Configuring the Cisco Four Port IP AutoAttendant Application on a CallManager Server

Document ID: 17729

Contents

Introduction

This document explains how to configure Cisco Four Port IP AutoAttendant (IP AA) software on an existing Cisco CallManager server.

This document assumes that your Cisco CallManager server already has IP AA 2.01b or a newer version installed.

Refer to the Cisco CallManager Compatibility Matrix for more information on Cisco CallManager and IVR compatibility information.

This document uses the Default Device Pool. In addition, all Locations are set to <None>, all Calling Search Spaces are set to <None> and all Partitions are set to <None>. If your configuration uses non−default Device Pools, Locations, Calling Search Spaces or Partitions, you must understand the implications of these features as they relate to applications such as IP AA before proceeding.

Note: Cisco IP AutoAttendant only supports g.711ulaw codecs.

Prerequisites

Requirements

Readers of this document should have this software installed on their Cisco CallManager server:

- Cisco CallManager version 3.0(5a) or later
- Cisco IP AutoAttendant 2.01b or later

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Media Convergence Server (MCS) 7835 running Cisco CallManager 3.0(7)
- Cisco IP AA v 2.01b
- Cisco 7960 IP Phone

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

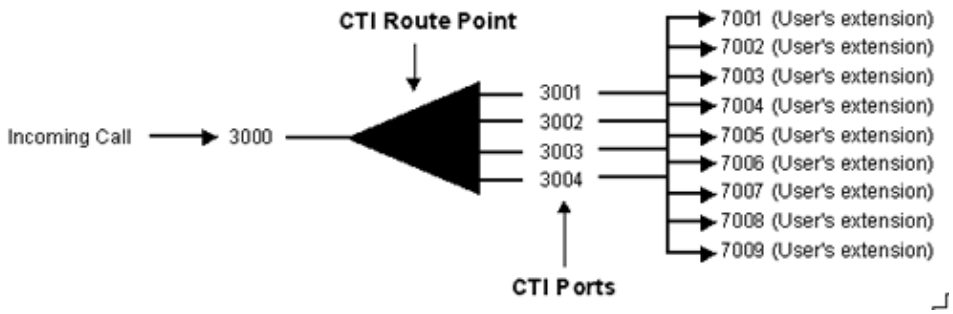
Task 1: CallManager Configuration − Creating One CTI Route Point

A Cisco Telephony Integration (CTI) route point is a virtual device that can receive multiple simultaneous calls for application−controlled redirection. In this case, the application is IP AA. Multiple simultaneous users (up to four) can dial the number assigned to IP AA and have their calls routed to a user's extension or the Operator's phone.

For first party call control, you must add a CTI port for each active voice line. Applications that use CTI route points and CTI ports include Cisco SoftPhone, Cisco IP AA, and Cisco IP Interactive Voice Response System.

For additional instructions on how to configure CTI route points and CTI ports associated with these applications, refer to the online help included with these applications.

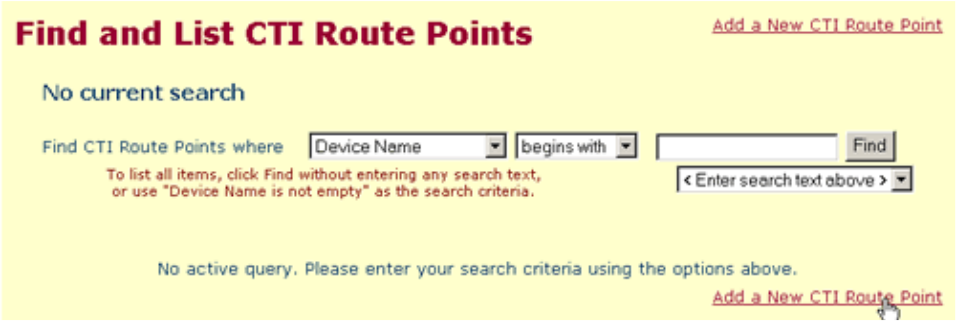
The Route Point and CTI Ports (created in the next section) behave like a hunt group. A call comes into a single number and is then handed off to another phone (CTI Port) for additional processing. This frees up the original number to accept the next call. In this example, a call comes into 3000 (CTI Route Point DN). If the CTI Route Point has an available CTI Port, the call is handed off to that port. Otherwise the call cannot be handled. The CTI Port then handles the call and forwards it as necessary.



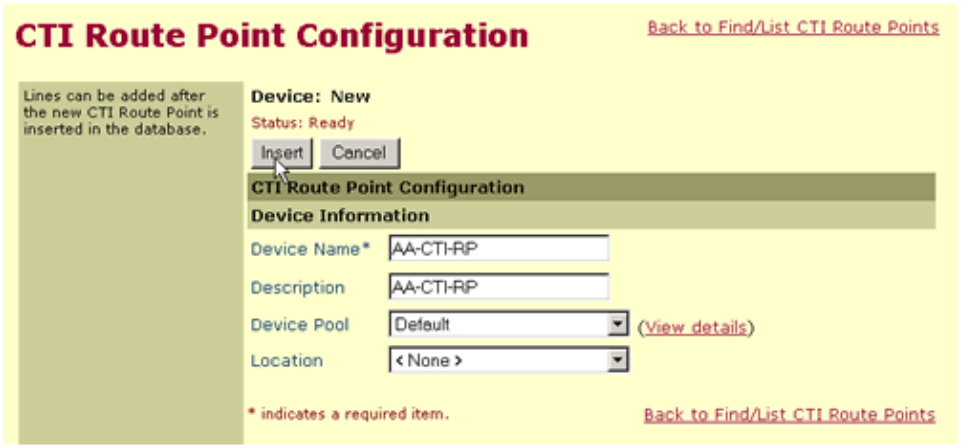
Complete these steps:

1. Choose **Device > CTI Route Point** from the main Cisco CallManager menu.

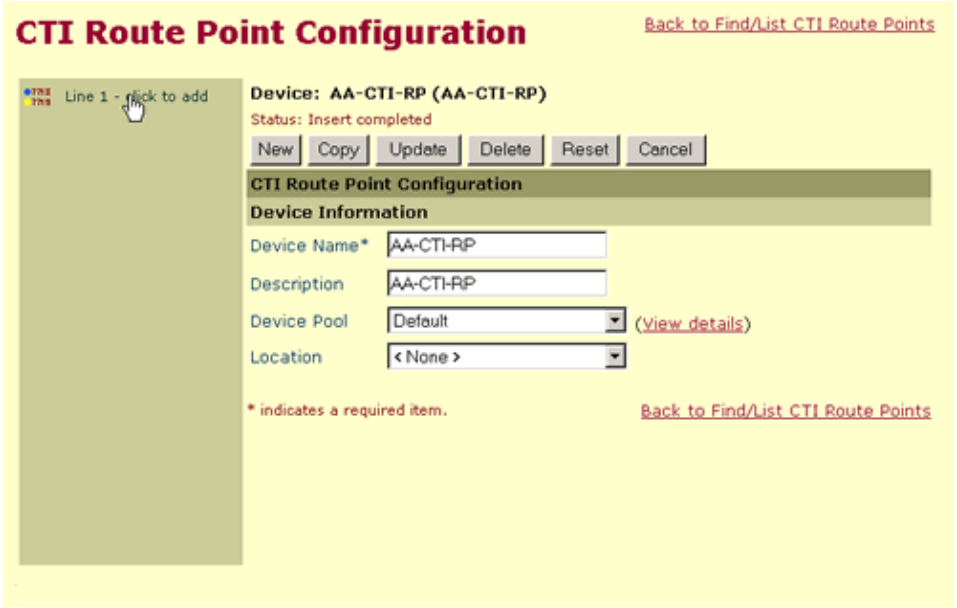
2. Choose the **Add a New CTI Route Point** option.



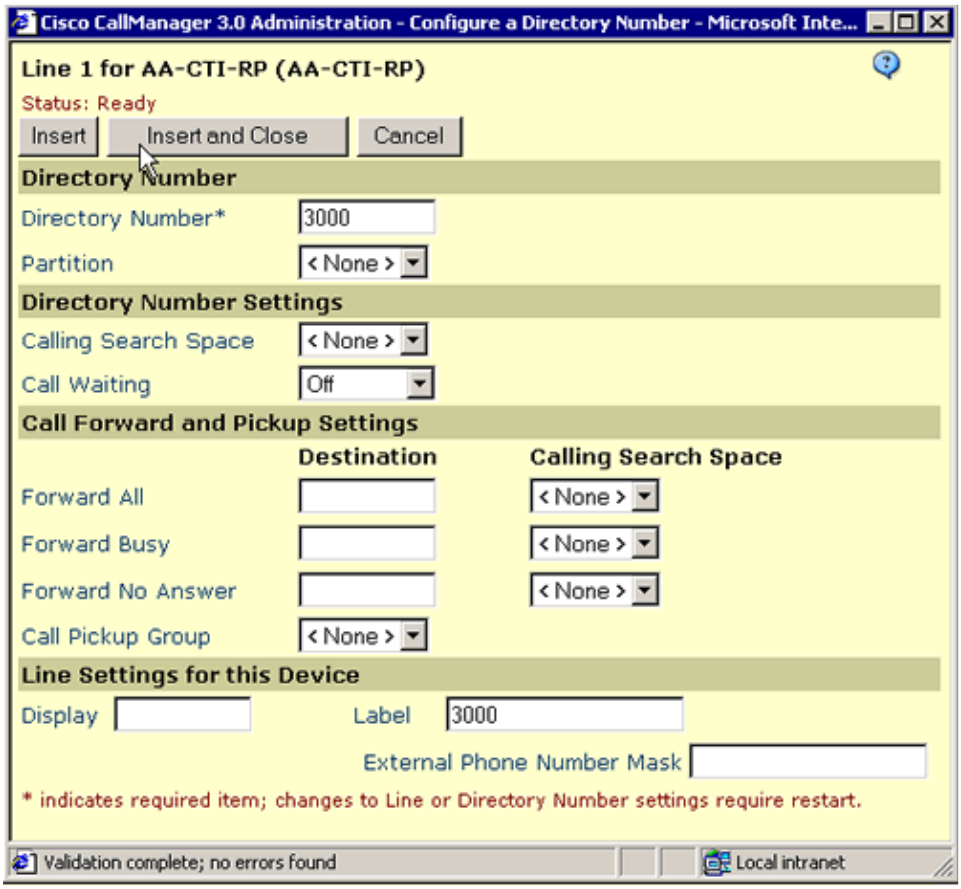
3. Assign a name to the Route Point. In this example, Device Name = AA−CTI−RP. Click **Insert**.



