUser.

Go to CUCM Administration (<https://192.168.60.10>). From User Management -> Application User, click “Find”. Then click on the RmCmUser. Associate the phone devices shown (Agent phones only – not the one ending with ‘10C’ – that is the customer phone) with RmCmUser and click “Save”

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Voice Mail ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾ Help ▾

Application User Configuration

Save ~~X~~ Delete Copy + Add New

Status
Status: Ready

Application User Information

User ID* RmCmUser [Edit Credential](#)

Password

Confirm Password

Digest Credentials

Confirm Digest Credentials

Presence Group* Standard Presence group ▾

Accept Presence Subscription
 Accept Out-of-dialog REFER
 Accept Unsolicited Notification
 Accept Replaces Header

Device Information

Available Devices SEP001906EDA10C [Find more Phones](#)
[Find more Route Points](#)
[Find more Pilot Points](#)

Controlled Devices SEP000785131007
SEP0015C6AD3284
SEP0015C6DC30EC

CAPF Information
Associated CAPF Profiles

Done

This is the 'customer' phone and shouldn't be added

This is necessary to allow UCCX to control the agent phone devices.

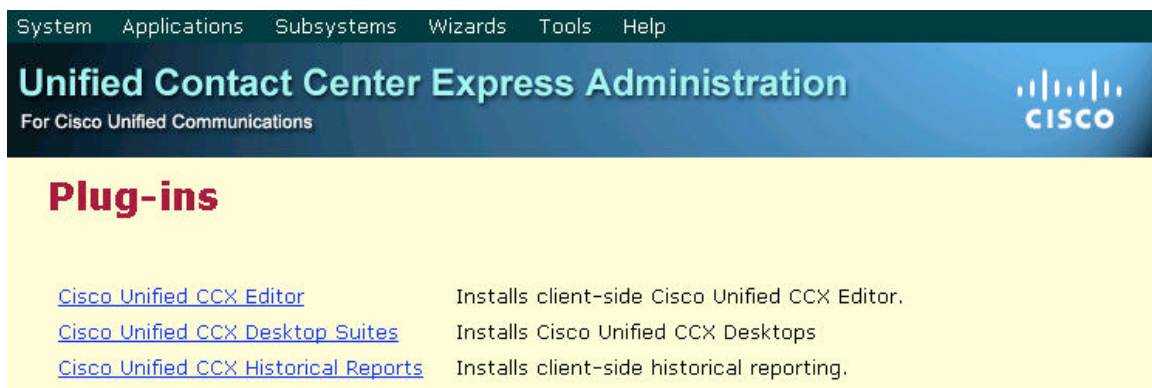
Lab 2 – Scripting

Scripting is the heart of any UCCX installation. While the tool to do scripting is easy to use, scripts can become very complex. Without a good script, UCCX is basically a paperweight. I always tell people that the script must reflect the business process desired by the customer. This is why upfront discovery with the customer is SO IMPORTANT. If it is not done well, the SOW will not reflect the actual effort required to create and test the script. This will result in lost money to the partner and usually an unhappy customer.

There is a course offered by Cisco Learning Partners on how to do scripting. What we will cover here is just the very basic information on the script editor and scripting in general.

Step 1 – Download the script editor.

The script editor is available for download from the UCCX server. Login to UCCX administration. Note that since the initial configuration is complete, you will now need to use the supervisor login. Navigate to Tools -> Plug Ins.



The screenshot shows the 'Unified Contact Center Express Administration' interface. The top navigation bar includes 'System', 'Applications', 'Subsystems', 'Wizards', 'Tools', and 'Help'. The main header reads 'Unified Contact Center Express Administration For Cisco Unified Communications' with the Cisco logo on the right. Below this, the 'Plug-ins' section is highlighted in yellow and contains three entries:

Plug-in Name	Description
Cisco Unified CCX Editor	Installs client-side Cisco Unified CCX Editor.
Cisco Unified CCX Desktop Suites	Installs Cisco Unified CCX Desktops
Cisco Unified CCX Historical Reports	Installs client-side historical reporting.

The script editor has already been installed on the Supervisor laptop. If you needed load it on a new PC, you would click “Cisco Unified CCX Editor” to install the script editor.

Step 2 – Launching the editor

Once installed, you can launch the editor and login. The editor is directly integrated to the UCCX scripts database so you need to use a login that is a UCCX administrator. In our case, login with the supervisor user account - “Sally”.



