Unified Contact Center Express V7.01
Basic Training Module
January 20, 2009

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

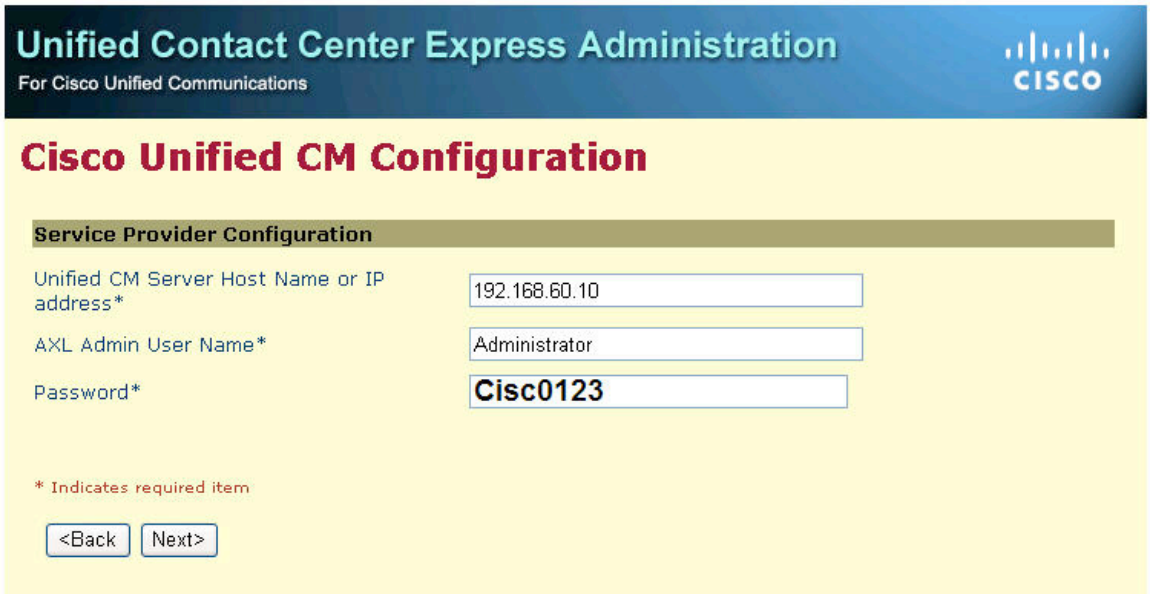
Yes – UCCX 7.0 clients work on Vista (Ultimate, Enterprise and Business Editions)

Step 1 – Access UCCX from a web browser.

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

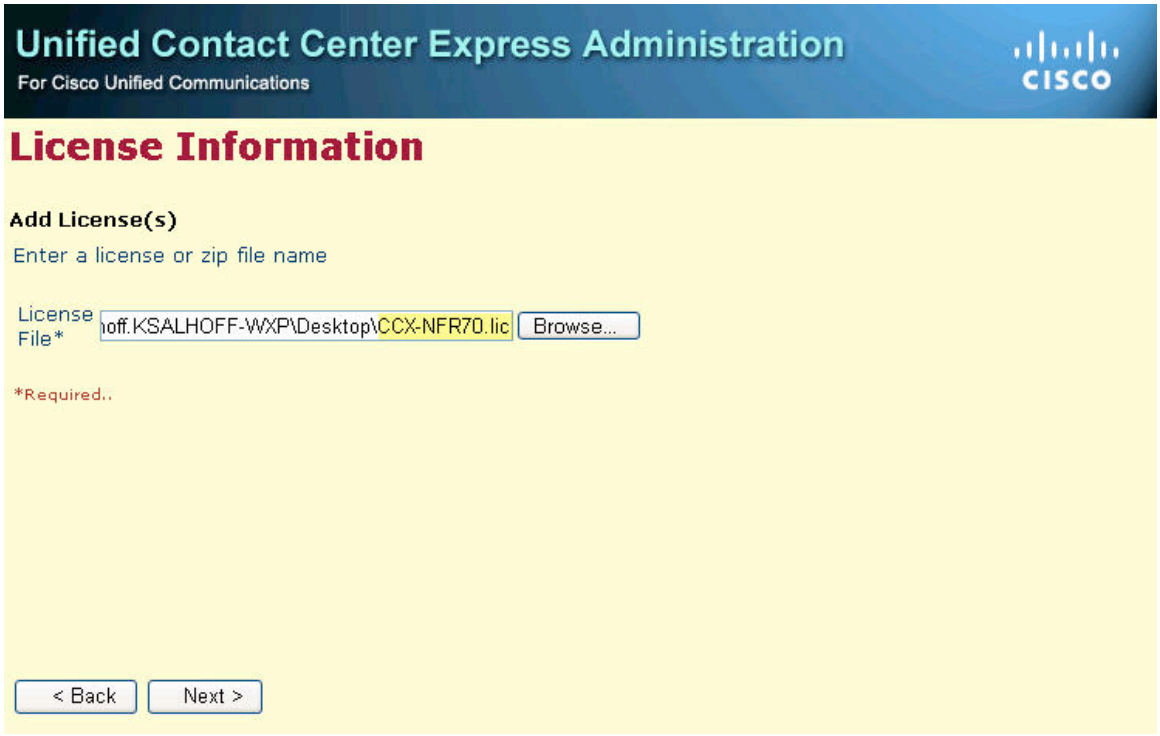
Step 2 – Cluster setup. Select “Single Node”. Click “Setup”.

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”.

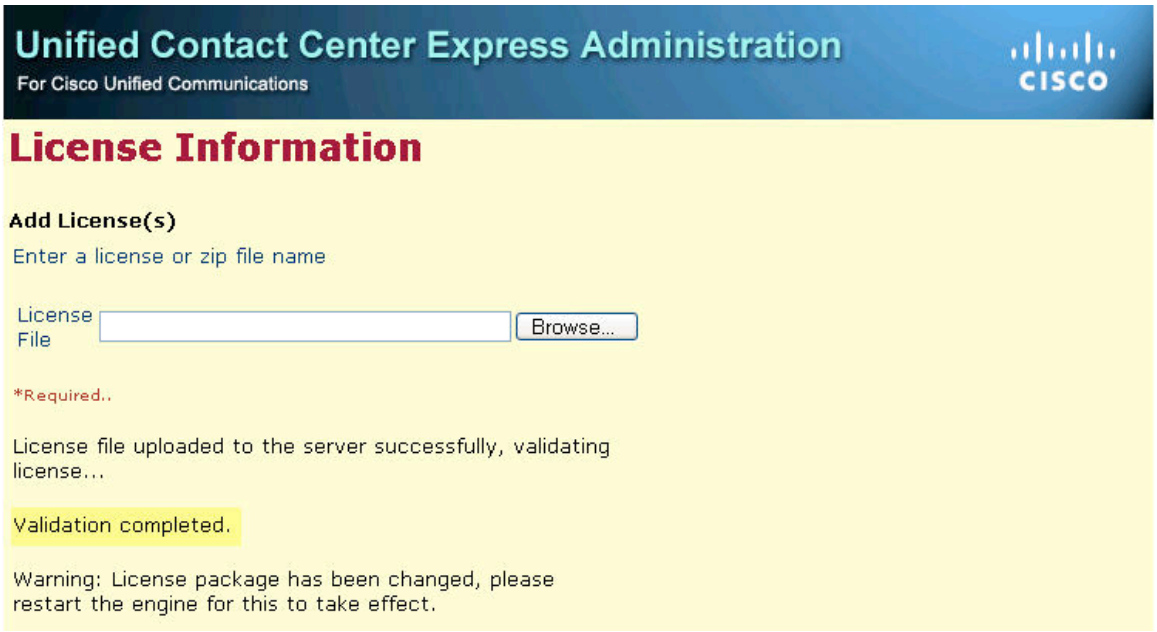


Step 4 – License installation. Normally, you would have obtained a license key from licensing@cisco.com. For this lab, we have placed the license file on the laptop. The

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



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.

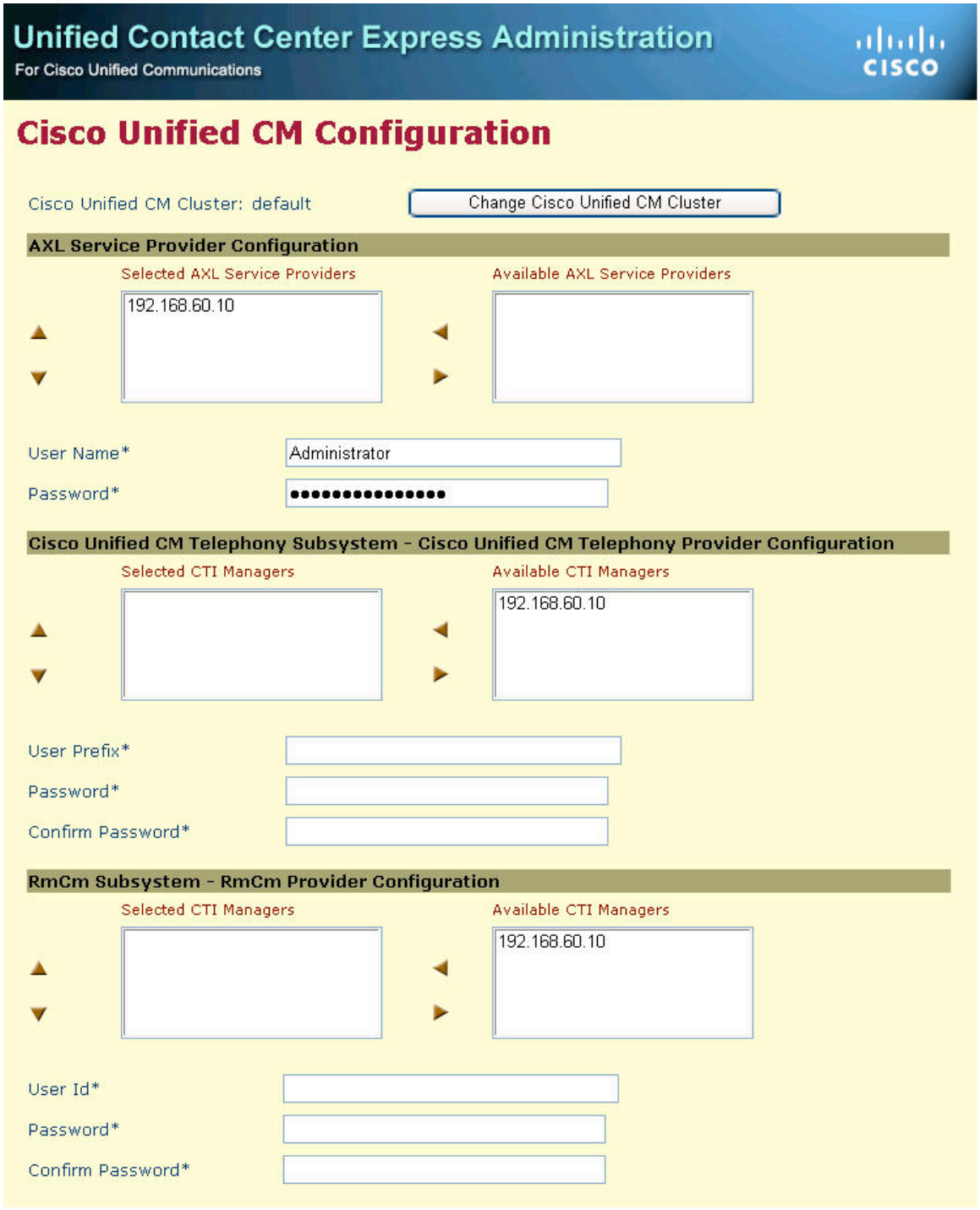


Click “Next”