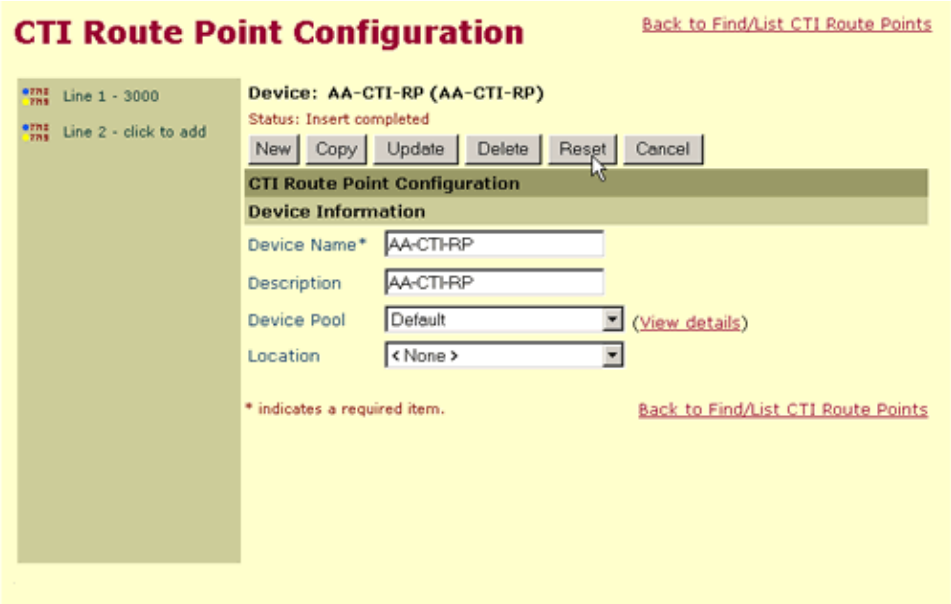
4. Once you have inserted the device, click **Line 1 − click to add to assign a Directory Number (DN)**.



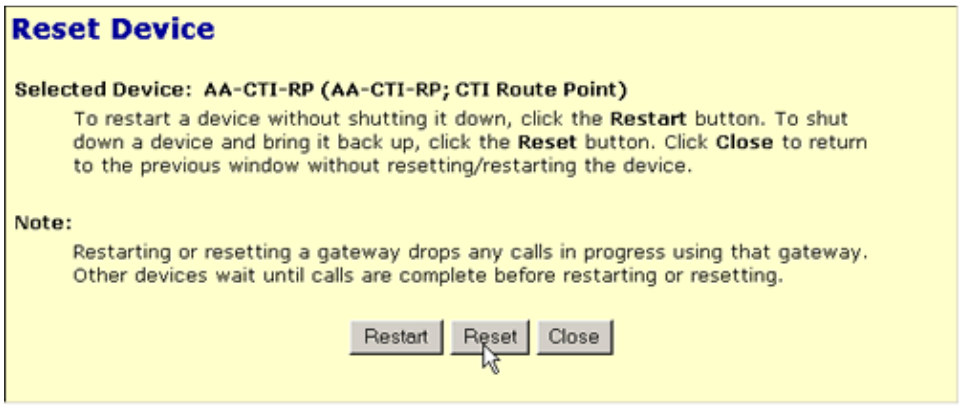
5. In this example, 3000 is used. This is the number that callers dial to speak to IP AA. Click **Insert and Close**.



6. Reset the Route Point.



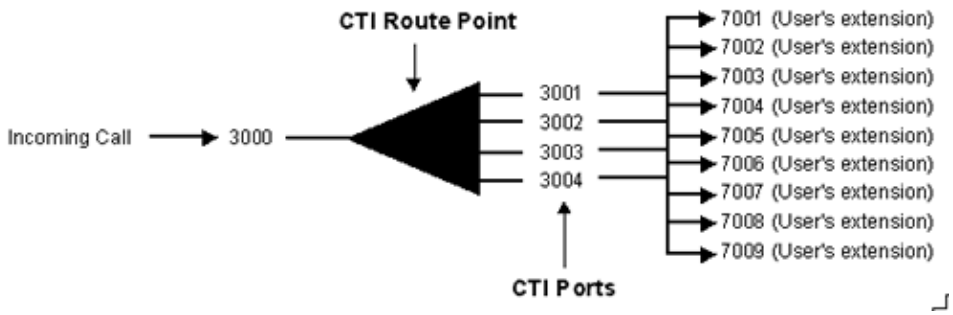
7. Click **Reset** on the Reset Device screen.



This completes the setup of the CTI Route Point. You now need to set up the four CTI Ports that are handled by this IP AA installation. Proceed to Task 2.

Task 2: CallManager Configuration − Creating Four Sequential CTI Ports

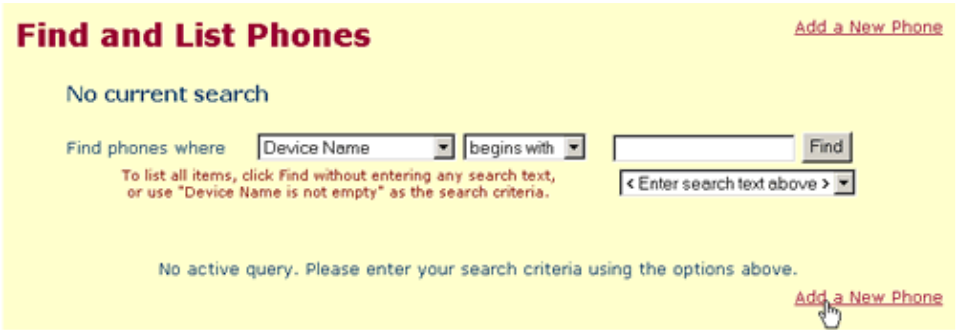
During this process, the four CTI Ports required by IP AA are created and their extensions (DNs) are assigned.



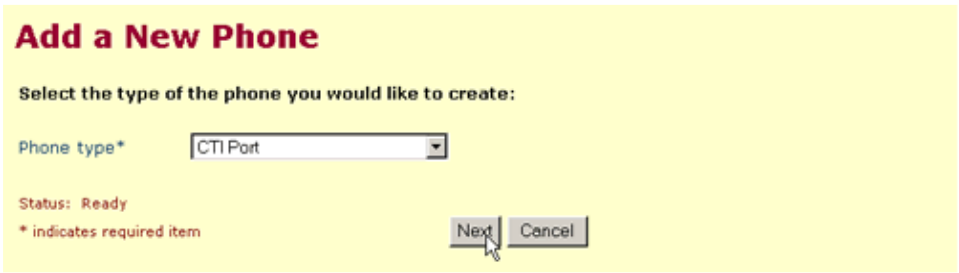
Complete these steps:

1. Choose **Device > Phone** from the main Cisco CallManager menu.

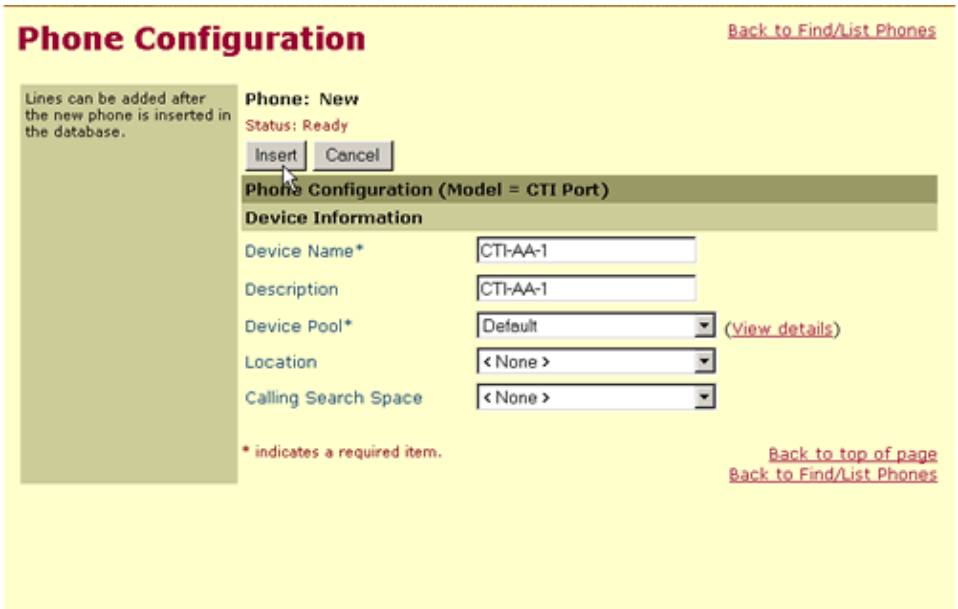
2. Choose the **Add a New Phone** option.



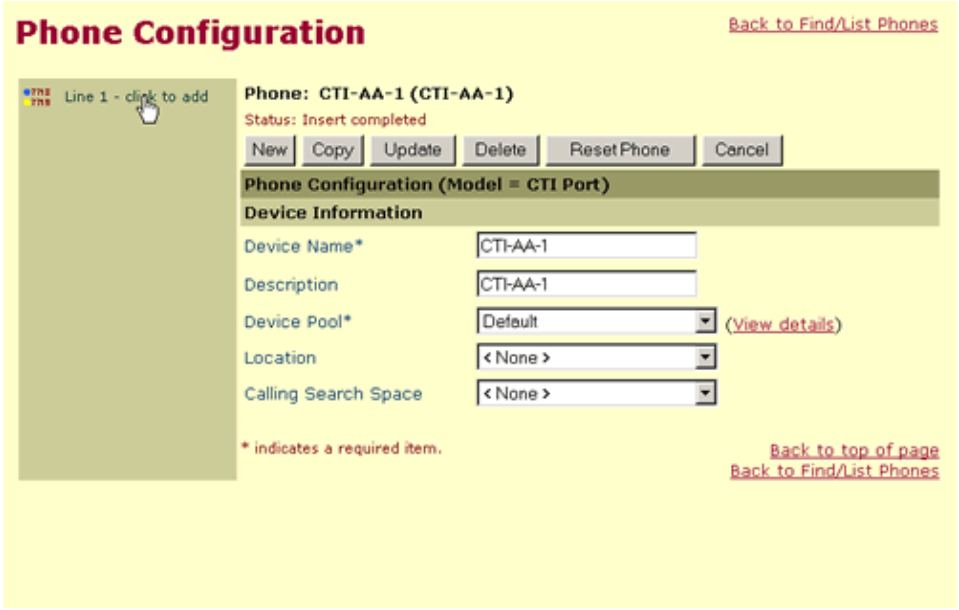
3. Choose **CTI Port** as the Phone type. Click **Next**.