Cisco Unified CCX Editor



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Authentication



User Identification

Password

Unified CCX Server

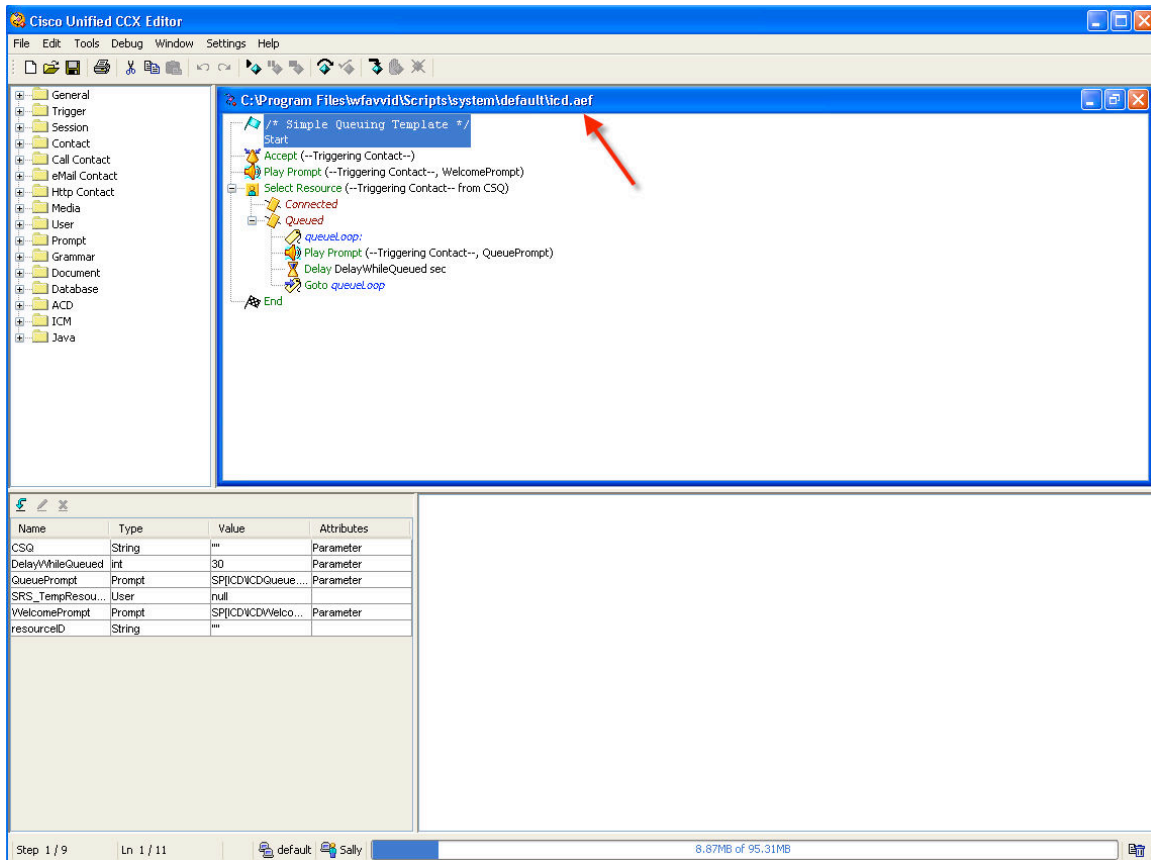
Log On

Log On Anonymously

Cancel

Step 3 – Open a script

Once you have launched the editor and successfully logged in, do a File -> Open and browse to the C:\Program Files\wfavvid\scripts\system\default directory. Open the "icd.aef" script.



Step 4 – Explore the editor.

On the editor window, you will notice several different areas.

At the top left is the list of script commands and actions that you can use within a UCCX script. Expand some of these windows and take a look. There are a great many options giving flexibility in script design. These items can be dragged and dropped into the appropriate place in the script.

The script itself is displayed in the top right box. Expand the “Select resource” and “Queued” sections. Right click on “Play Prompt” and select “Properties”. Note how you can see the items that can be controlled within that script element. Experiment with dragging in new items from the left to see how they are added to the script logic. For example, you can add a time of day feature by just dragging in the “Time of Day” element from the “General” section.

At the bottom left is a list of variables used by the elements within the script. You can add, change or view the contents of the variables as needed.

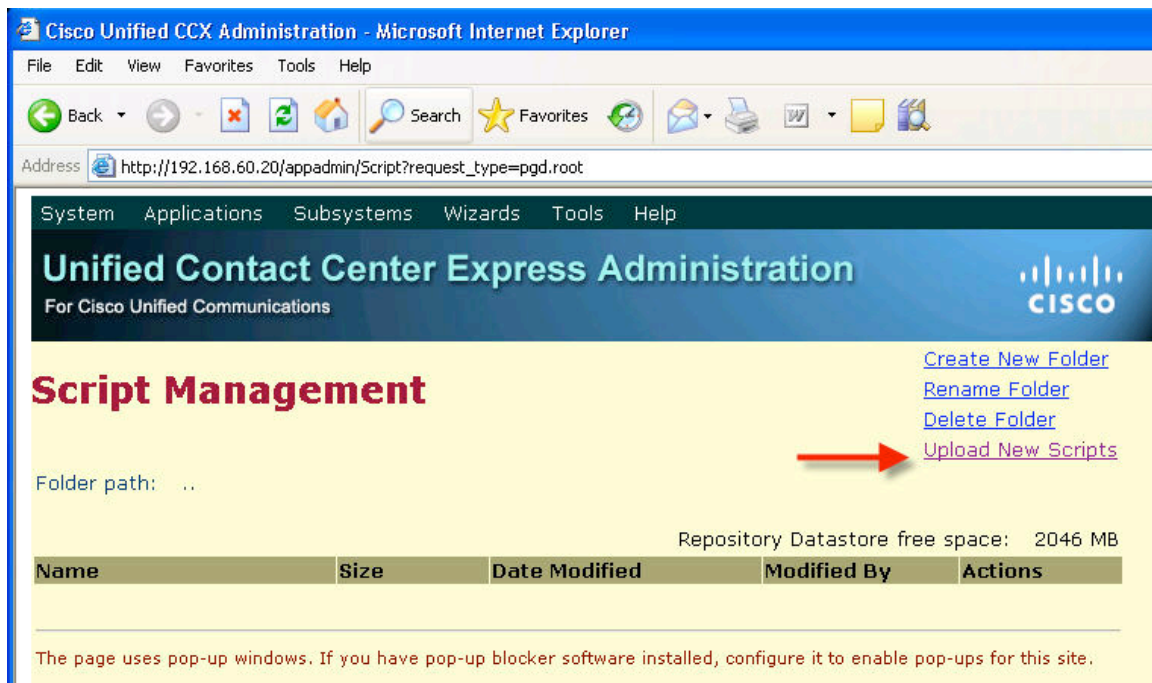
As you create and design scripts for UCCX, you can test them from the script editor. The box at the lower right shows the trace / debug results as you run script tests.