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



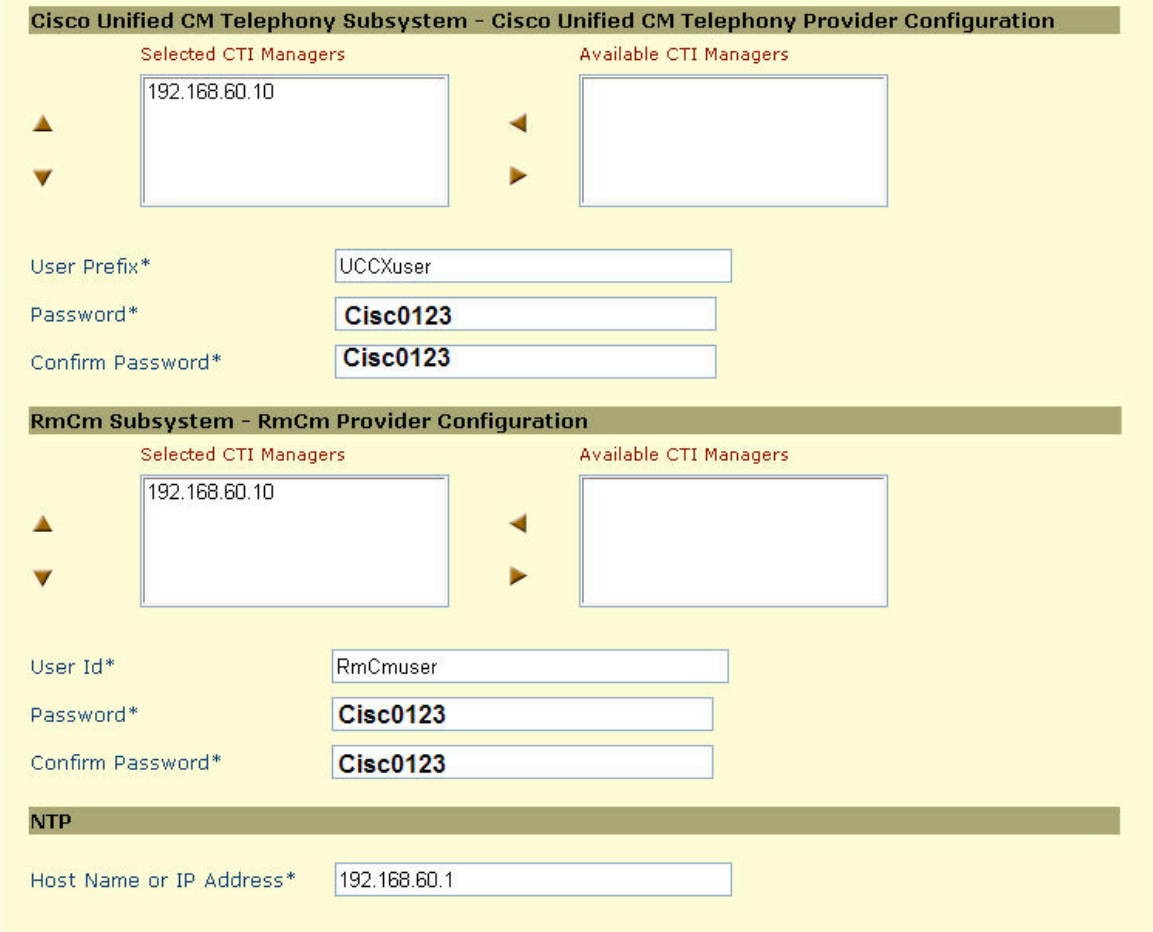
The UCCX AXL Service Provider Configuration area for a CUCM Cluster setup displays a list of IP addresses of the AXL Service Providers sorted by priority, where the Unified CM Publisher is listed first followed by the Unified CM Subscribers. During the AXL Service Provider Authentication in the Unified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



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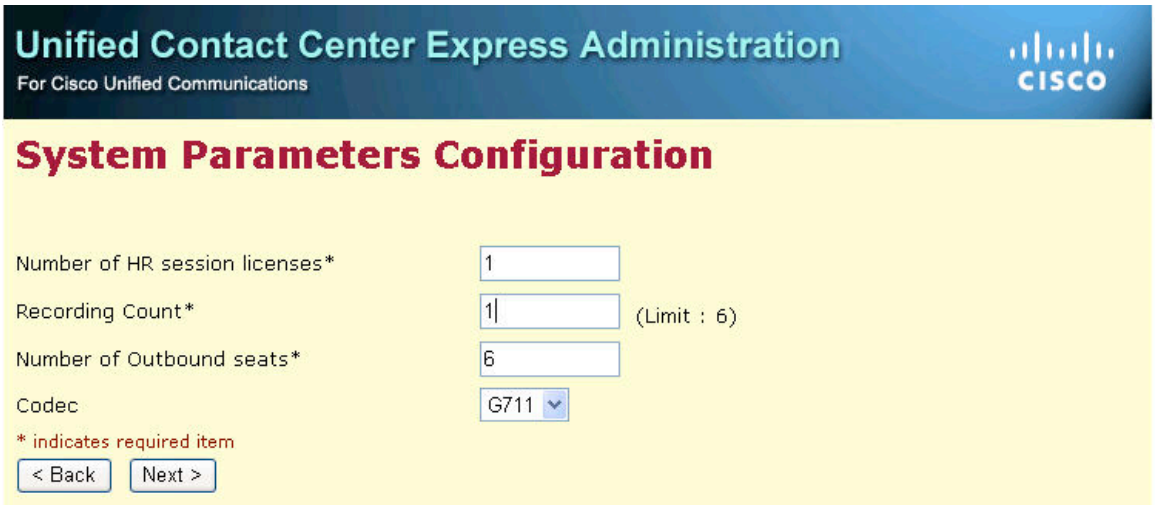
Complete the CTI, RmCm, and NTP section of the configuration screen as shown above. Click “Next”.

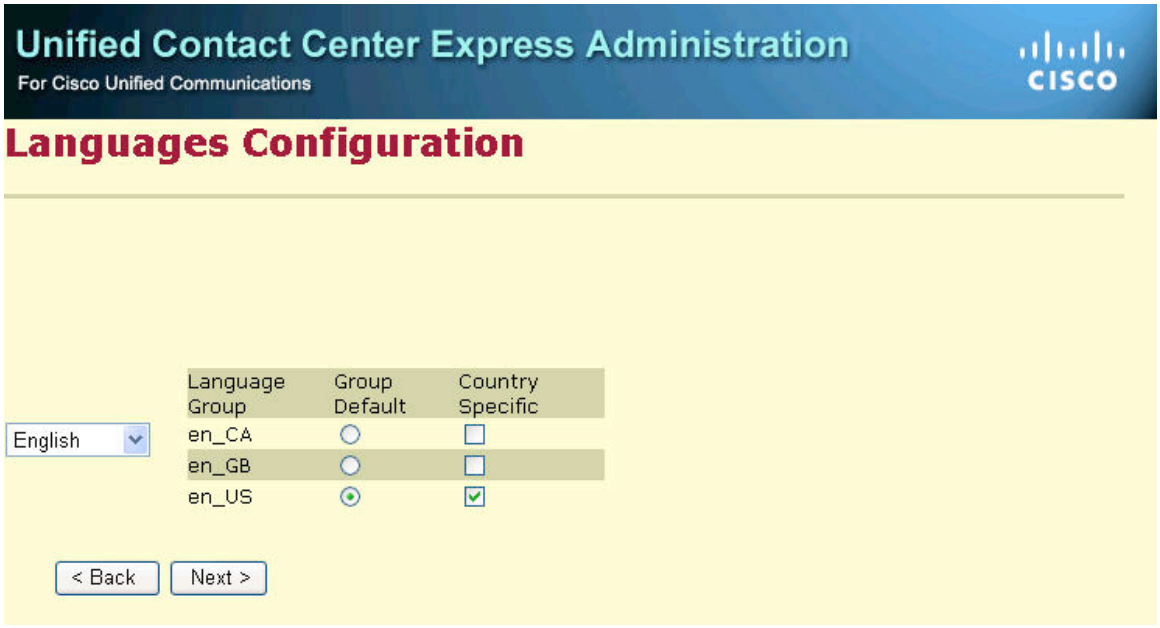
Step 10 – System Parameters Configuration



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.

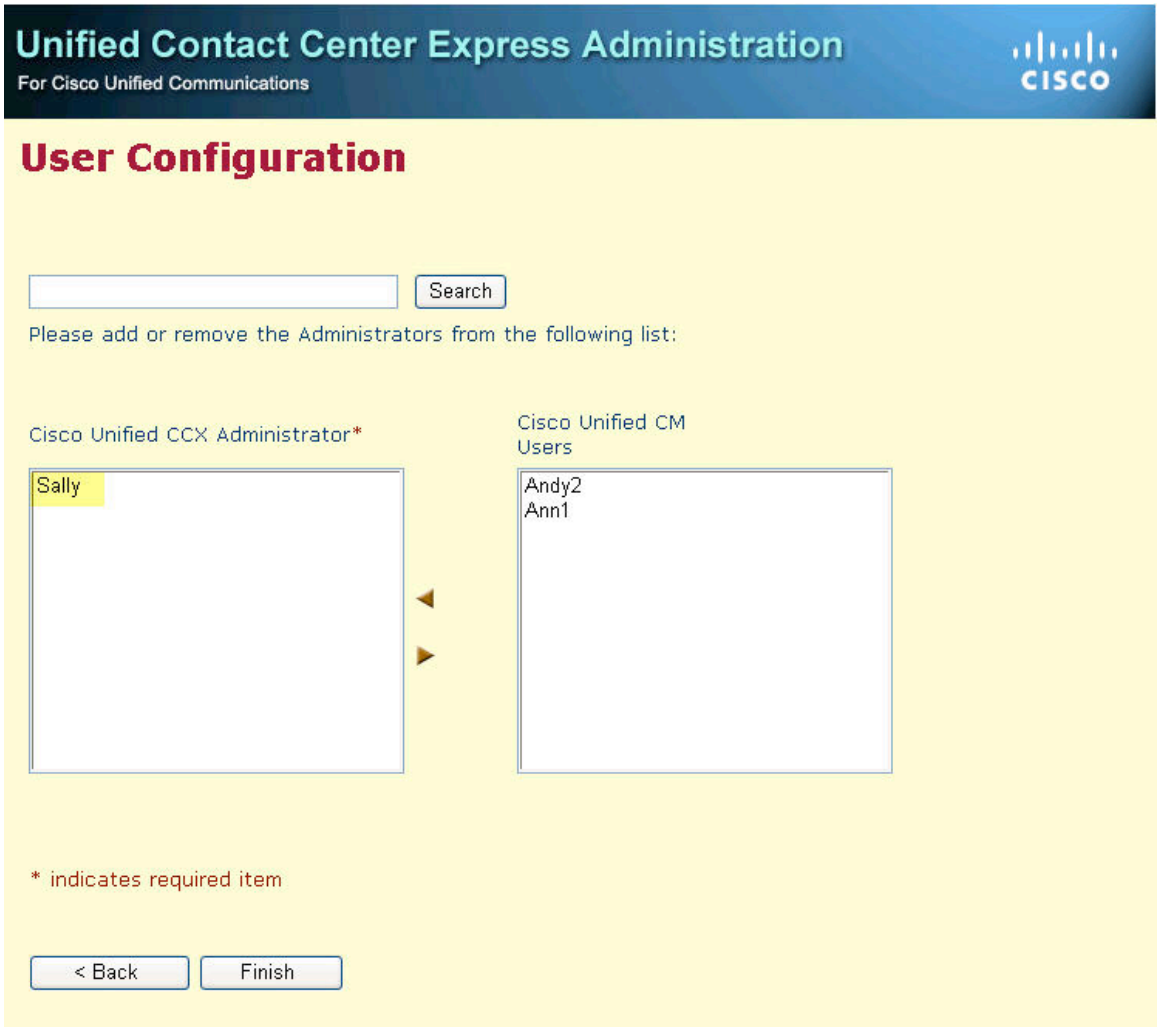
Complete this screen as shown above and click “Next”.