4. Give the new CTI Port (phone) a descriptive name. In this case, *CTI−AA−1*. Click **Insert**.

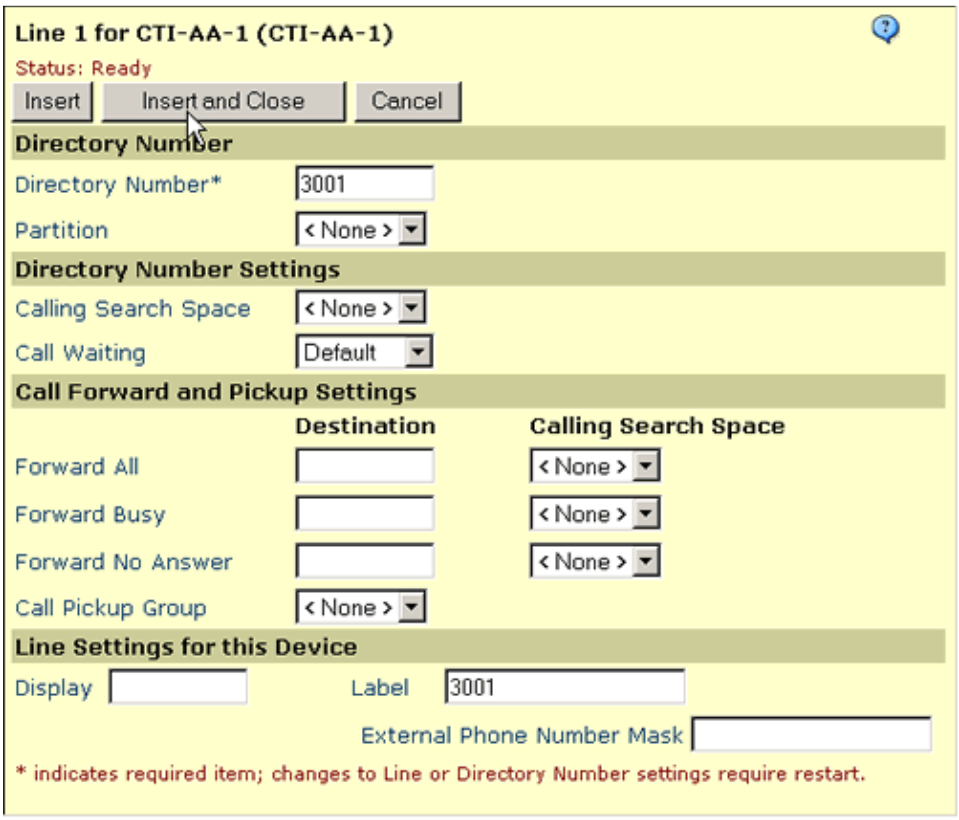


5. Click **Line 1 − Click to add**.

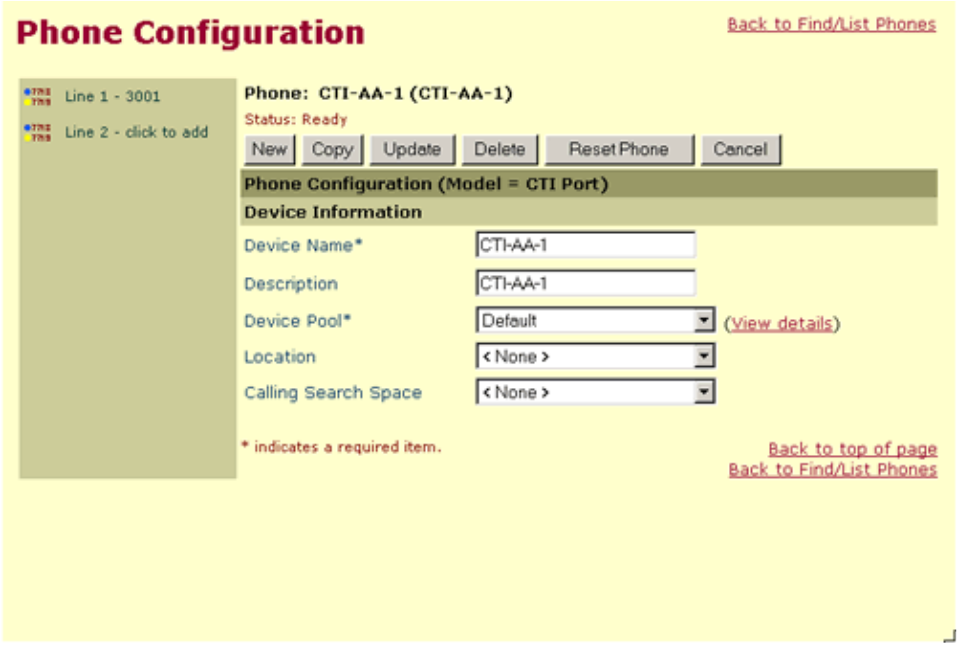


6. Select the initial number that is used for the first CTI Port DN. In this example the DNs are 3001, 3002, 3003 and 3004. Therefore, the initial number is 3001. Click **Insert and Close**.

   Note: The four DNs for the CTI Ports must be sequential. They do not, however, need to be sequential to the number assigned to the Route Point. For example, the Route Point could be DN 7000 and the CTI Port DNs could be 6001, 6002, 6003 and 6004. In this configuration all of the numbers are sequential to facilitate keeping track of the DNs that are associated with this instance of IP AA.



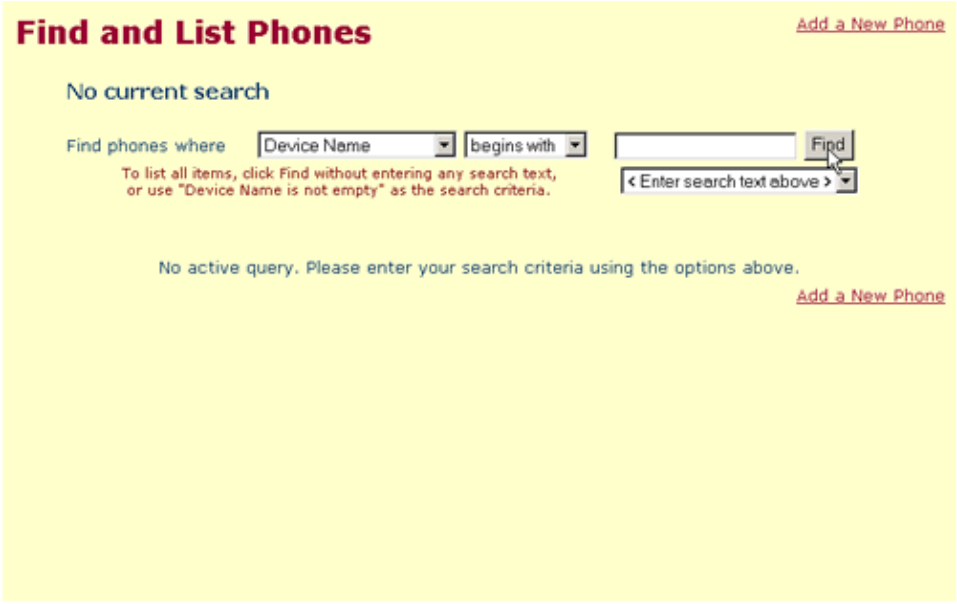
7. You should see this screen:



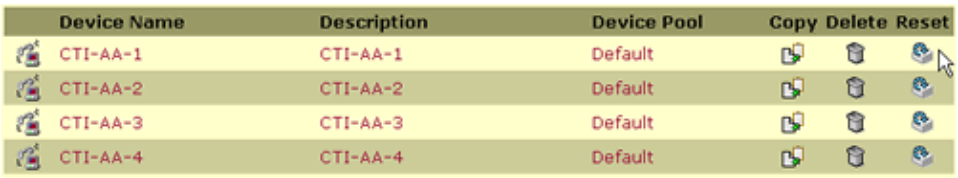
8. Repeat steps 1 − 7 to add the remaining three CTI Ports. In this case, CTI−AA−2 Line 1 = 3002, CTI−AA−3 Line 1 = 3003, CTI−AA−4 Line 1 = 3004.
9. Reset the four CTI Ports (phones) that you just created. Choose **Device > Phone** from the main Cisco CallManager menu.

10. Click **Find** to display all of the phones on the server.

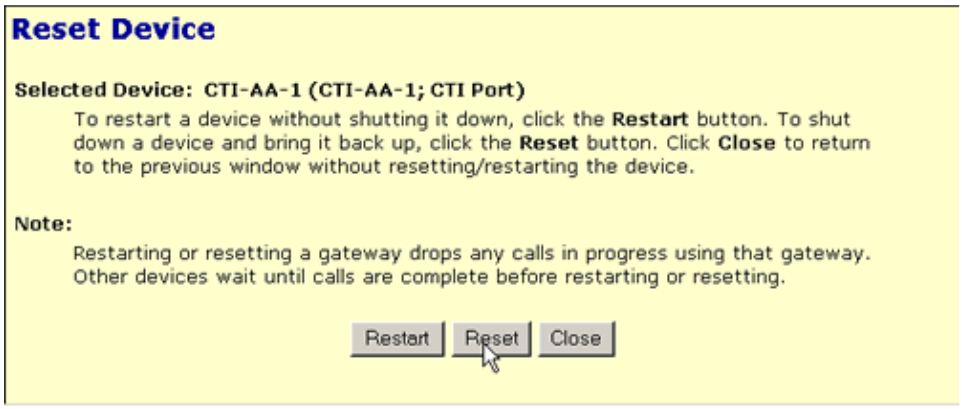
    You can also filter your search using the filter option.