As you can see, there are several scripts and script templates provided as a starting point. You can open one of these, make updates and save it under a new name (these are system scripts – use a new name to avoid confusion) to create different applications on UCCX. UCCX can run many different application simultaneously using different scripts. For example, you can have an ICD for customer service and an Auto Attendant for the main number.

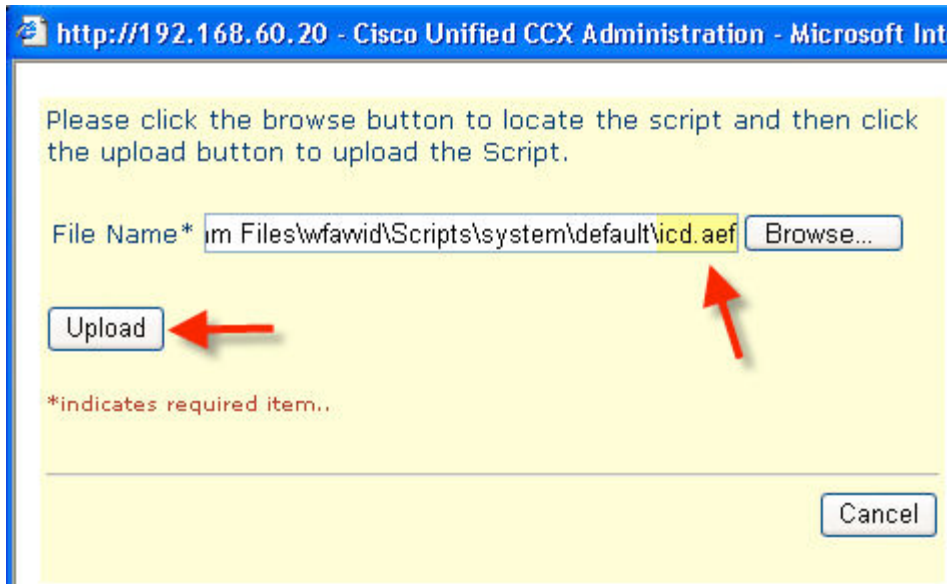
Scripts used by UCCX are created in the script editor and then uploaded to the script repository on the server. The scripts includes as templates are system scripts that are already resident on the UCCX system. We will use the system icd.aef script in our lab.

Lab 3 – Script Management

Once you have created the script for your application to use, it must be uploaded to the script repository in UCCX. To do this, login to UCCX administration and navigate to Applications -> Script Management. This page lists all the scripts in the database. Initially, there are none. Click on “Upload New Scripts”.



Browse to the location where you saved your edited script or to the same location we used above (C:\Program Files\wfavvid\scripts\system\default) and select your script or the icd.aef system script. Click on “Upload”



Notice when the upload has completed, there is an option to “Refresh the script”. UCCX runs a copy of scripts and applications from the database in memory. When you upload a new script or make changes to an application, the system *does not recognize the changes until you do a refresh*.

If you click “Return to Script Management” on the popup window, your script now shows in the directory. Notice from this page you can download, rename, refresh, upload or delete the script entry.

This gives you many capabilities in script management. For example, if you go to a customer site that is already running UCCX, you can download their scripts to your laptop from this page and look at them in the editor to see how they are currently setup. This goes a long way to understanding exactly how they are using the system.

Lab 4 – Setup Call & Media Control

Full information on how to configure the UCCX system can be found at:

http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_7_0/configuration/guide/uccx70ag.pdf

Cisco Unified CCX needs two types of channels to process calls:

- A *call control channel*, which is provisioned through the Unified CM Telephony subsystem and corresponds to CTI port resources in Unified CM
- A *media channel*, which is provisioned through either the CMT subsystem or the MRCP subsystem and corresponds to the kernel resources for handling the media voice path with the caller.

Both must be configured in order to successfully process calls. The number of ports available is determined by the license purchased and the hardware platform (I.E. capacity of the server).

Step 1 - Login to UCCX Administration and navigate to Subsystems -> Cisco Unified CM Telephony.

The screenshot shows the Cisco Unified Contact Center Express Administration interface. The top navigation bar includes System, Applications, Subsystems, Wizards, Tools, and Help. The main header is 'Unified Contact Center Express Administration For Cisco Unified Communications' with the Cisco logo. The page title is 'Cisco Unified CM Telephony Call Control Group Configuration'. A red arrow points to the link 'Add a New Cisco Unified CM Telephony Call Control Group'. Below the link, there is a table with columns: Group ID, Description, CTI Ports, Copy, Delete, and Refresh. The table is currently empty. To the right of the table, it says 'Number Of Licensed IVR Ports: 12'. There is a 'Refresh All' button below the table. On the left side, there is a sidebar with navigation links: Cisco Unified CM Telephony Provider, Cisco Unified CM Telephony Call Control Group (selected), Cisco Unified CM Telephony Triggers, Cisco Unified CM Telephony, * Data Resync, and * Cisco JTAPI Resync.

Step 2 - Click on “Add a New Cisco Unified CM Telephony Call Control Group”.