Step 11 – Language Selection



Make selections as shown above and click “Next”.

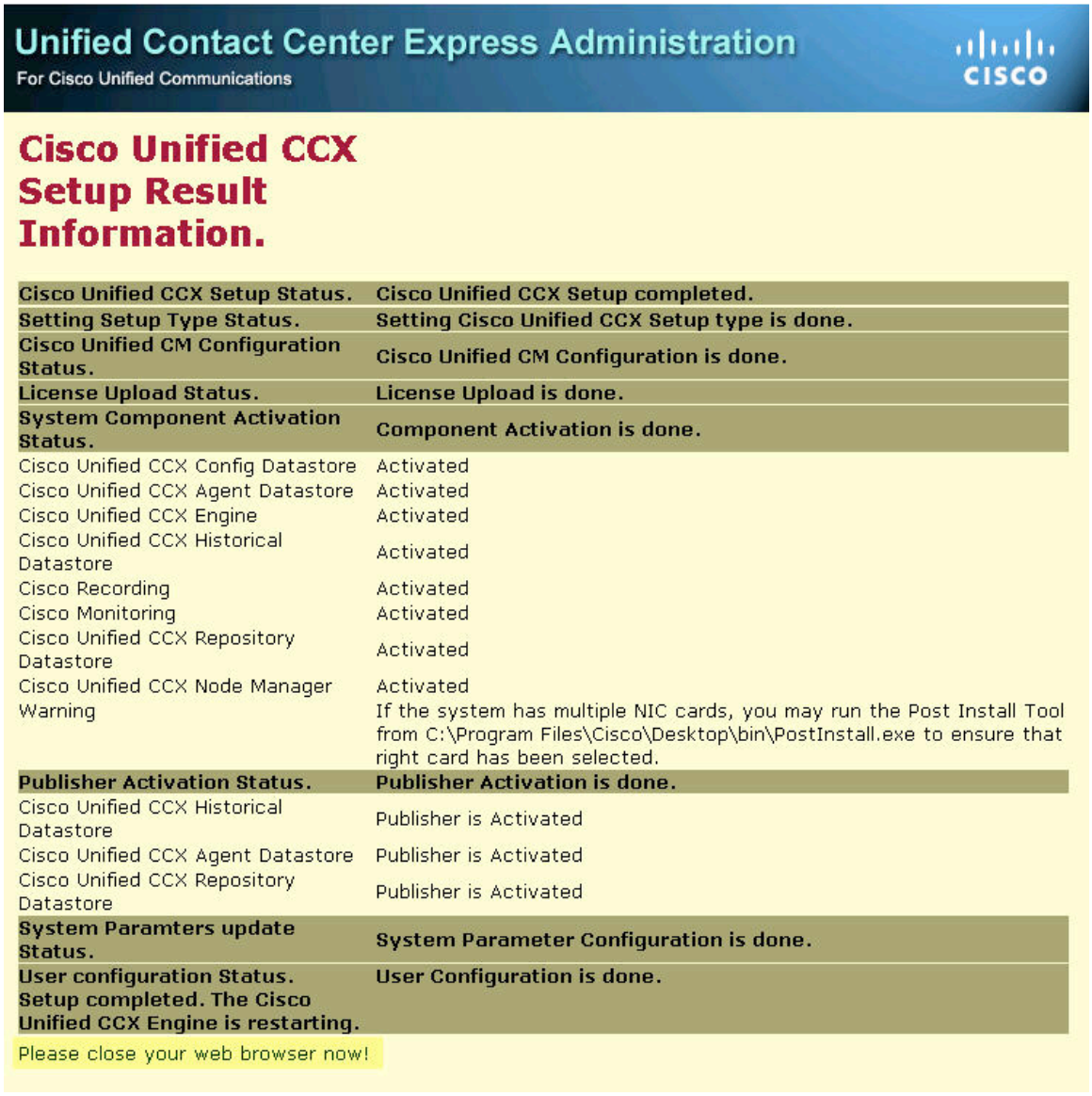
Step 12 – Select a new administrator.



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

Cisco Unified CCX Setup Result Information.

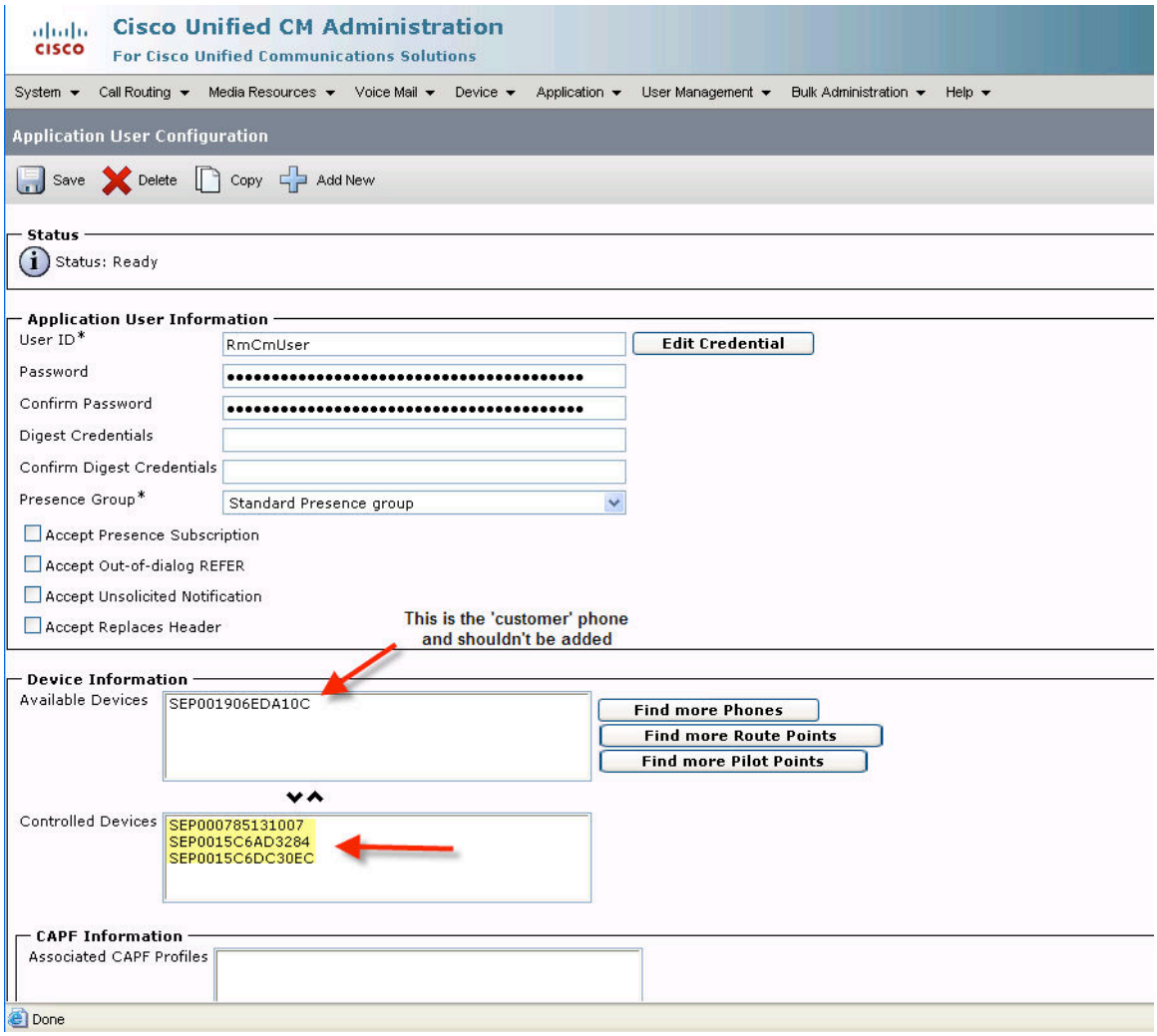
Cisco Unified CCX Setup Status.	**Cisco Unified CCX Setup completed.**
Setting Setup Type Status.	**Setting Cisco Unified CCX Setup type is done.**
Cisco Unified CM Configuration Status.	**Cisco Unified CM Configuration is done.**
License Upload Status.	**License Upload is done.**
System Component Activation 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	Activated
Warning	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.	**User Configuration is done.**
Setup completed. The Cisco Unified CCX Engine is restarting.	

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"



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

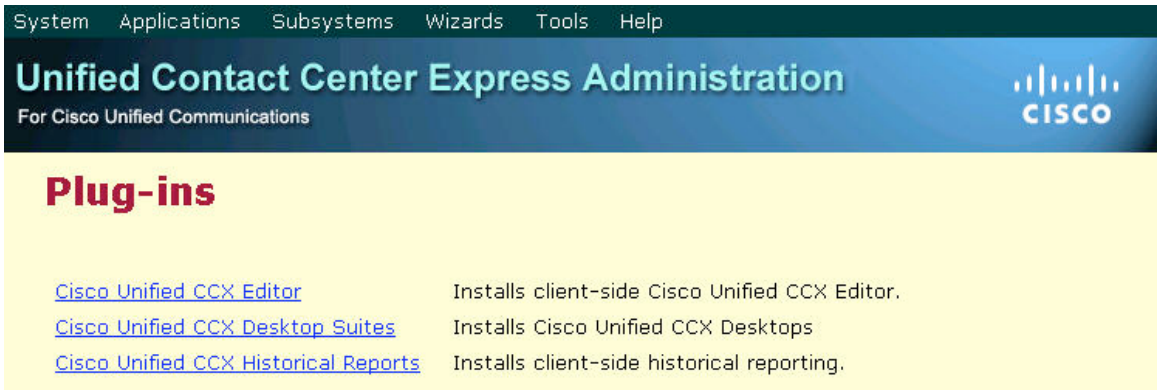
Lab 2 – Scripting

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.