11. You see a list of all of the phones on the system. Choose the **Reset** option next to CTI−AA−1.



12. Click **Reset** on the Reset Device screen.



13. Repeat the last two steps (step 11 and 12) for the remaining three phones.

This completes the tasks for creating the CTI Phones. You now need to create a user for IP AA. Proceed to Task 3.

Task 3: CallManager Configuration − Creating the User for IP AA

The IP AA application appears as a user to CallManager. This process creates and configures the IP AA user account. Complete these steps to create the user for IP AA.

Complete these steps:

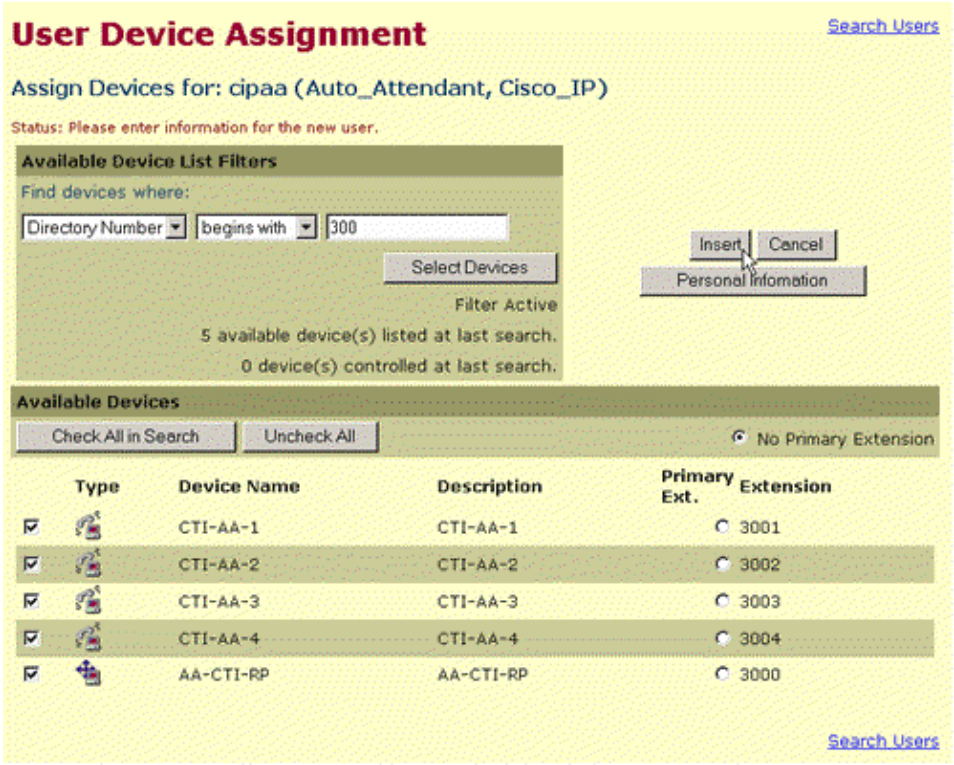
1. Select **User > Add New User** from the main Cisco CallManager menu.

2. Use entries that are descriptive. Some users enter JTAPI for every entry. The password used in this example is cisco.

Note: You *must* check the **Enable CTI Application Use** checkbox or IP AA is not able to receive calls from CallManager.

Note: The number that is used to contact IP AA (3000 in this case) is not configured for the IP AA user. The number has already been configured in step 5 of the process for creating the CTI Route Point. Do not configure the number on this screen.

3. Click **Associate Devices**.
4. On this screen, a filter of 300 was used to limit the items returned to the devices that were created for this IP AA installation (3000, 3001, 3002, 3003, 3004). The **Select Devices** option was selected. This resulted in the bottom of the screen being populated with all of the devices whose Directory Number (DN) begins with 300.



Select the appropriate devices. In this case, all of the CTI−AA−X devices, as well as AA−CTI−RP device should be checked. Choose the **No Primary Extension** option. When you are finished, click **Insert** to complete this task.

5. You should see this screen:

You have now completed adding and configuring the new user for IP AA.

If your Cisco CallManager already has the JTAPI plugin installed and operational, skip Task 4, and go to Task 5. Otherwise, proceed to Task 4 to install the JTAPI plugin.

Task 4: JTAPI − Installing the JTAPI Plugin

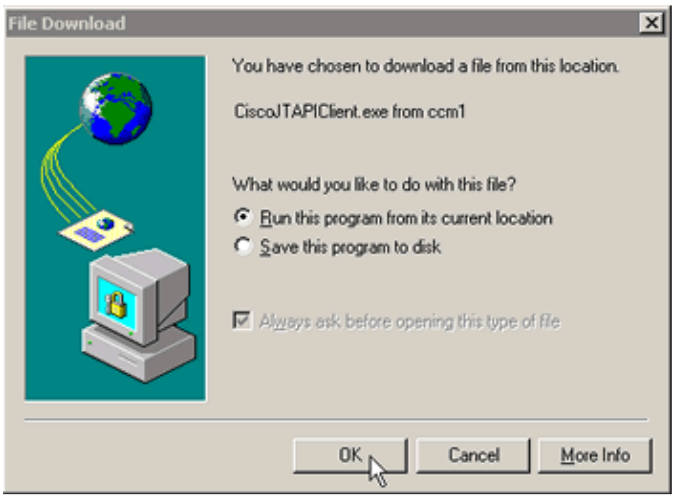
This step installs or upgrades the Java Telephony API (JTAPI) plugin on your Cisco CallManager server. The application determines if this is a new install or an upgrade. You can also reinstall the same version again if you believe that your installation has a problem.

Note: This task is optional if the plugin is already installed.

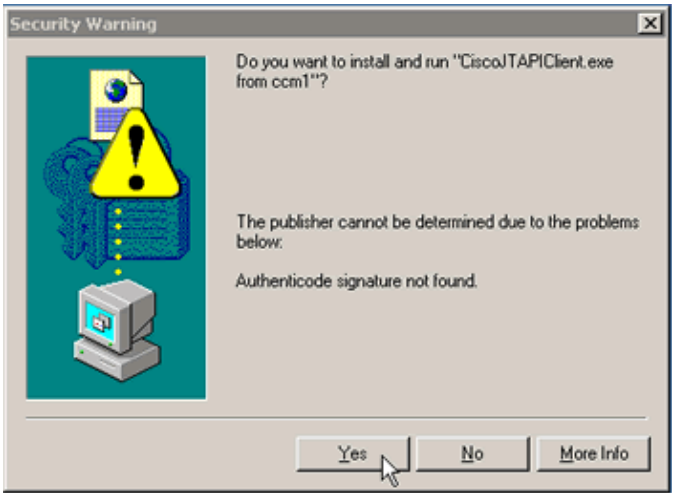
Complete these steps:

1. Start the JTAPI plugin installation or upgrade your current plugin (as required). Choose **Application > Install Plugins** option from the main Cisco CallManager menu.

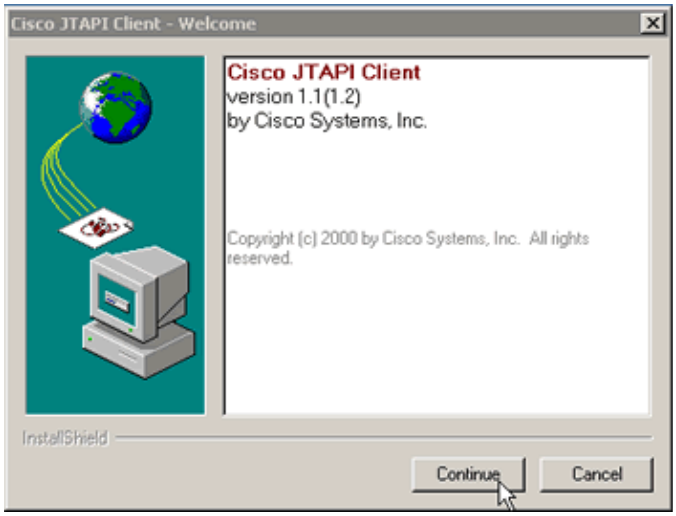
2. Choose **Run this program from its current location**.



3. Click **Ok**.
4. You see this window:

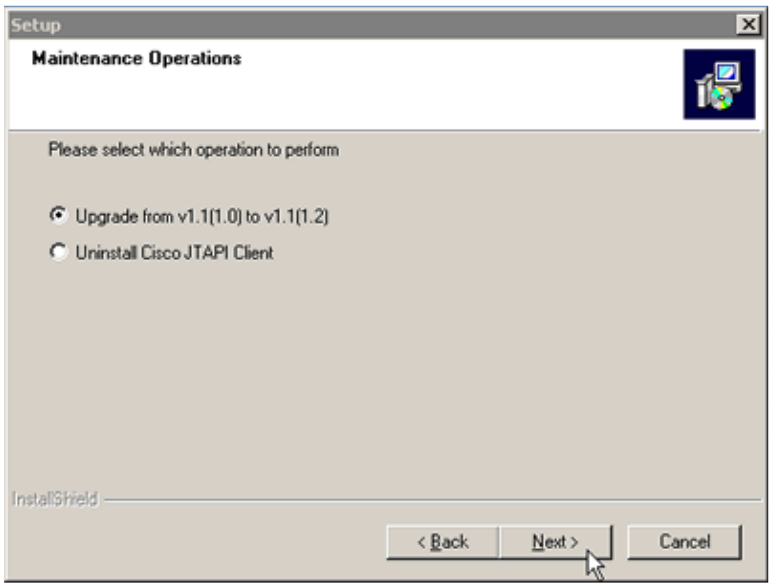


   If you see this window, answer **Yes**.
5. This is an information screen; it does not require user input:



Click **Continue**.