Step 3 - Complete the field entries as shown below. Click “Add”. Note that for the license installed, we can have a maximum of 12 ports.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration

For Cisco Unified Communications



Cisco Unified CM Telephony Call Control Group Configuration

Add **Cancel** Number Of Licensed IVR Ports: 12

Cisco Unified CM Telephony Call Control Group

Cisco Unified CM Telephony Provider

Cisco Unified CM Telephony Triggers

Cisco Unified CM Telephony

* Data Resync

* Cisco JTAPI Resync

Group Information

Group ID*

Number Of CTI Ports*

Media Termination Support* Yes No

Directory Number

Starting Directory Number*

Device Name Prefix*

[Show More...](#)

* indicates required item

After you click “Add”, UCCX creates the CTI ports on CUCM automatically. Please wait until this dialog completes before continuing.

CTI Port Group Creation Results

Please wait until the operation is complete. Please do not click browsers STOP or REFRESH buttons during this operation.

Created CTI Port UCCX_4003

Step 4 - Once complete, you should see the port group as in the screen below.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration

For Cisco Unified Communications



Cisco Unified CM Telephony Call Control Group Configuration

[Add a New Cisco Unified CM Telephony Call Control Group](#)

Number Of Licensed IVR Ports: 12

Group ID	Description	CTI Ports	Copy	Delete	Refresh
0	Unified CM Telephony Group #0	12			

Refresh All

Cisco Unified CM Telephony Provider
 Cisco Unified CM Telephony Call Control Group
 Cisco Unified CM Telephony Triggers
 Cisco Unified CM Telephony
 * Data Resync
 * Cisco JTAPI Resync

Step 5 – Check to be sure there is a Media Termination group configured. Navigate to Subsystems -> Cisco Media. There should be at least one Media Termination group defined as shown below.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration

For Cisco Unified Communications



Cisco Media Termination Dialog Group Configuration

[Add a New CMT Dialog Control Group](#)

Number Of Licensed IVR Ports : 12

Group ID	Description	Channels	Copy	Delete	Refresh
0	Default	12			
1	CMT Auto#0	12			

Refresh All

NOTE: ASR and TTS speech systems are option components that run on separate servers. If used, these would be configured from the subsystem menu for “MRCP ASR” and “MRCP TTS”. We do not have these available for our lab so will not be configuring them here.

Lab 5 – Setup an Application

In this lab we will setup a customer service application for AppleCore Industries Inc. This will show how calls are handled, how scripts are tied to applications, and how agents are setup in the system

Full information on how to configure the UCCX system can be found at:

http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_7_0/configuration/guide/uccx70ag.pdf

Applications are the glue that ties everything together. An application typically uses a CUCM route point (and pilot number) that to direct calls to the application and selected script. It also selects the CTI Port groups the application will use between UCCX and CUCM to handle calls. Applications also define the script that will be run when the application is invoked. Agents (“resources” in UCCX speak) may or may not be used within an application. For example, in an auto-attendant application there are probably no agent resources.

If “resources” will be used, the application defines which agents are selected, how they are selected (resource group, skill, longest idle, circular, etc), if they have any wrap-up or work time limits, etc.

There are wizard provided to make setup of the RmCm and Application easier. In order for you to see the flow, we will not use the wizards. Instead, we will manually step through setting up our AppleCore Industries customer service ACD.

Login to UCCX Administration and navigate to Wizards -> RmCm Wizard. This screen shows you a summary of all the steps the wizard would guide you through. The application wizard shows a similar summary. Take a look.

RmCm Wizard

Status: 1 of 9

[Exit](#)[Next](#)

1. Description of Steps	Description of Steps
2. Add a Skill	Add a Skill In this step, you can add skills that will be associated with a resource. Since there are multiple resources with different skills, multiple skills can be added.
3. Add a Resource Group	Add a Resource Group In this step, you can create resource groups that will later be assigned to resources. Multiple resource groups can be created during this step.
4. Add Resources	Add resources In this step, you can create resources. Multiple resources can be created during this step.
5. Add Supervisors	Add Supervisors In this step, you can add supervisors. Multiple supervisors can be created during this step.
6. Configure Resources	Configure Resources In this step, you can add or remove skills that are associated with resources. Resources can be modified together to obtain the same skills, or they can be modified separately to be assigned different skills.
7. Contact Service Queues	Modify Existing Contact Service Queues In this step, you can add or remove skills that are associated with a contact service queue. Multiple contact service queues can be modified during this step.
* Modify Existing Contact Service Queues	Add a Contact Service Queue In this step, you can add contact service queues. Skills or resource groups are associated to these contact service queues in order to filter out the resources. Multiple queues can be added during this step.
* Add a Contact Service Queue	Modify Existing Teams In this step, you can add or remove supervisors, resources and/or contact service queues that are associated with a team. Multiple teams can be modified during this step.
8. Teams	Add a Team In this step, you can add a team. Supervisors, resources, and contact service queues are associated to these teams. Multiple teams can be added during this step.
* Modify Existing Teams	
* Add a Team	
9. Create an Application	

Step 1 – Agent Skills


Agents can be divided into resource groups, skill groups or a combination of the two within an application. Skill groups can be useful to differentiate between different agent capabilities within a group. For example, you could assign language skills to agents – providing the ability to route calls to an agent that speaks the proper language.

Navigate to Subsystems -> RmCm.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration

For Cisco Unified Communications



RmCm Configuration

[Modify RmCm Provider Information](#)


Skills	RmCm Provider
Resources	
Resource Groups	Primary RmCm Provider <input type="text" value="192.168.60.10"/>
Contact Service Queues	Secondary RmCm Provider <input type="text"/>
RmCm Provider	User ID <input type="text" value="RmCmUser"/>
Assign Skills	
Remote Monitor	
Agent Based Routing Settings	
Teams	

Step 2 – Click on “Skills” in the lefthand column. Click “Add a new skill” at the top right. Enter a skill called “EnglishLang” and click “Add”.