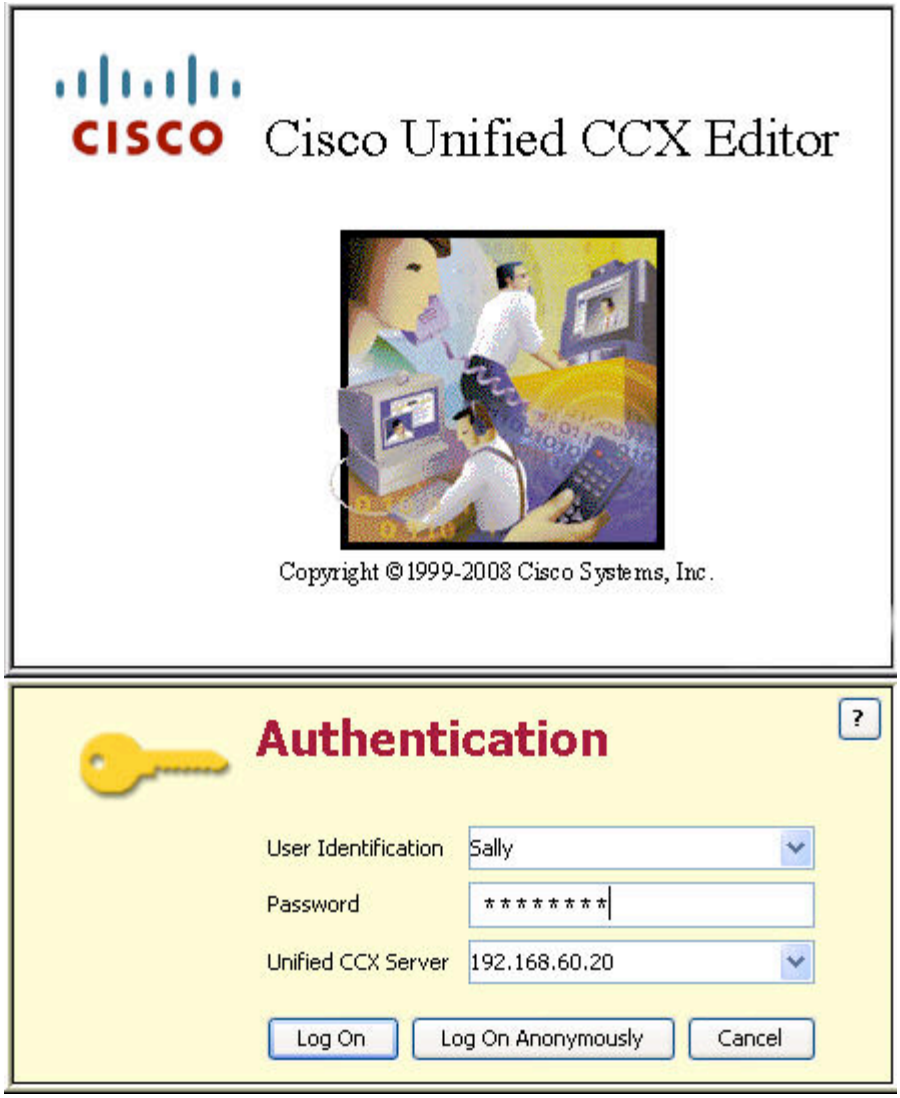
The script editor is available for download from the UCCX server. Login to UCCX administration. Note that since the initial configuration is complete, you will now need to use the supervisor login. Navigate to Tools -> Plug Ins.



The 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.

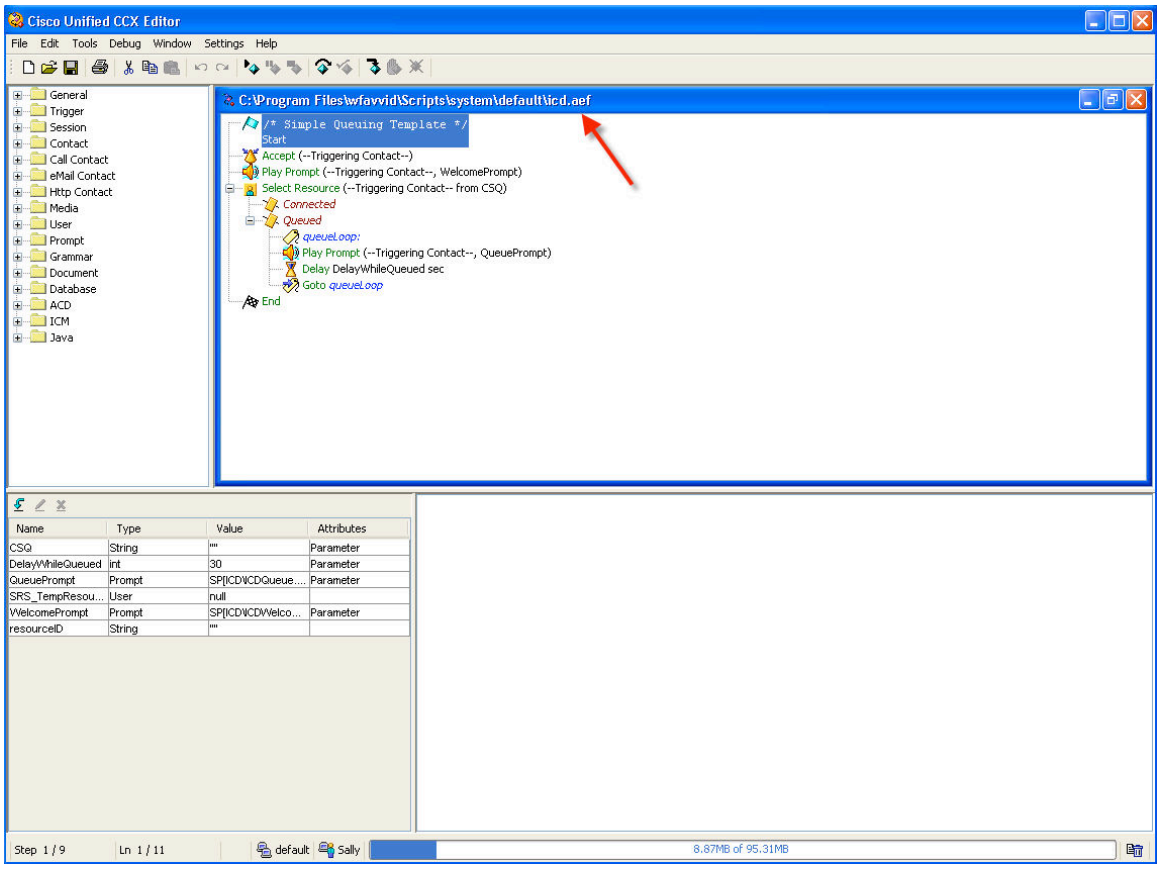
Step 2 – Launching the editor

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”.



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.

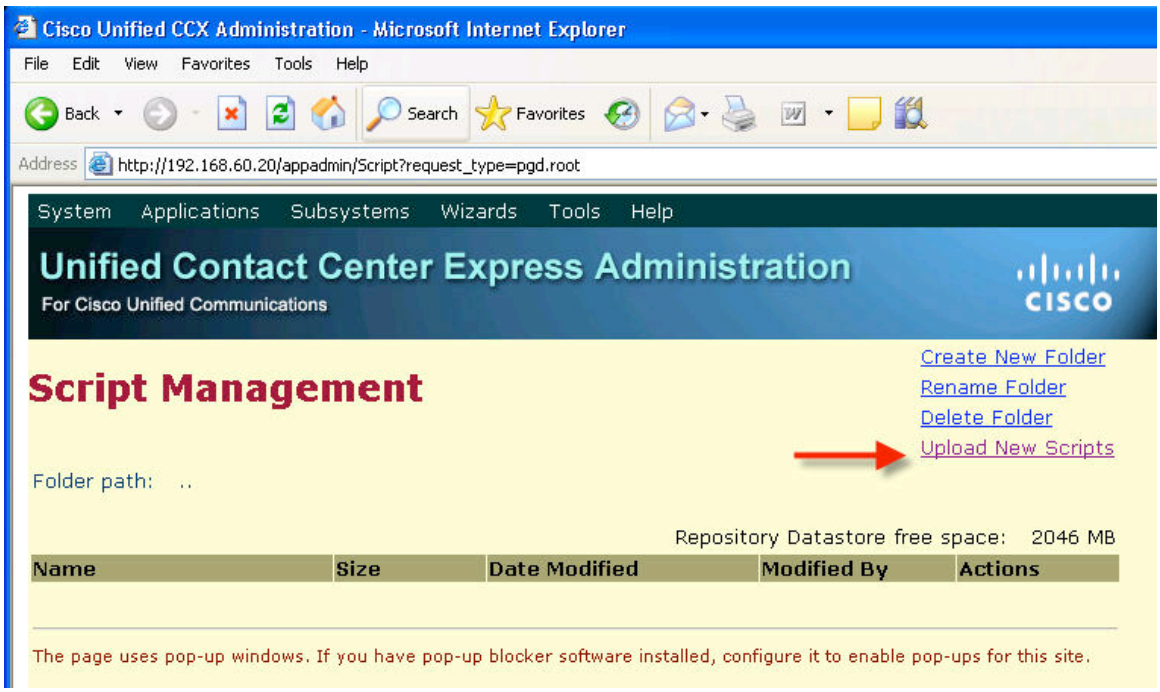
As you create and design scripts for UCCX, you can test them from the script editor. The box at the lower right shows the trace / debug results as you run script tests.

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.

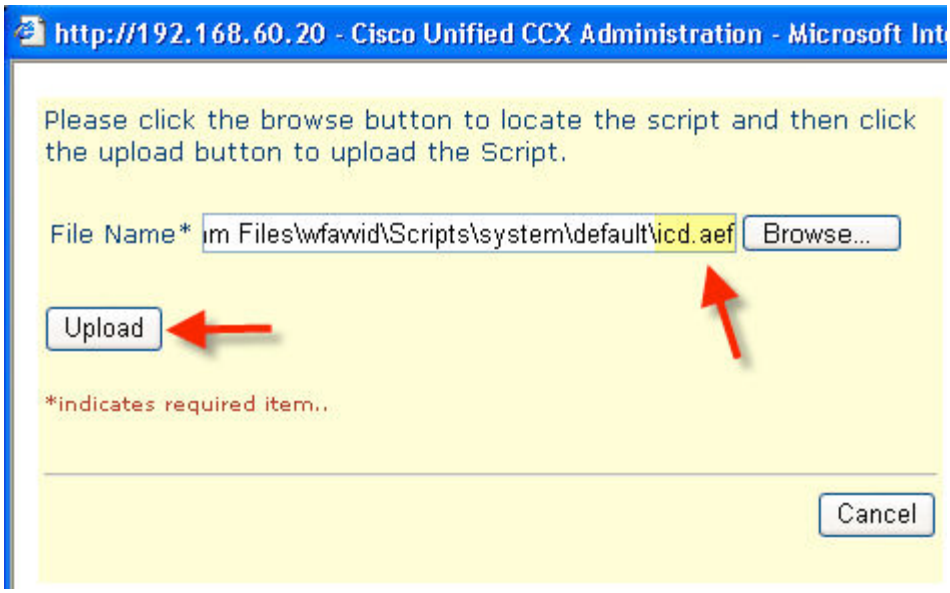
Scripts used by UCCX are created in the script editor and then uploaded to the script repository on the server. The scripts includes as templates are system scripts that are already resident on the UCCX system. We will use the system icd.aef script in our lab.