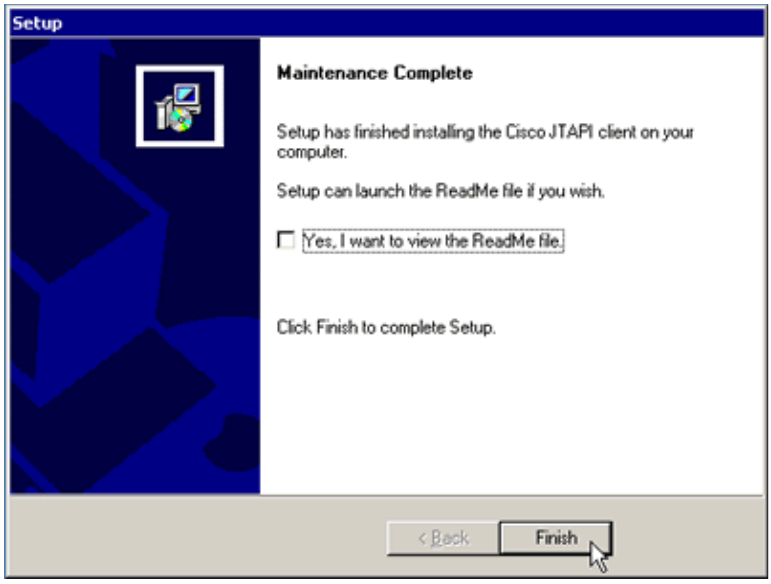
6. This window indicates that an older version of JTAPI has already been installed on this system:



This is probably due to the fact that the version of Cisco CallManager has been upgraded since the last time the JTAPI installation (maintenance) task was run. If you see this window, select **Upgrade from [*current version*] to [*newer version*]**.

Note: You may see a different window that asks if you want to install JTAPI. This occurs if the system has never had JTAPI installed on it. Select the option that causes the procedure to continue. This could be **Next, Continue, Yes, Ok** or a similar option.

7. The final screen gives you a chance to view the readme file:



Select this option if you want to view the file. Click **Finish**.

8. You have now completed this task. You must reboot the Cisco CallManager server to activate the changes.

   When the server is back online, you need to configure the IP AA. Proceed to task 5.

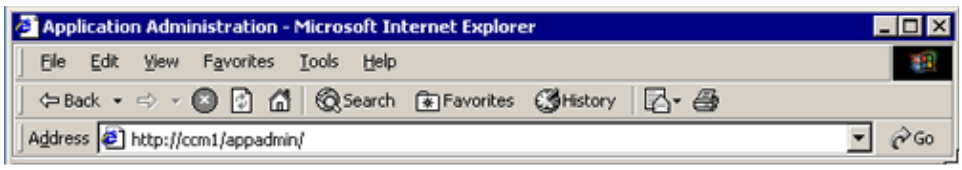
Task 5: IP AA − Configuring the Application

This task finishes the IP AA application configuration. You are creating relationships in the IP AA application with the CTI Route Point and CTI Ports you created earlier. You are also configuring the IP AA Username into the IP AA application.

Complete these steps:

1. If you want to use the Cisco CallManager server's DNS name in the <directory hostname> field of the server application configuration dialogue, the server must be able to resolve its name to its IP address. You can test this by pinging the server's name from a command prompt on the server. If you need help with this task, refer to Configuring the Hosts File in CallManager 3.0.

   The other option is to use the Cisco CallManager server's IP Address in this field.
2. Connect to the Application Administration tool on your Cisco CallManager server by entering this URL into the browser: **http://<*Your Call Manager's name or IP address*>/appadmin/**. In this example, the entry is http://ccm1/appadmin.



3. Click **Setup** on the first screen.

4. Configure the directory.

   In this dialogue window, you should enter these values exactly, with these exceptions:

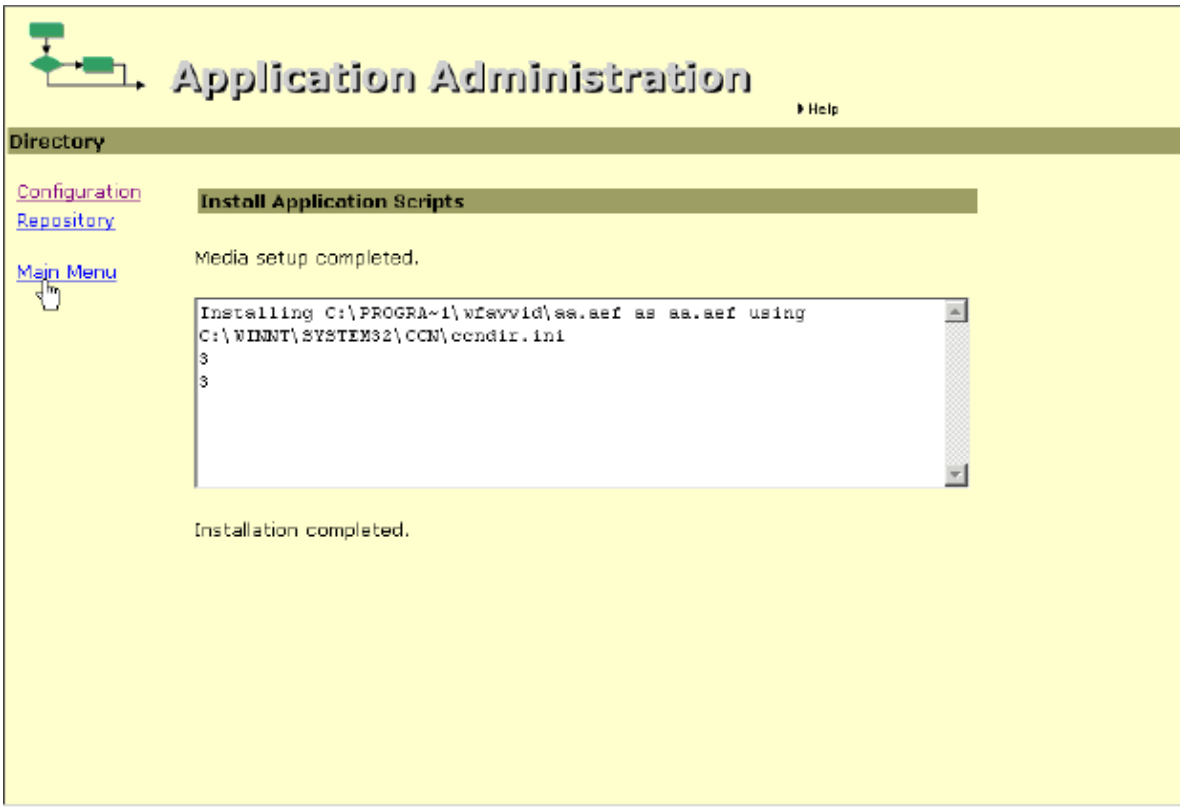
   - **Directory hostname** Should match your Cisco CallManager server's name or IP address.
   - **Configuration Profile Name** Can be any name that has not already been used.
   - **Password** Change only if you know for certain that your directory password has been changed from the default of ciscocisco.

   Note: The Server Application does not work if you make any other changes.

   Caution: The syntax of the Directory User and Base Context entries is extremely important. The Server Application does not work if they are not entered exactly as they appear.

Click **Ok**.

5. You see this screen:



Click **Main Menu**.

6. Choose **JTAPI**.

7. Choose these entries on the screen:

   - The CallManager server name In this case, ***ccm1*** .
   - Username (UserID) of the IP AA user you created previously In this case, ***cipaa*** .
   - The password you assigned to the IP AA user In this case, ***cisco*** .

   Click **Update**.

8. You see this screen, which indicates that the JTAPI application has been updated successfully:

Click **Add New CTI Port Group**.

9. Select Type = **Applications**.
10. Click **Next**.
11. On this screen, enter the numbers that you assigned to the CTI Route Point and the CTI Phones.

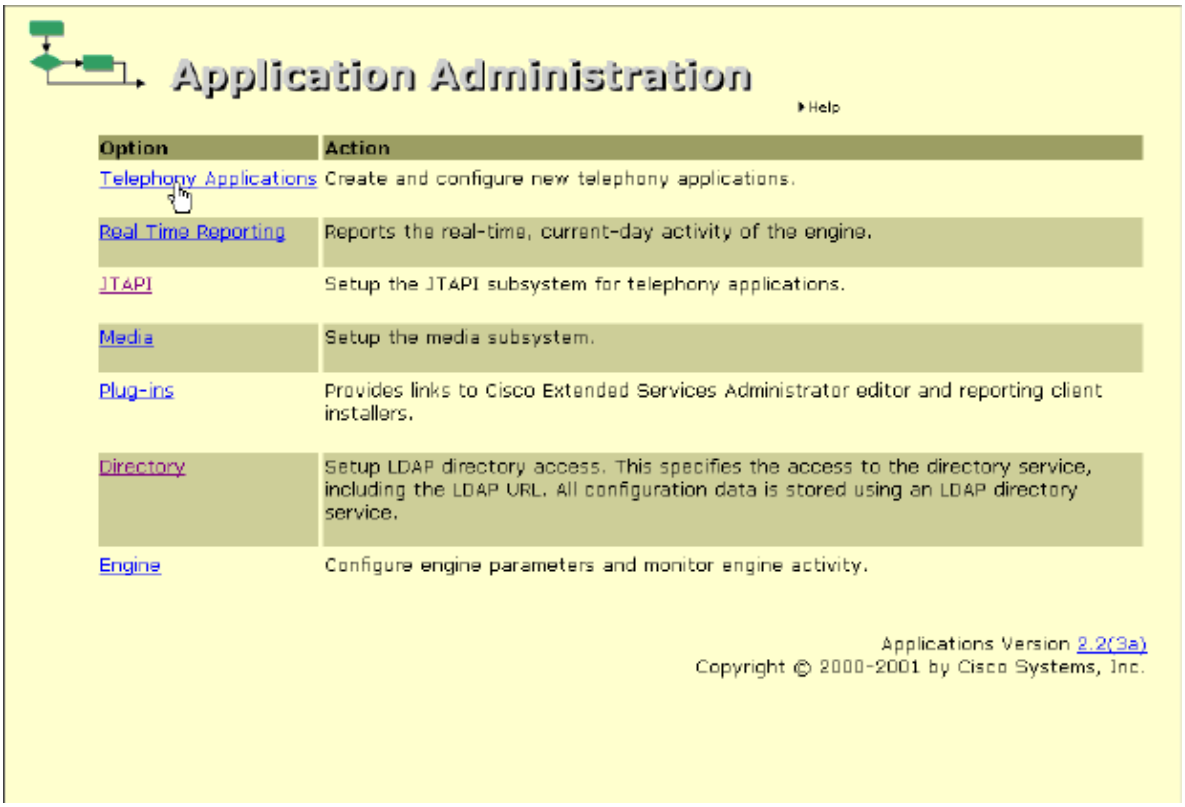
In this case, the correct responses are:

- Number (CTI Route Point) 3000
- Initial CTI Port (First CTI Phone Line) 3001
- Last CTI Port (Last CTI Phone Line) 3004

12. Click **Update**.
13. You see this screen, which indicates that the CTI Port Group has been configured successfully:

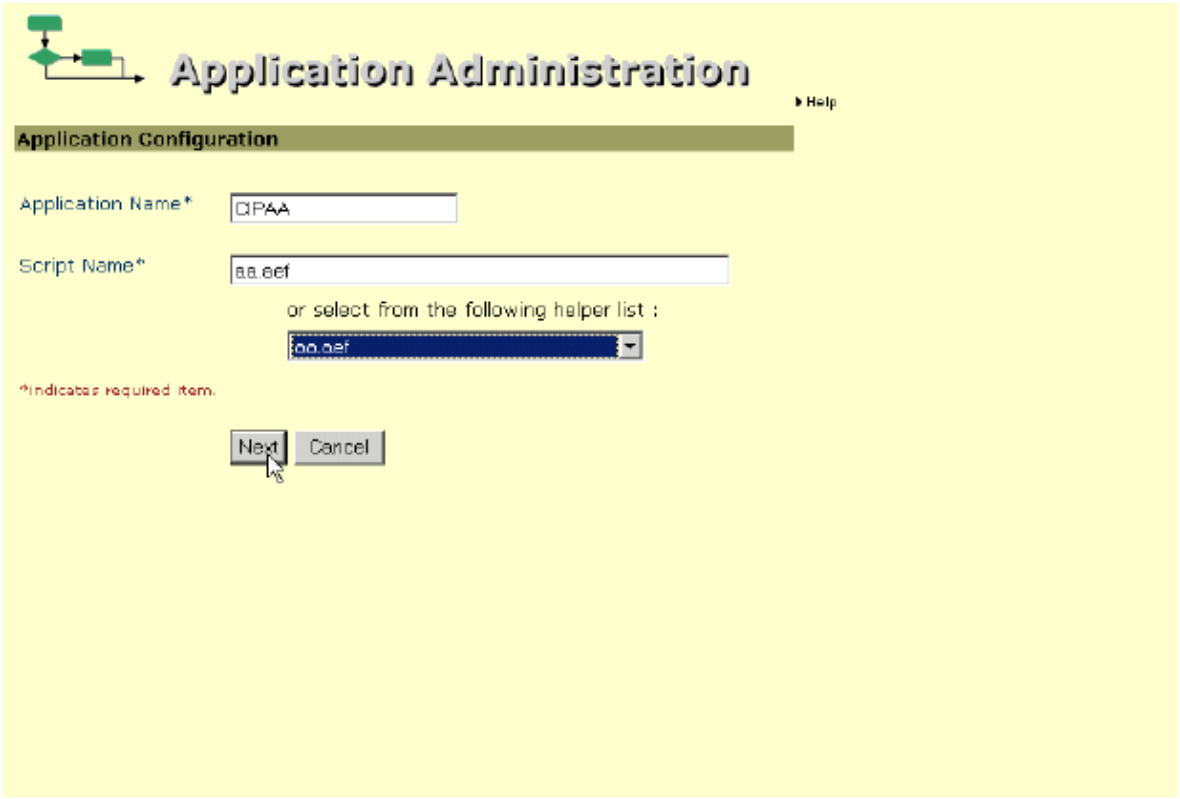
Click **Main Menu**.

14. Click **Telephony Applications**.



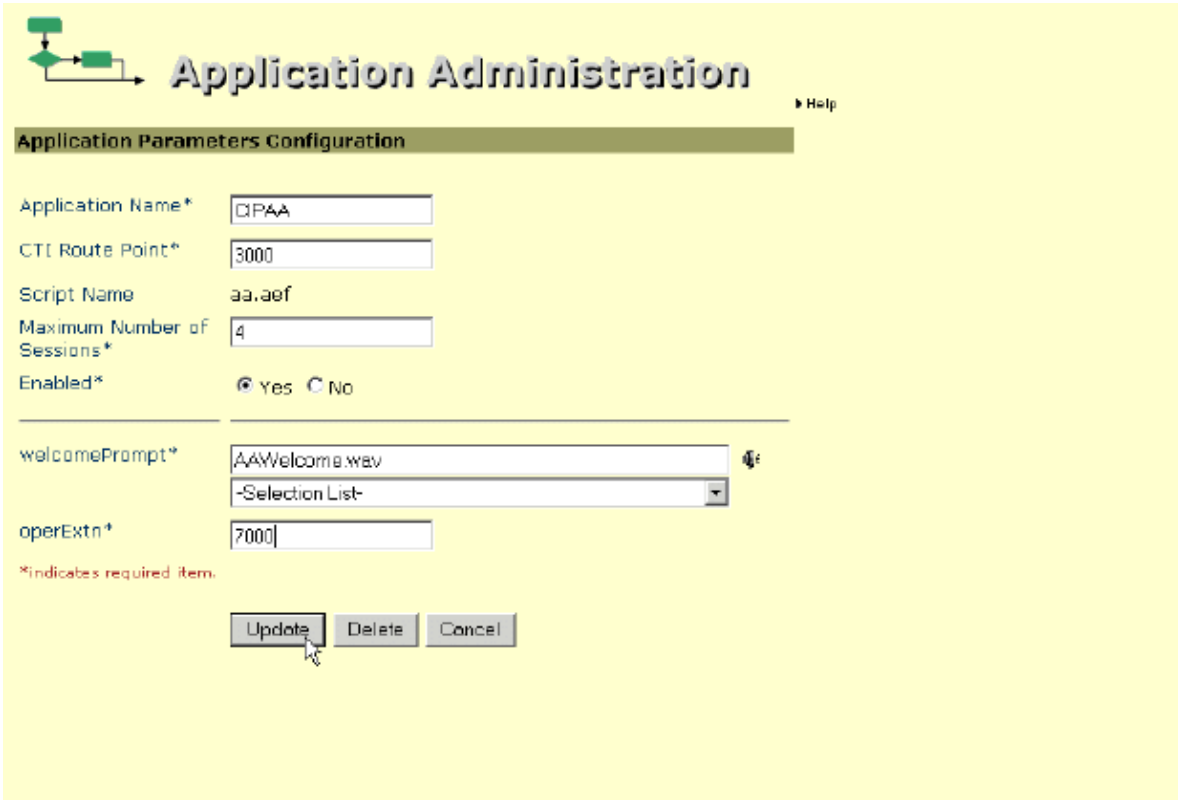
15. Click **Add new application**.

16. You can use any name for Application Name that has not been used before for an application. In this case, the IP AA UserID is used. Select **aa.aef** from the list as Script Name.



Click **Next**.

17. On this screen, enter a name for this configuration:

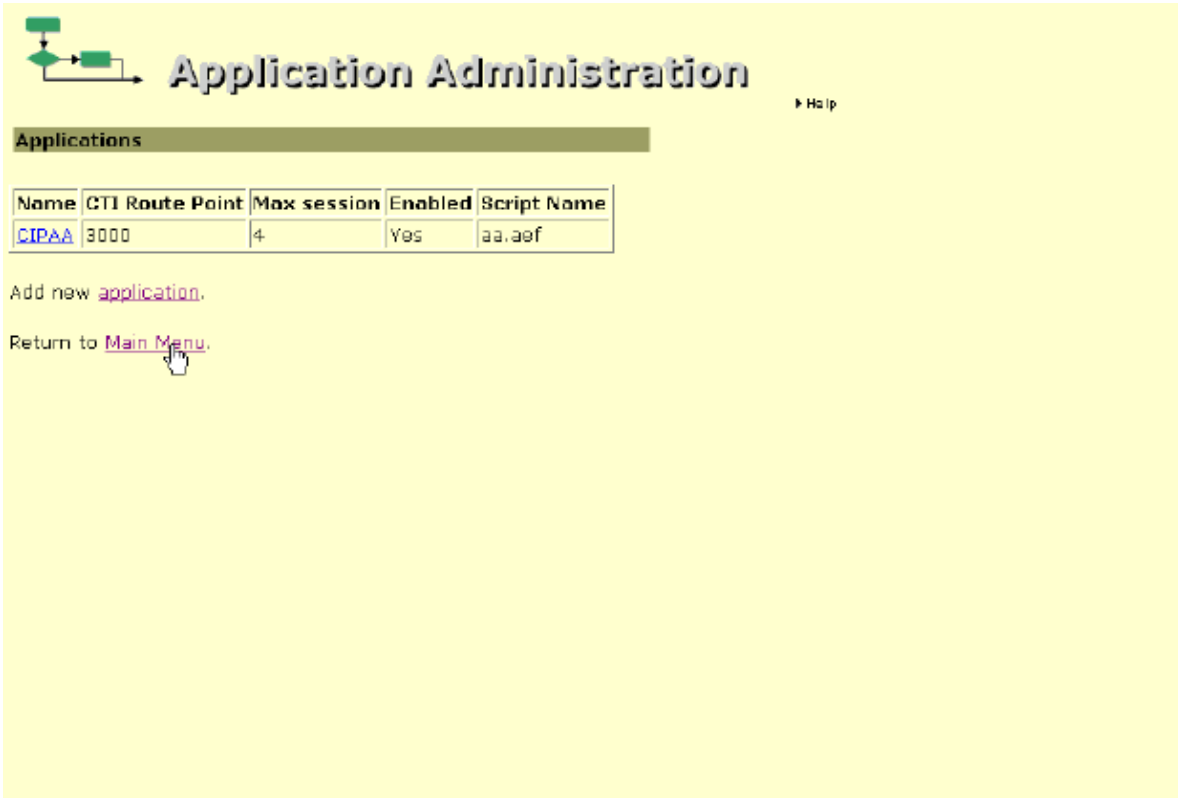


In addition, you need to enter the numbers that you assigned to the CTI Route Point and the maximum number of sessions. In this case, the correct responses are:

- **Application Name** Any name that has not been used before for an application. In this case, the IP AA UserID is used.
- **CTI Route Point** 3000 (in this case).
- **Maximum Number of Sessions** 4 (the four port version of IP AA is being installed; therefore, 4 is the correct answer).
- **welcomePrompt** AAWelcome.wav is the default greeting.
- **OperExtn** This is the extension that the call is transferred to if the caller presses 0 during the Welcome message.