System Applications Subsystems Wizards Tools Help


Unified Contact Center Express Administration

For Cisco Unified Communications



RmCm Configuration

Skills	Skill Configuration
Resources	Skill Name* <input type="text" value="EnglishLang"/>
Resource Groups	
Contact Service Queues	
RmCm Provider	* indicates required item
Assign Skills	<input type="button" value="Add"/> <input type="button" value="Cancel"/>
Remote Monitor	
Agent Based Routing Settings	
Teams	



Step 3 – Click on “Resource Groups” on the lefthand column. Add a resource group called “CustSvc” and click “Add”.

Note that you must have skills and resource groups defined before configuring resources (agents). They are not sequential in the navigation bar.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration
For Cisco Unified Communications

RmCm Configuration

Skills
Resources
Resource Groups
Contact Service Queues
RmCm Provider
Assign Skills
Remote Monitor
Agent Based Routing Settings
Teams

Resource Group Configuration

Resource Group Name*

* indicates required item

Step 4 – Click on “Resources” on the lefthand column. All of your defined agents should be shown automatically. Click on “Ann Agent1”.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration
For Cisco Unified Communications

RmCm Configuration

Skills
Resources
Resource Groups
Contact Service Queues
RmCm Provider
Assign Skills
Remote Monitor
Agent Based Routing Settings
Teams

Resources [Open Resources Summary Report](#)

Resource Name ▾ ▲	Resource Group ▾ ▲	IPCC Extension ▾ ▲	Team ▾ ▲
🔍 Andy Agent2		6002	Default
🔍 Ann Agent1		6001	Default
🔍 Sally Supervisor*		6000	Default

* Supervisor

Step 5 – Make Ann part of the “CustSvc” resource group and the “EnglishLang” skill group. Click “Update”. Do the same for the other two agents – Andy and Sally.

RmCm Configuration

Skills

- Resources
- Resource Groups
- Contact Service Queues
- RmCm Provider
- Assign Skills
- Remote Monitor
- Agent Based Routing Settings
- Teams

Resource Configuration

[Open Printable Report of this Resource Configuration](#)

Resource Name	Ann Agent1
Resource ID	Ann1
IPCC Extension	6001
Resource Group	CustSvc
Automatic Available*	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Assigned Skills	EnglishLang(5)
Unassigned Skills	
Competence Level	5 (1-Beginner, 10-Expert)
Team	Default

* indicates required item


Step 6 – Select “Contact Service Queues” (CSQ) from the lefthand navigation bar. Create a queue named “CustGeneralQ” with the attribute shown below. Note that it is here that you can determine if Skill or Resource group selection is used. You can also set policy here to place the agent into post-call work mode automatically after a call, and/or limit the amount of wrap up time before they are automatically made ready again.

Click “Next”

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration

For Cisco Unified Communications



RmCm Configuration

Contact Service Queue Configuration

Contact Service Queue Name*

Contact Service Queue Type*

Contact Queuing Criteria

Automatic Work* Enabled Disabled

Wrapup Time* Enabled Second(s) Disabled

Resource Pool Selection Model*

Service Level*

Service Level Percentage*

Prompt

* indicates required item

Step 7 – Add resource to the CSQ. Since we selected “Resource Group” as the selection mode in the previous step, this screen asks to identify which resource group to use. Select the “CustSvc” group we created earlier. Then click “Show Resources”. All of the agents in that group will appear in the window. From here, we can remove agents if there are some in the resource group we do not want to handle this CSQ. If satisfied with the selection, click “Add”.