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

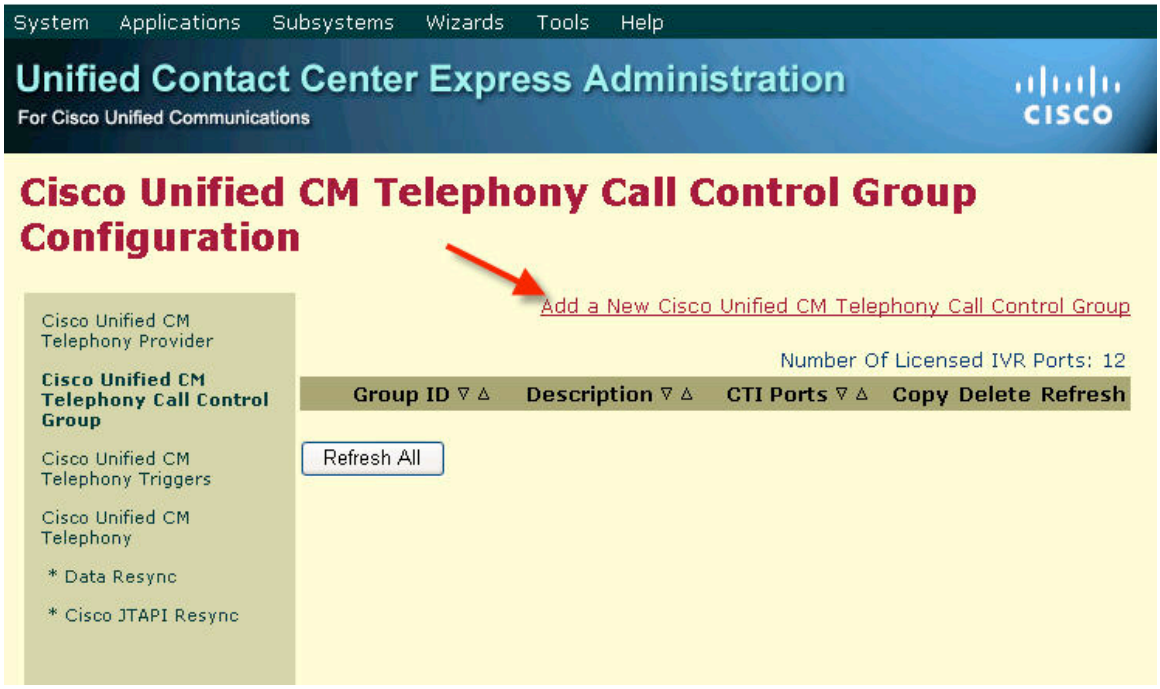
Full information on how to configure the UCCX system can be found at:
http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_7_0/configuration/guide/uccx70ag.pdf

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.



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.

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

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

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.

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

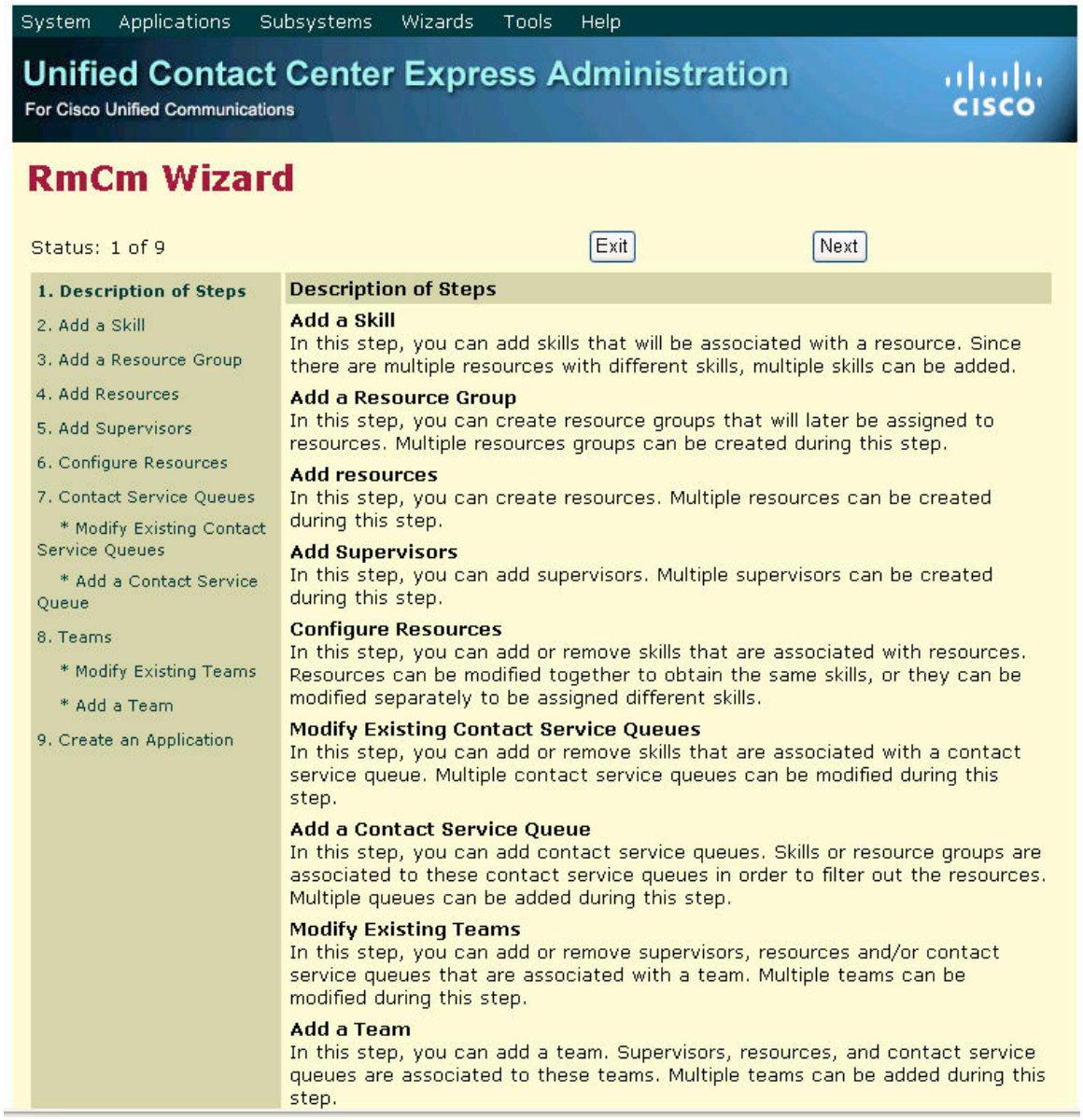
Full information on how to configure the UCCX system can be found at: http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_7_0/configuration/guide/uccx70ag.pdf

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.

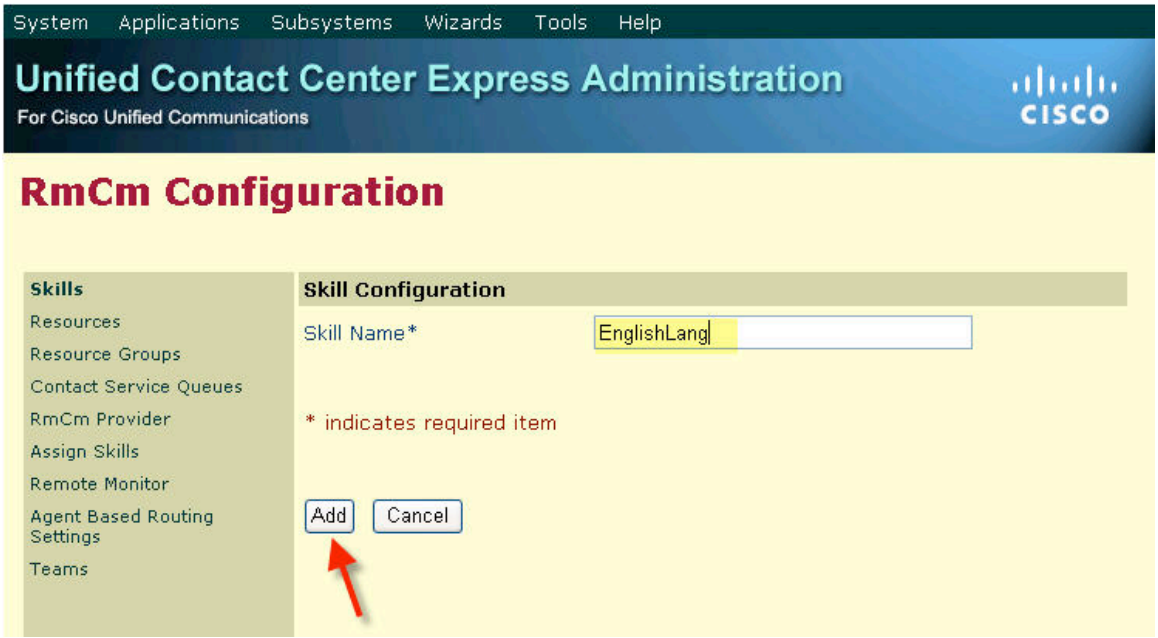


Step 1 – Agent Skills

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.

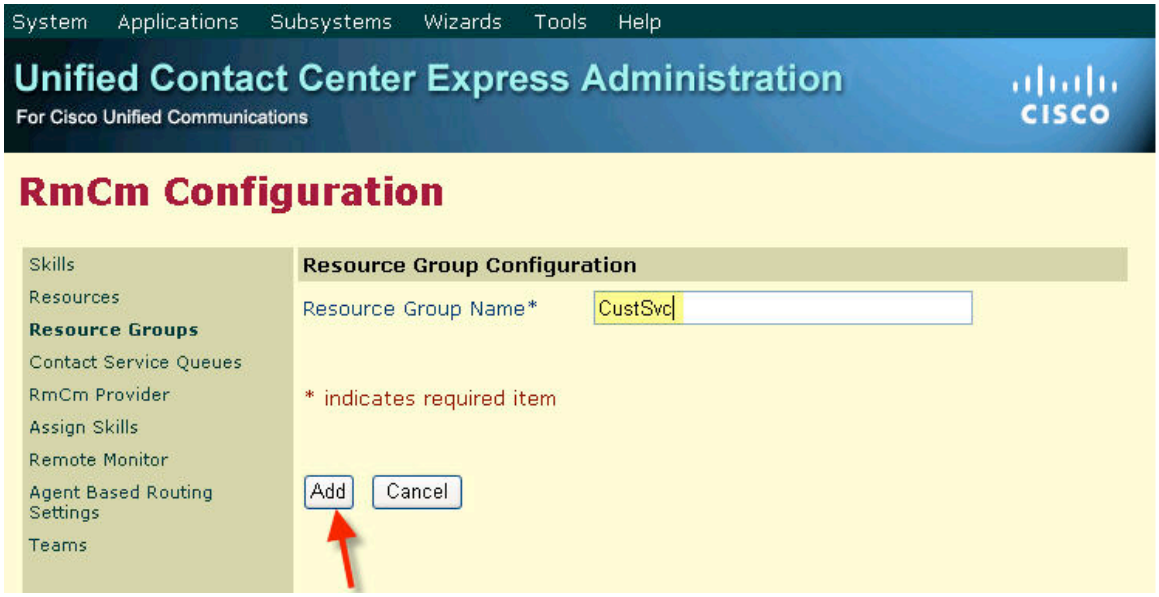
Navigate to Subsystems -> RmCm.