Note: This document does not cover changing the voice prompts.

18. Click **Update**.
19. You see this screen:



In this case, note that the name CIPAA shows up as a hyper link in the table.

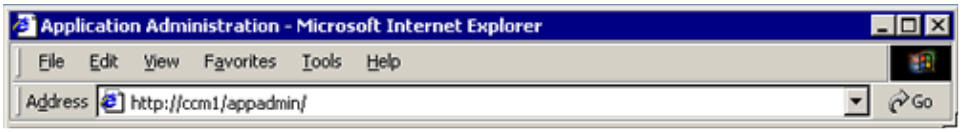
You have now completed the task of configuring IP AA. You must now start the Application Engine and the JTAPI Subsystem. Proceed to task 6

Task 6: IP AA − Starting the Engine and JTAPI Subsystem

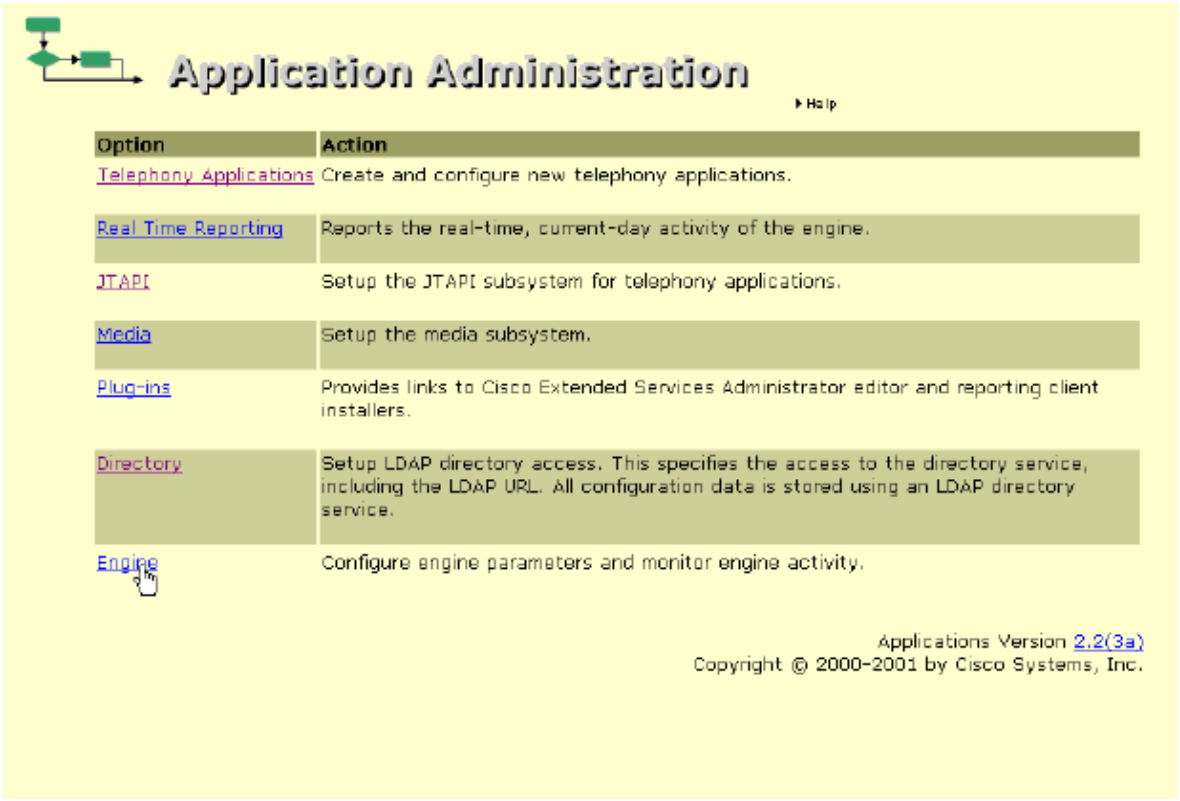
This task explains how to start the Application Engine and JTAPI Subsystem.

Complete these steps:

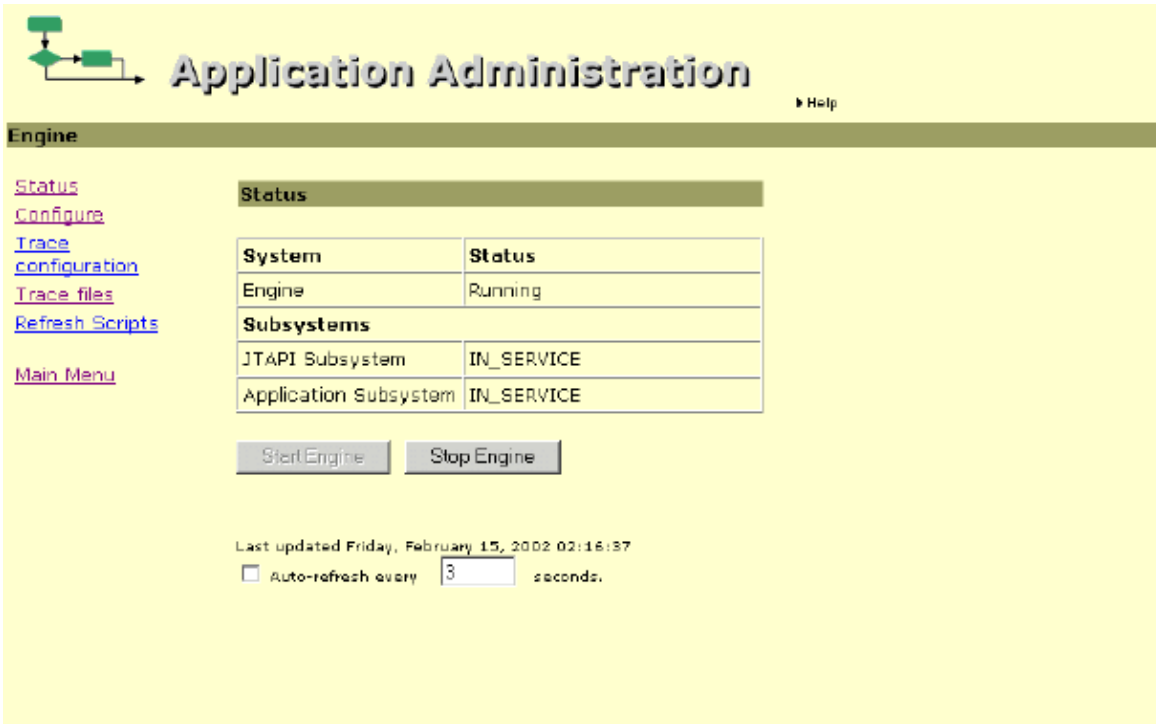
1. Connect to the Application Administration tool on your Cisco CallManager server by entering the following URL in the browser: **http://<*Your Call Manager's name or IP address*>/appadmin/**. In this example the entry is http://ccm1/appadmin.