RmCm Configuration

Contact Service Queue Configuration

Contact Service Queue Name: CustGeneralQ

Resource Selection Criteria*: Longest Available

Resource Group*: CustSvc

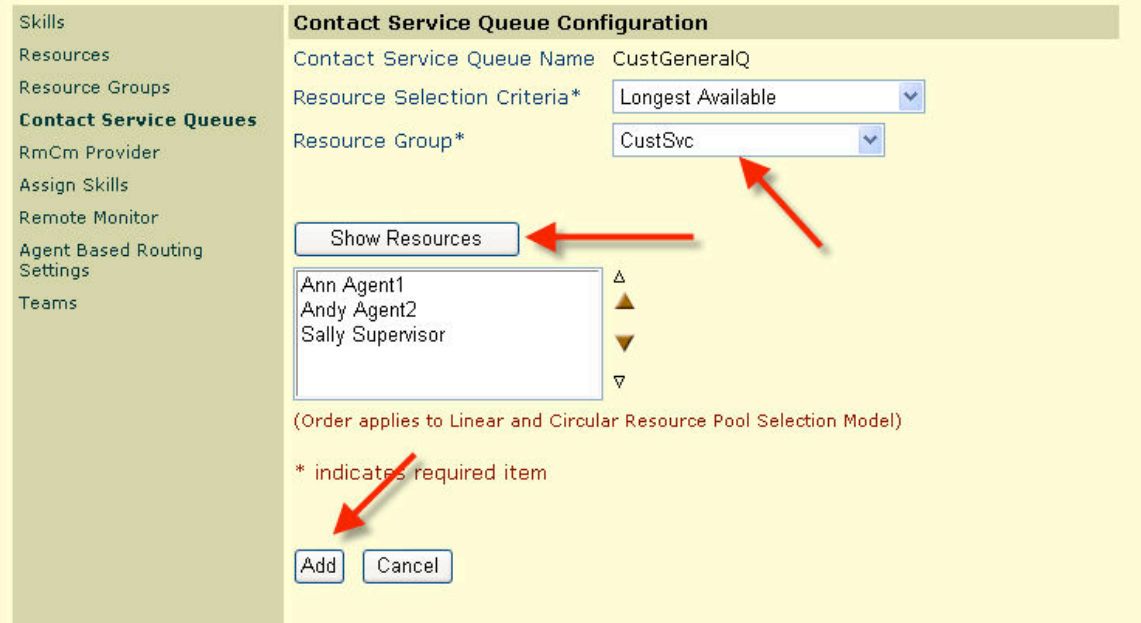
Show Resources

- Ann Agent1
- Andy Agent2
- Sally Supervisor

(Order applies to Linear and Circular Resource Pool Selection Model)

* indicates required item

Add Cancel



Step 8 – Click on “Teams” in the lefthand navigation bar. Supervisors manage teams of resources. Agent resources must be placed in teams in order for the supervisor to see their activity from the supervisor desktop application.

Configure the “Default” team as shown below. Click “Update” to continue.

RmCm Configuration

Team Configuration

[Open Printable Report of this Team configuration](#)

Team Name* Default

Primary Supervisor Sally Supervisor

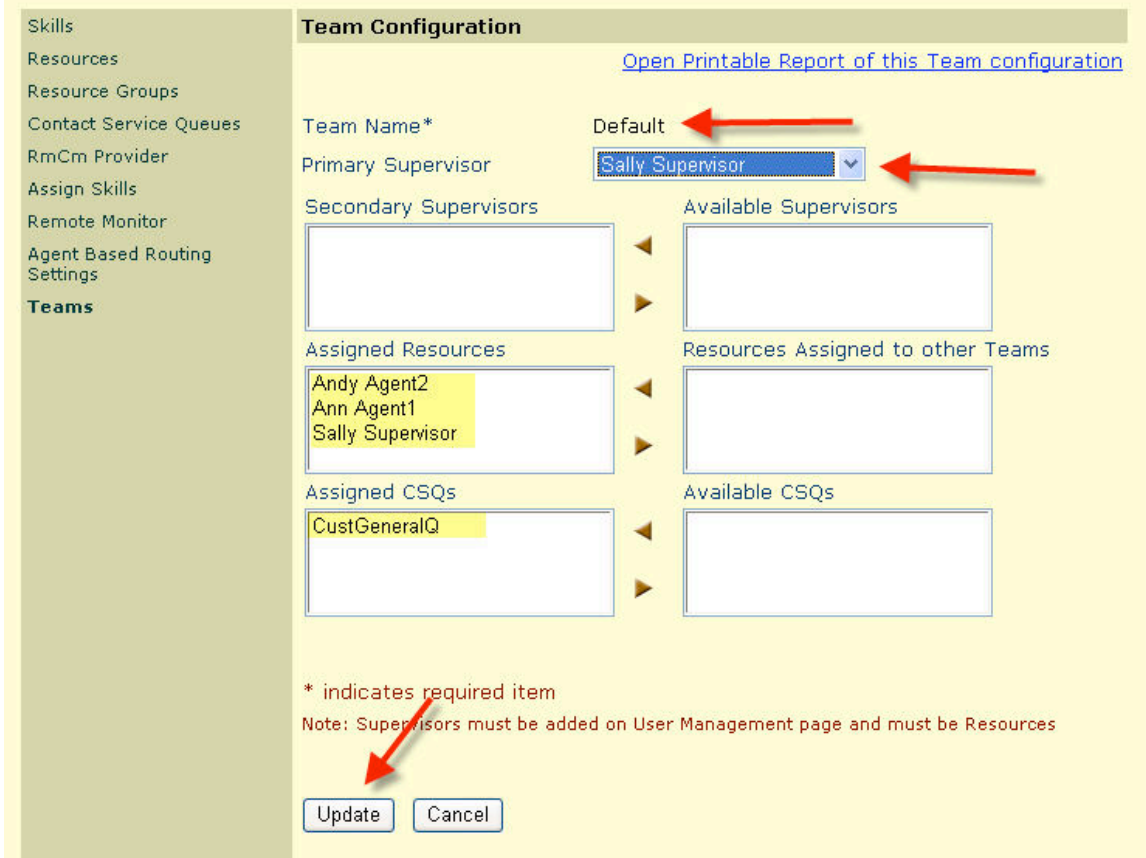
Secondary Supervisors Available Supervisors

Assigned Resources Resources Assigned to other Teams

Assigned CSQs Available CSQs

* indicates required item
Note: Supervisors must be added on User Management page and must be Resources

Update Cancel




Step 9 – Build the application. Now it’s time to build the application and tie it all together. Navigate to Applications -> Application Management. Click on “Add a new Application” in the top right of the screen.

Step 10 – Configure an application called AppleCore as shown in the screen below. FIRST select the system icd script “[SSCRIPT]icd.aef”. This will cause new fields to appear on your screen. Complete the configuration as shown. Notice that the quotes are *required* for the CSQ name. Set the Max Sessions to 12. Click on “Add”.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration

For Cisco Unified Communications



Cisco Script Application

Triggers can be added after application is created. [Add](#) [Cancel](#) [Back to Application List](#)

Name *


ID*


Maximum Number of Sessions*

Script* [Edit](#)

CSQ

DelayWhileQueued

WelcomePrompt [Edit](#)  **Note: Quotes required**

QueuePrompt [Edit](#) 

Description

Enabled Yes No

Default Script [Edit](#)

*indicates required item

Step 11 –Define a trigger for your application. In the UCCX world, a trigger defines the entry point or initiator of an application. It can be a telephony trigger (phone call) or an http trigger (web page request).