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".



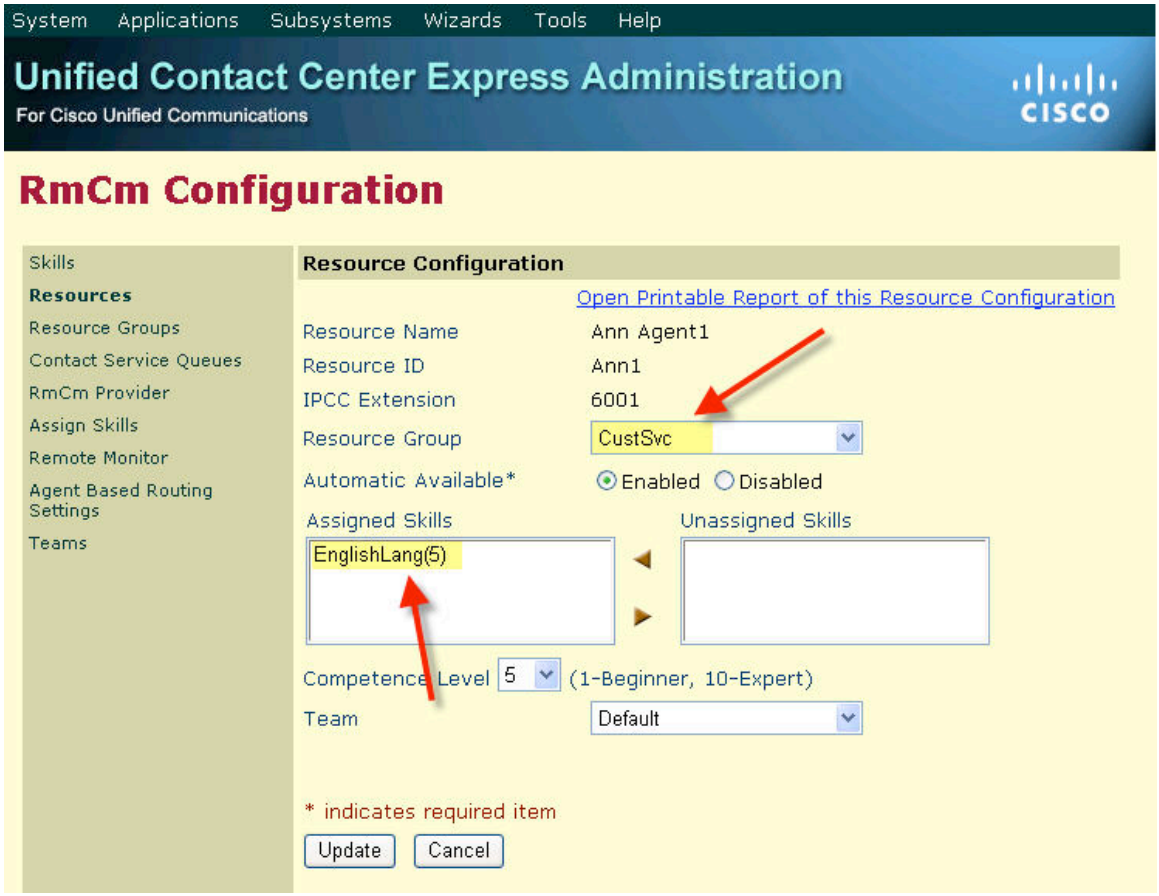
Step 3 – Click on "Resource Groups" on the lefthand column. Add a resource group called "CustSvc" and click "Add".

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



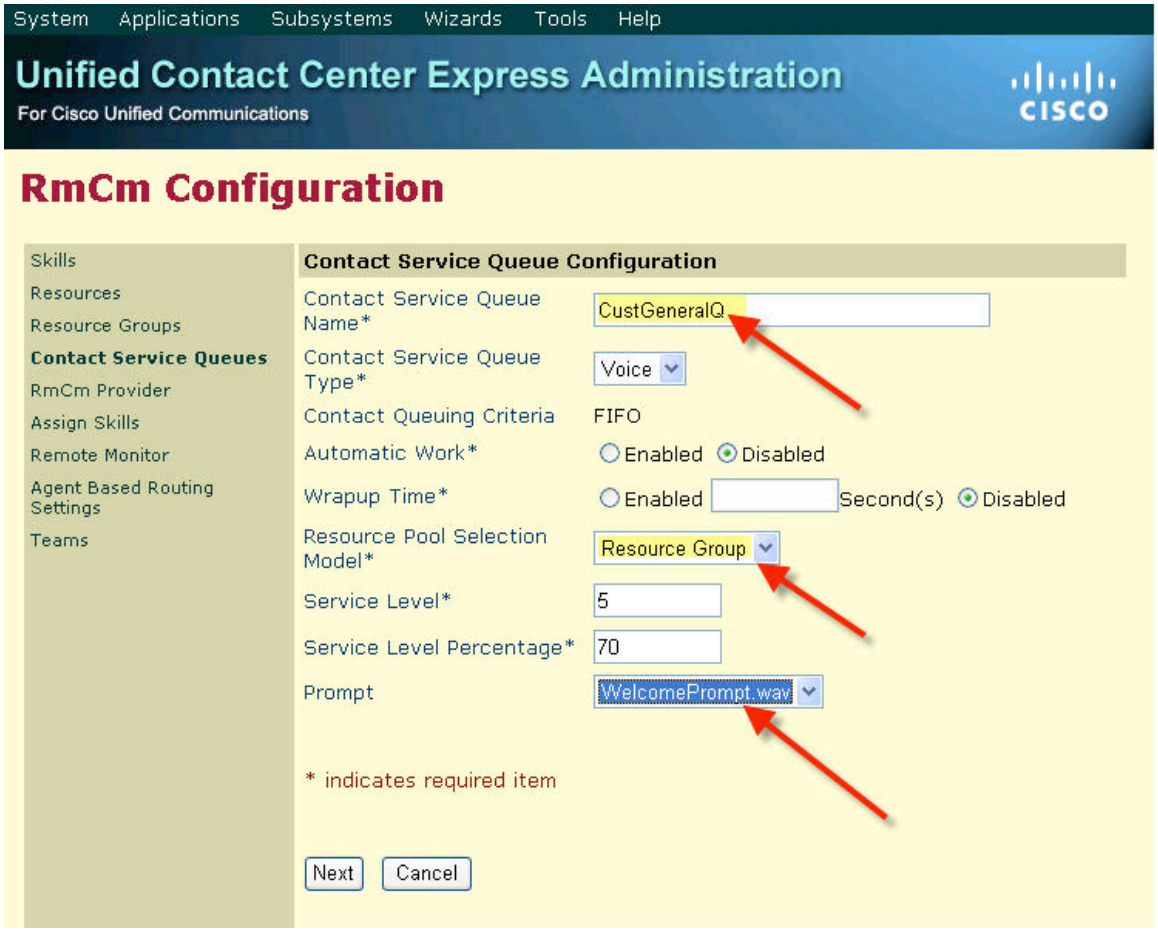
Step 4 – Click on "Resources" on the lefthand column. All of your defined agents should be shown automatically. Click on "Ann Agent1".

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.

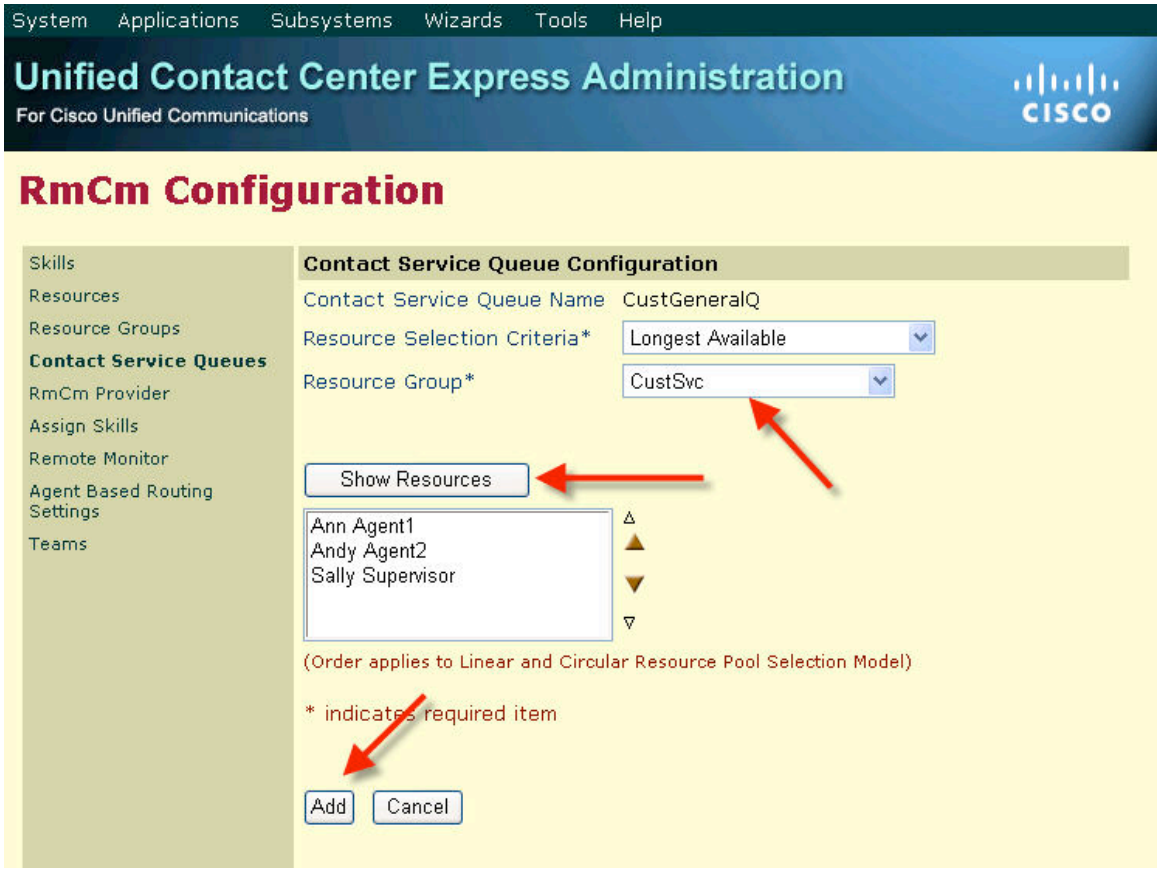


Step 6 – Select "Contact Service Queues" (CSQ) from the lefthand navigation bar. Create a queue named "CustGeneralQ" with the attribute shown below. Note that it is here that you can determine if Skill or Resource group selection is used. You can also set policy here to place the agent into post-call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

Click "Next"

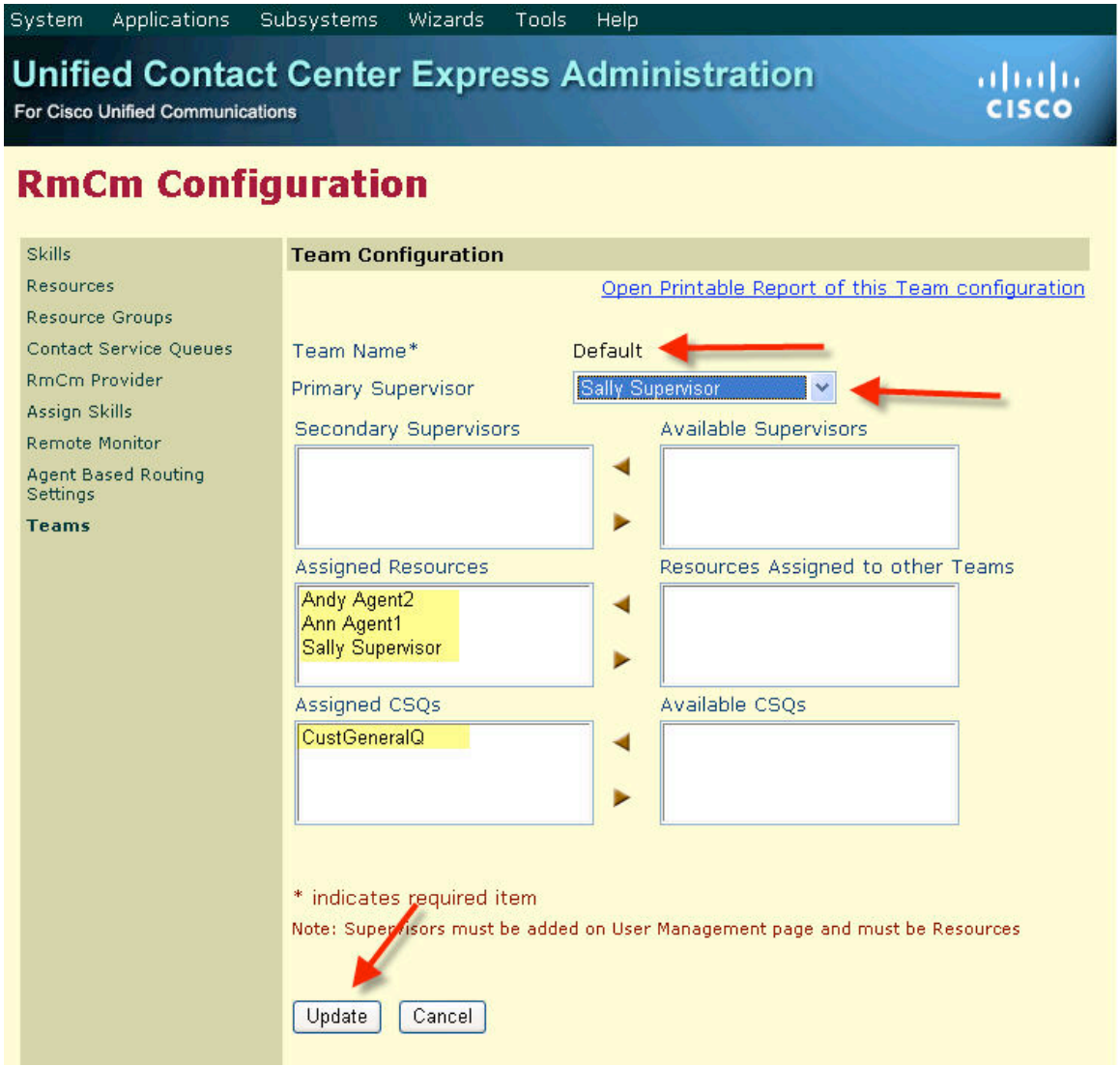


Step 7 – Add resource to the CSQ. Since we selected "Resource Group" as the selection mode in the previous step, this screen asks to identify which resource group to use. Select the "CustSvc" group we created earlier. Then click "Show Resources". All of the agents in that group will appear in the window. 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".



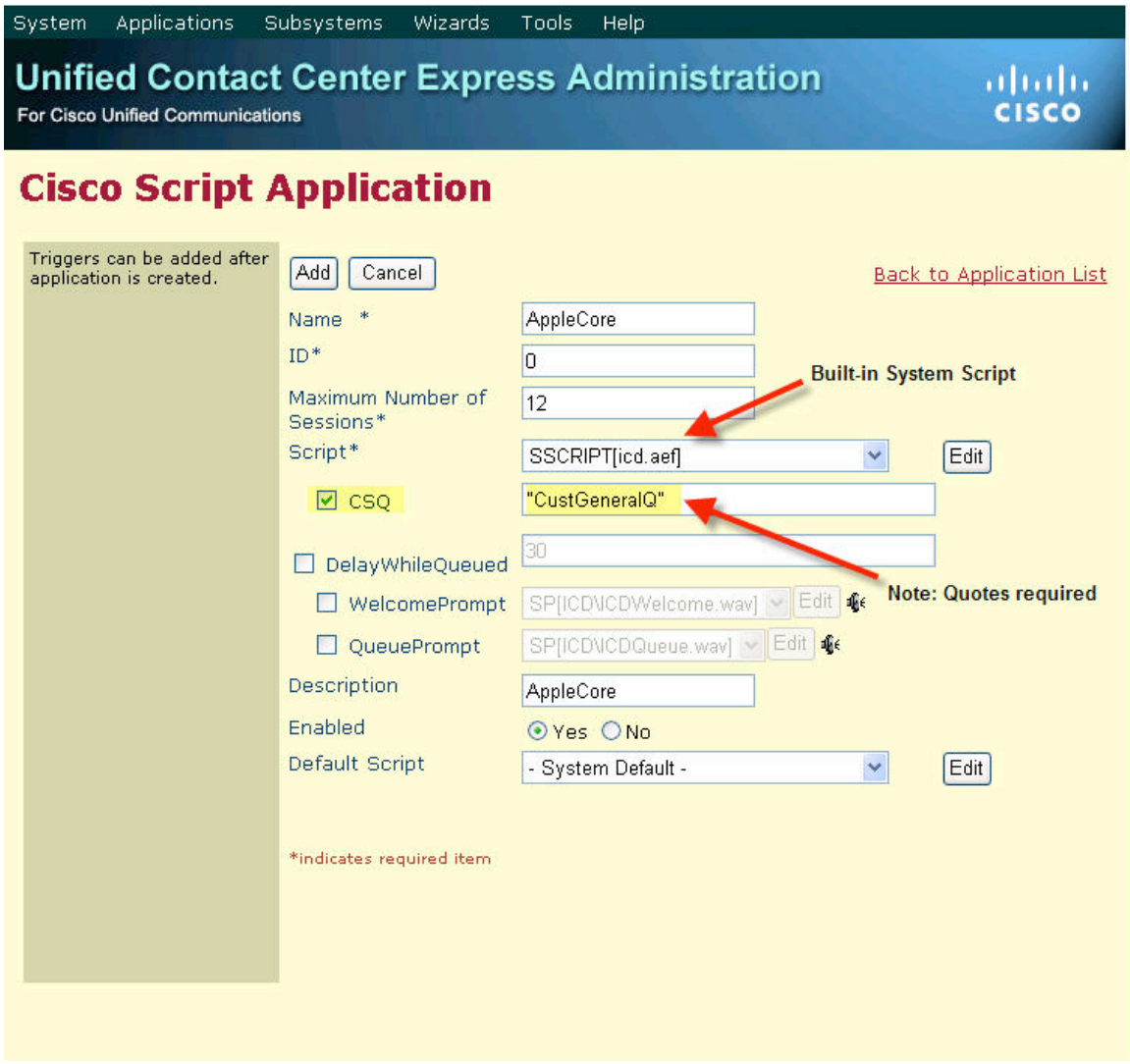
Step 8 – Click on "Teams" in the lefthand navigation bar. Supervisors manage teams of resources. Agent resources must be placed in teams in order for the supervisor to see their activity from the supervisor desktop application.

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



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.

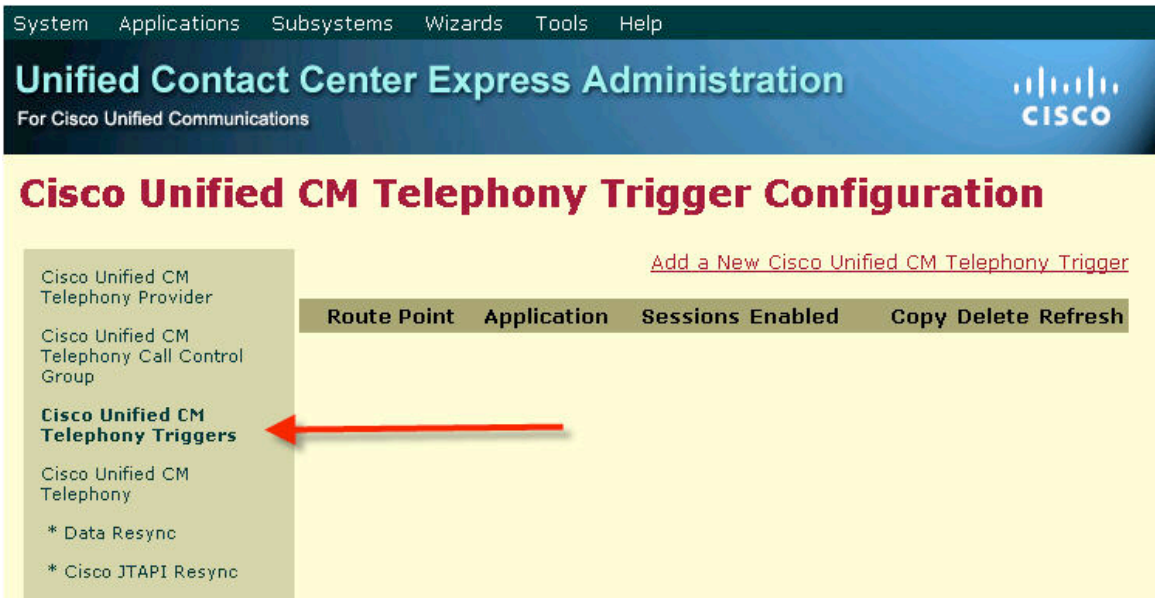
Step 10 – Configure an application called AppleCore as shown in the screen below. FIRST select the system icd script "[SSCRIPT]icd.aef". This will cause new fields to appear on your screen. Complete the configuration as shown. Notice that the quotes are *required* for the CSQ name. Set the Max Sessions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