For our lab, we will setup the AppleCore application to be invoked whenever a call comes in on DN 4000.

Navigate to Subsystems -> Cisco Unified CM Telephony. Click on “Cisco Unified CM Telephony Triggers” on the lefthand navigation bar. Then click “Add a New Cisco Unified CM Telephony Trigger” at the top right as shown below.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration
For Cisco Unified Communications

Cisco Unified CM Telephony Trigger Configuration

[Add a New Cisco Unified CM Telephony Trigger](#)

Route Point	Application	Sessions Enabled	Copy	Delete	Refresh
Cisco Unified CM Telephony Triggers					

Step 12 – Setup the trigger as shown below and click “Add”. UCCX will automatically setup the CTI Route Point for DN 4000 on CUCM.

System Applications Subsystems Wizards Tools Help

Unified Contact Center Express Administration
For Cisco Unified Communications

Cisco Unified CM Telephony Trigger Configuration

Add **Cancel**

Directory Number

Directory Number*

Trigger Information

Language* **Edit**

Application Name*

Device Name*

Description*

Call Control Group*

Show More...

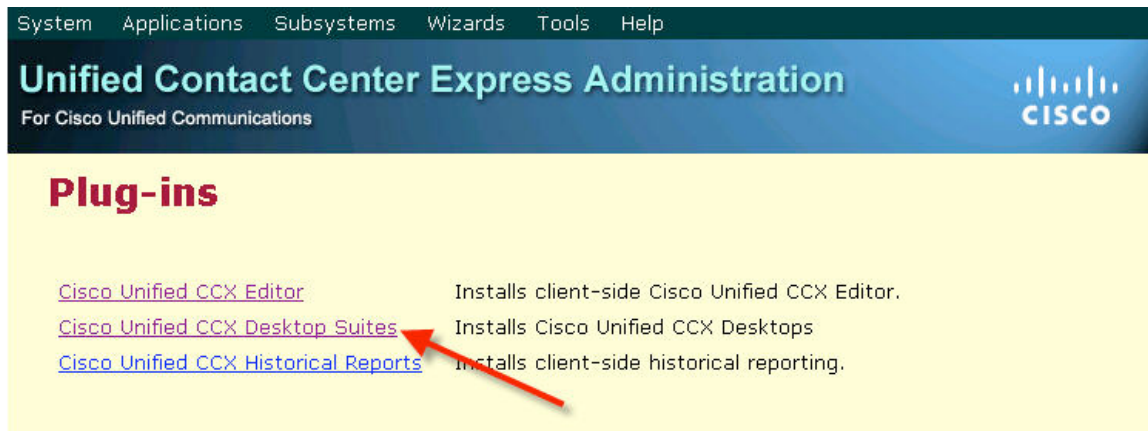
Note:
* indicates required item

When the trigger has been successfully added, your application is ready to go!

Lab 6 – Agent / Supervisor Operation

Now that you have your application up and running, it's time to check it out. In our lab we have both an IP Phone Agent and a Cisco Agent Desktop (CAD) setup. We also have the supervisor desktop software running on Sally's laptop.

To download the software clients, navigate to the Tools -> Plug Ins page. From here the agent or desktop clients, the desktop administrator, the CCX editor, and the historical report generator can all be downloaded.



The software has been pre-installed on the lab laptops for your use. Note that the supervisor desktop software includes the agent desktop.

IPPA

Ann Agent1 at extension 6001 has IP Phone Agent (IPPA) access from her set. While IPPA does not provide all of the features of CAD, it is good for simple call center such as a company help desk.

To access IPPA, press the services key on the phone and choose the IPPA selection. The login from the phone is somewhat cumbersome, once logged in the agent will stay logged in. Subsequent presses of the services key will take you right to the stats screen.

From here, you can make the agent ready or not ready. When the agent is on a call, you can see the caller information by pressing the "Cdata" key.

Make a call from the customer phone with Agent1 "not ready". While the call is in queue, go to the IPPA stats screen. You will see it shows not ready with 1 call in queue. Make the agent ready. The call will immediately be delivered to the agent phone

Explore the some of the other actions. Place multiple calls in queue, watch how quickly and in what order they are delivered. Make the agent not ready while on a call. Hang up and see what happens to the next call in queue.

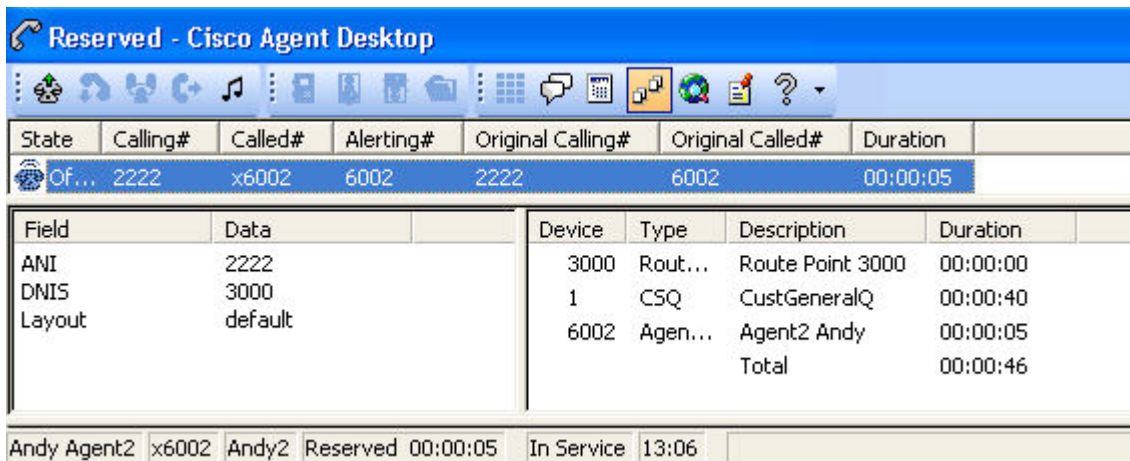
Cisco Agent Desktop (CAD)