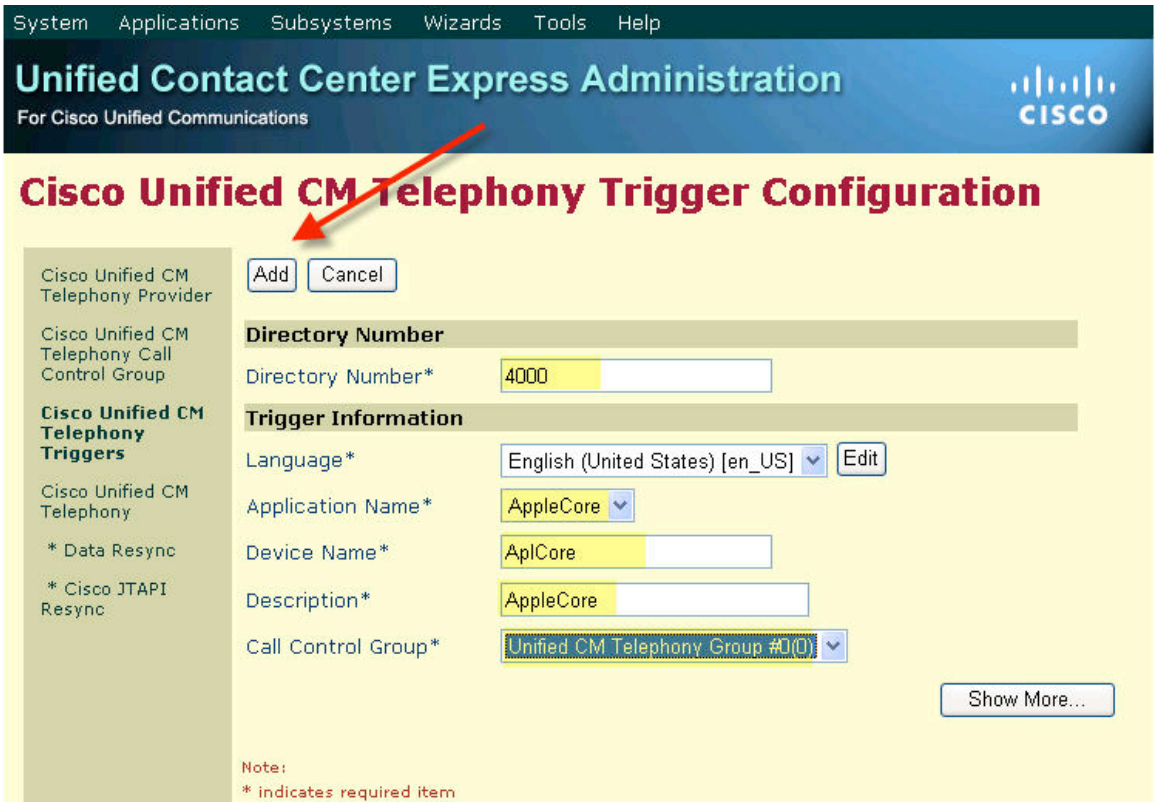
Step 11 –Define a trigger for your application. In the UCCX world, a trigger defines the entry point or initiator of an application. It can be a telephony trigger (phone call) or an http trigger (web page request).

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.



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

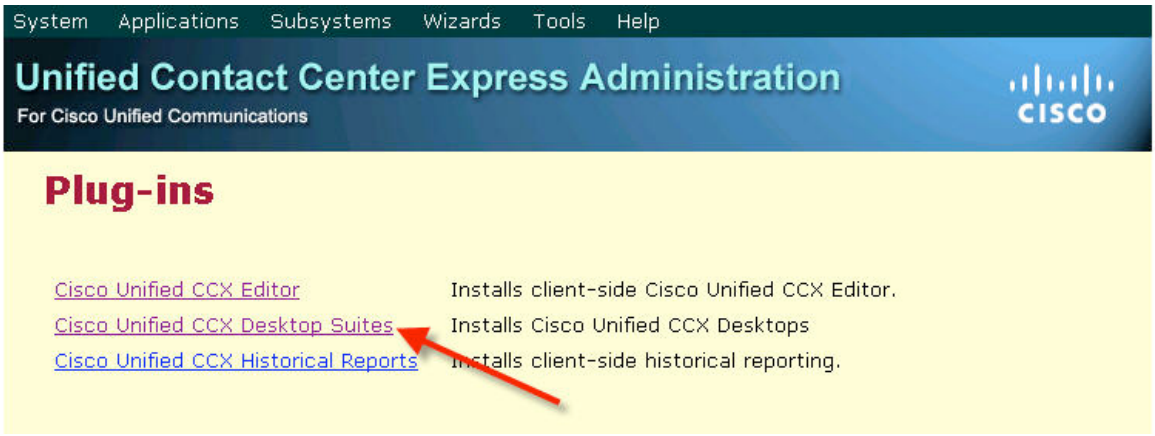


When the trigger has been successfully added, your application is ready to go!

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

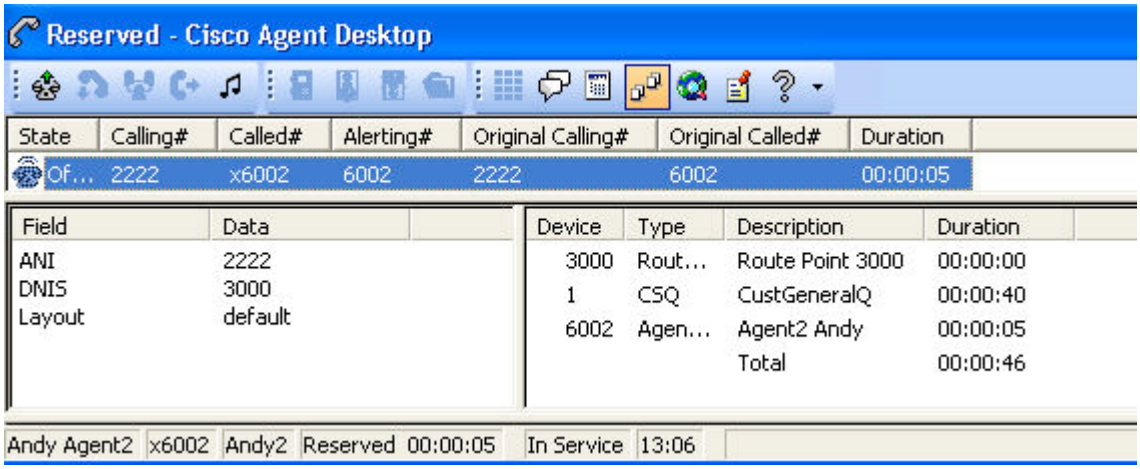
Explore the some of the other actions. Place multiple calls in queue, watch how quickly and in what order they are delivered. Make the agent not ready while on a call. Hang up and see what happens to the next call in queue.

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.

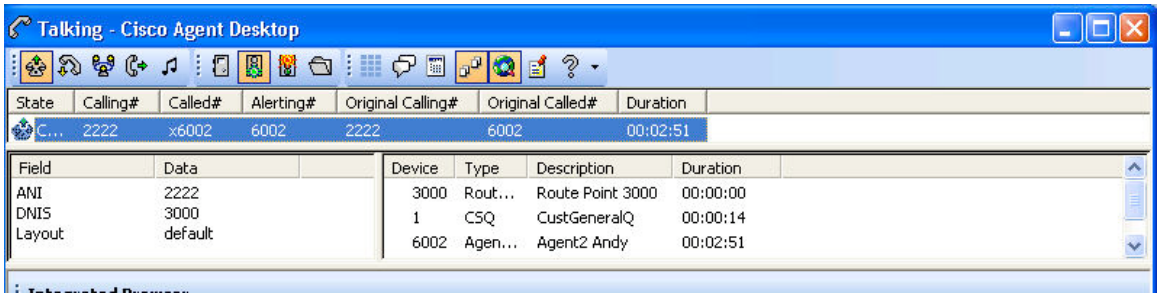
Place a call into the queue and click the "ready" icon on the CAD window as shown below.

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 been 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.

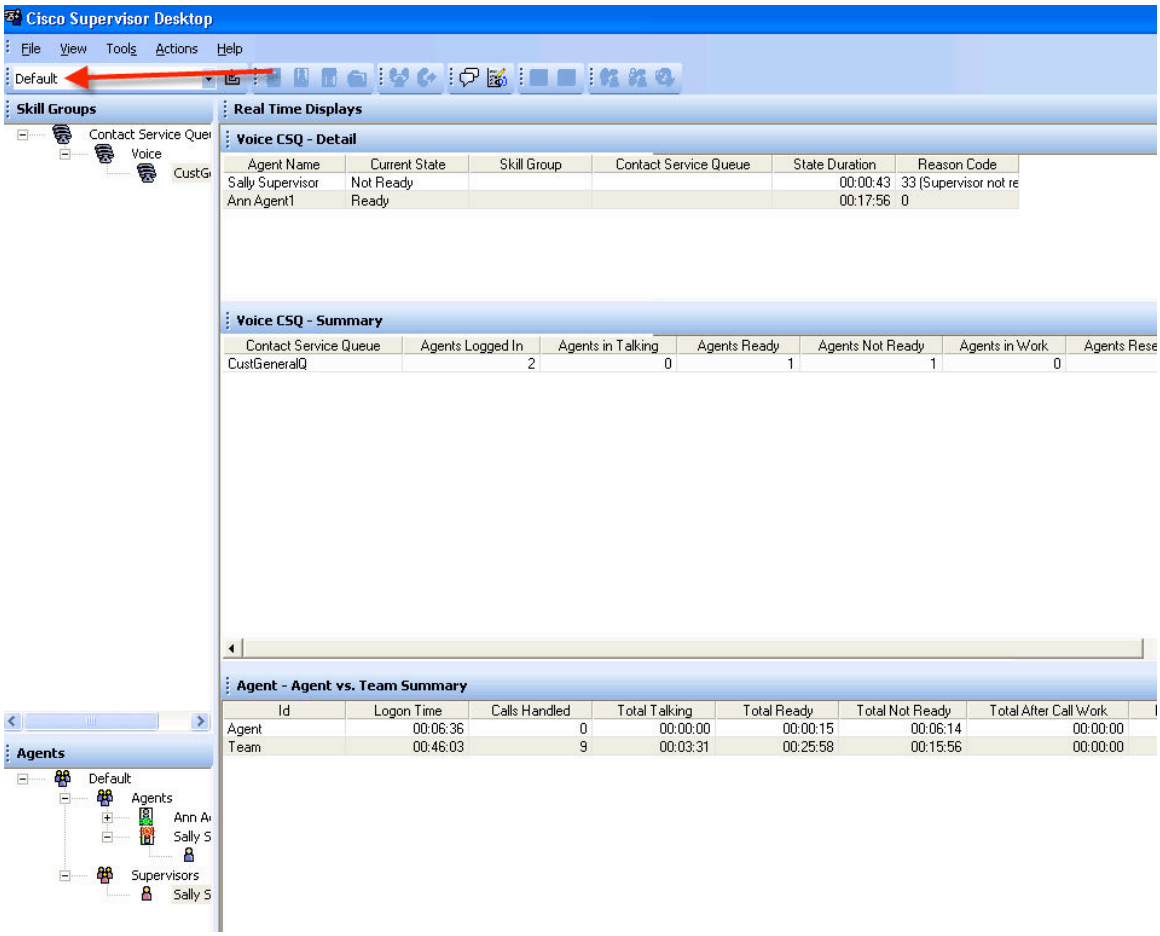
The administrator or supervisor using the Desktop Administrator application can further customize agent workflows. This application is not the subject of this lab but is available on the system. If you have extra time, install it and explore its capabilities as well.

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.



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.