Launch and login to the CAD from the Andy Agent2 laptop. As you can immediately see there is a great deal more functionality available from CAD than from IPPA. You can make yourself ready / not ready, see information about the current call, and control the phone from the CAD window. You can also launch chat sessions with your supervisor, have an embedded web browser to provide company information, etc.

Place a call into the queue and click the “ready” icon on the CAD window as shown below.

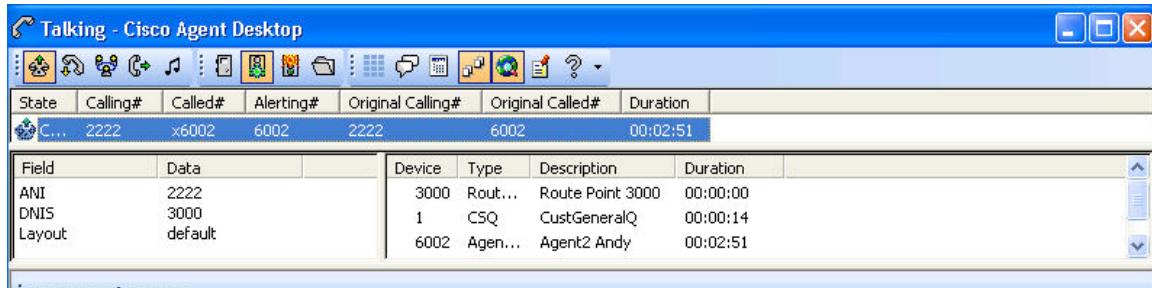


The call is immediately deliver to Andy’s phone.



Notice that while the phone is ringing, Andy’s status is ‘Reserved’, preventing any other calls from being delivered to him.

Once answered, Andy's status changes to "Talking". Andy's status information can also be seen real time by the team supervisor Sally. Also, the call control icons at the top left of the screen have become active. From there, Andy can drop the call, place I on hold, initiate a conference or transfer the call elsewhere.



There is also a reports icon Andy can choose to see his statistics for the current shift. You select the Not Ready or Work icons during a call so that when the call is complete, you will not receive the next call in queue, giving you time to do post call wrap up work or take a break.

Explore the full functions of the CAD to see all it can do.

The administrator or supervisor using the Desktop Administrator application can further customize agent workflows. This application is not the subject of this lab but is available on the system. If you have extra time, install it and explore its capabilities as well.

Supervisor Desktop

On Sally's laptop, launch the Agent Desktop and login as Sally. You will notice that the default state for Sally when she logs in is "Not Ready". With the CAD running, Sally has the ability to take control of a call from anyone on her team if necessary. She can also make herself ready and take calls if desired, perhaps to handle a larger than expected call volume.

Launch the Supervisor desktop and login. From the supervisor desktop, Sally can watch the activity in the CustSrv CSQ, as well as all of her team members in real time.

See the screen below.

The screenshot shows the Cisco Supervisor Desktop interface. The top menu bar includes File, View, Tools, Actions, and Help. Below the menu is a toolbar with various icons. The main area is divided into several sections:

- Skill Groups:** A tree view on the left showing Contact Service Queue, Voice, and CustG.
- Real Time Displays:**
 - Voice CSQ - Detail:** A table showing agent status.

Agent Name	Current State	Skill Group	Contact Service Queue	State Duration	Reason Code
Sally Supervisor	Not Ready			00:00:43	33 (Supervisor not re
Ann Agent1	Ready			00:17:56	0
 - Voice CSQ - Summary:** A table showing queue statistics.

Contact Service Queue	Agents Logged In	Agents in Talking	Agents Ready	Agents Not Ready	Agents in Work	Agents Rese
CustGeneralQ	2	0	1	1	0	
 - Agent - Agent vs. Team Summary:** A table comparing agent and team performance.

Id	Logon Time	Calls Handled	Total Talking	Total Ready	Total Not Ready	Total After Call Work
Agent	00:06:36	0	00:00:00	00:00:15	00:06:14	00:00:00
Team	00:46:03	9	00:03:31	00:25:58	00:15:56	00:00:00
- Agents:** A tree view at the bottom left showing Default, Agents (Ann A, Sally S), and Supervisors (Sally S).

Watch the supervisor screen and experiment with the other agents to see what is reflected to Sally. Place several calls in queue and note how they appear to Sally. Make both agents on her team ready and see how the active calls show up. Explore the chat functionality from the CAD. Notice how the summary screen reflects totals and updates in real time.

With both agents busy and calls in queue, place Sally in ready state. Notice how Sally's activity is reflected on the supervisor screen.

SUMMARY

I hope this lab provided you with useful experience with UCCX. Having said that, the labs here just touched the basics of this powerful system. To gain further knowledge, I recommend you seek out the UCCX basic and advanced ILT classes offered by Cisco Learning Partners. Contact your Cisco Channel team for more info.