2. Choose **Engine**.

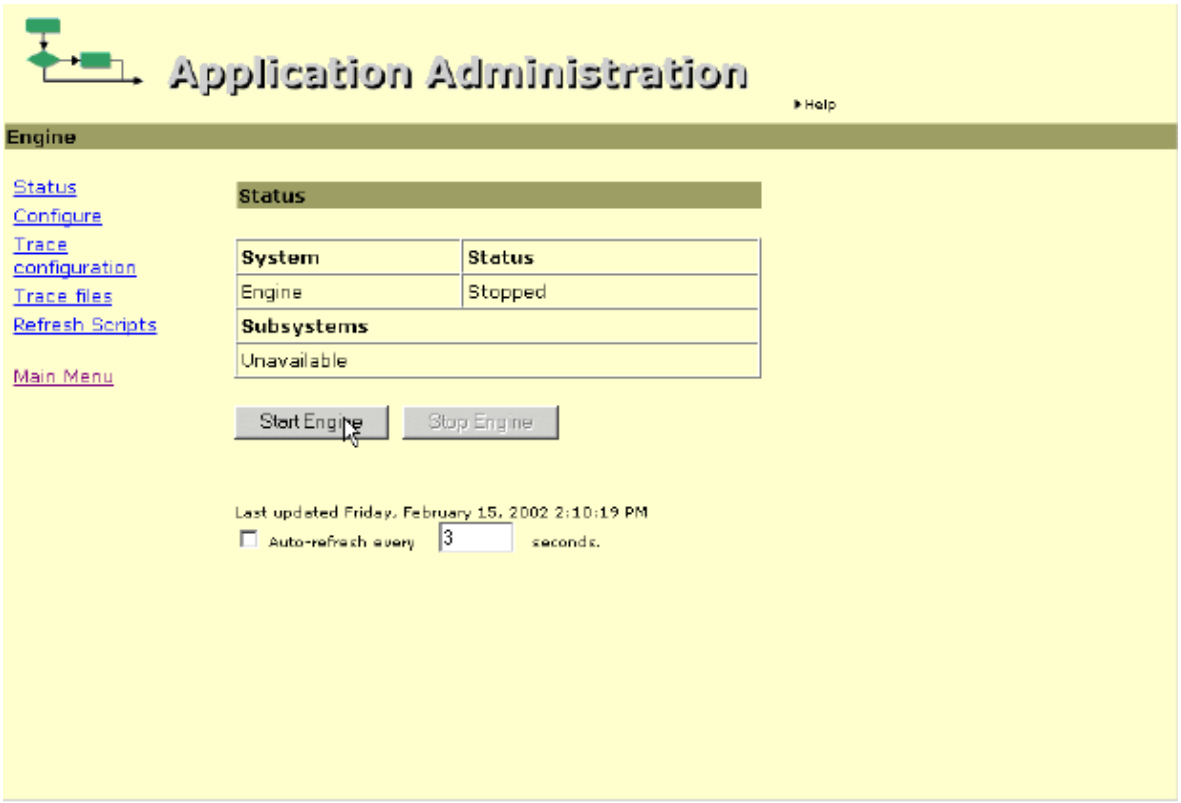


3. You see this screen:



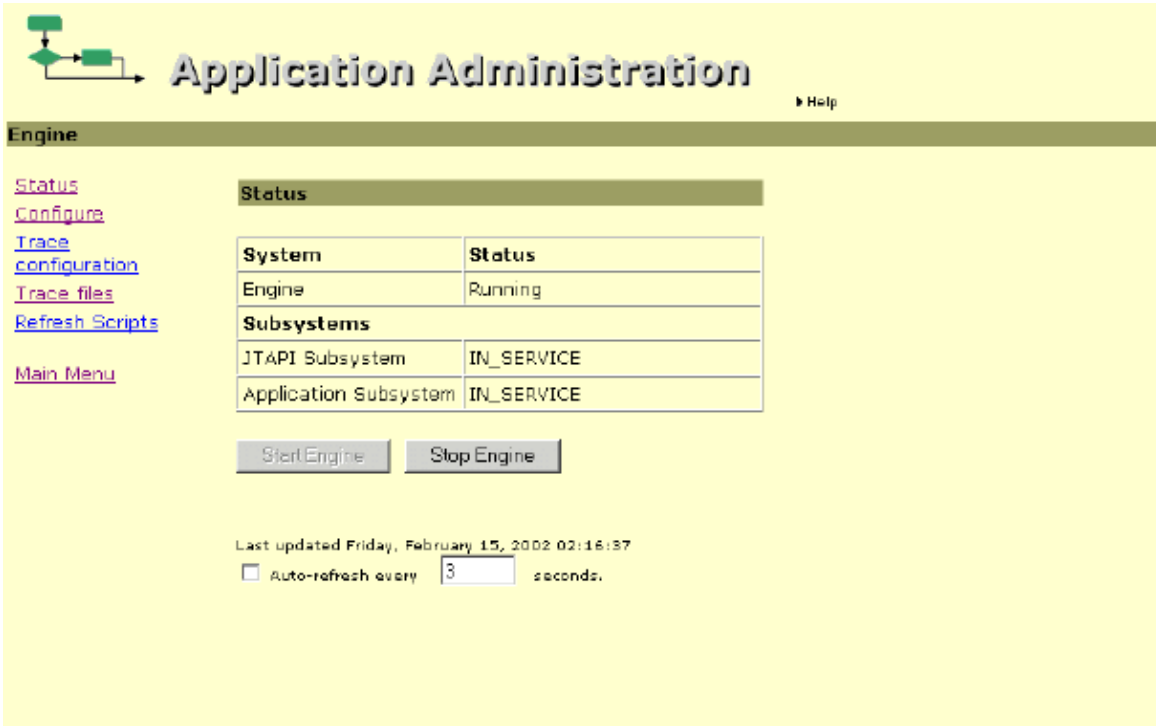
In this case, the JTAPI Subsystem is In_Service. No further action is required. If you see a different message, proceed to the next step.

4. Click **Start Engine**. Also, select **Auto−refresh every [3] seconds**.



5. The Engine and any Subsystems installed (in this case JTAPI) should come on line. It may take a couple of seconds. During this time the Engine may indicate that it is running, but the JTAPI Subsystem is Out_Of_Service. This should be replaced by an In_service message within sixty seconds.

   Note: Make sure that you have **Auto−refresh every [3] seconds** selected.



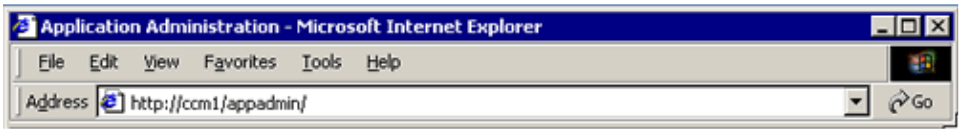
If the screen indicates that the Engine is Running and the JTAPI Subsystem is IN_SERVICE, you have now completed this entire configuration. You should be able to dial the IP AA application now. Otherwise, see Task 7.

Task 7: IP AA − Troubleshooting the Application Engine and the JTAPI Subsystem

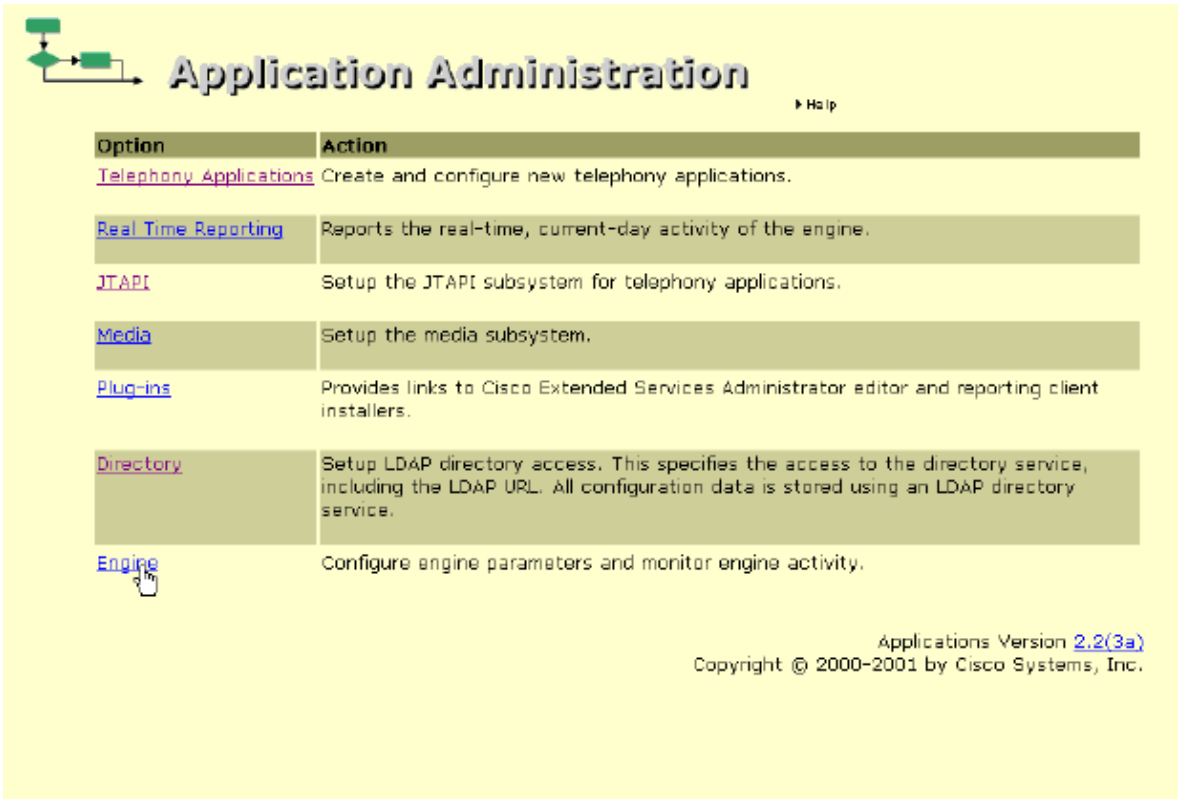
This task helps you troubleshoot some common problems with starting the Engine and Subsystems.

Complete these steps:

1. Connect to the Application Administration tool on your Cisco CallManager server by entering the following URL in the browser: **http://<Your Call Manager's name or IP address>/appadmin/**. In this example, the entry is http://ccm1/appadmin.



2. Choose **Engine**.



3. If you see this message:

System	Status
Engine	Running
Subsystems	
JTAPI	OUT_OF_SERVICE

or this message:

System	Status
Engine	Running
Subsystems	
JTAPI	PARTIAL_SERVICE

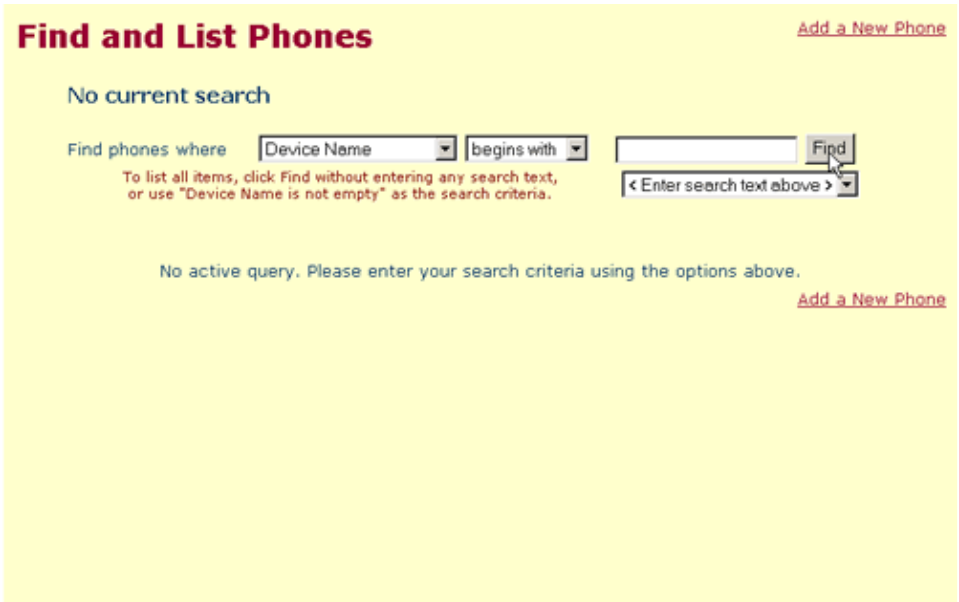
Try stopping the Engine again and waiting 2−3 minutes. Try starting the Engine again.

If starting and stopping the engine does not bring the JTAPI subsystem to an IN_SERVICE state, there are two common configuration errors that can lead to this problem. See the **Common Configuration Error One** and **Common Configuration Error Two** sections.

Common Configuration Error One

All four of the CTI Phone DNs were assigned to a single phone. To verify that this is not the problem, choose **Device > Phone** from the main Cisco CallManager menu.

Click **Find**.



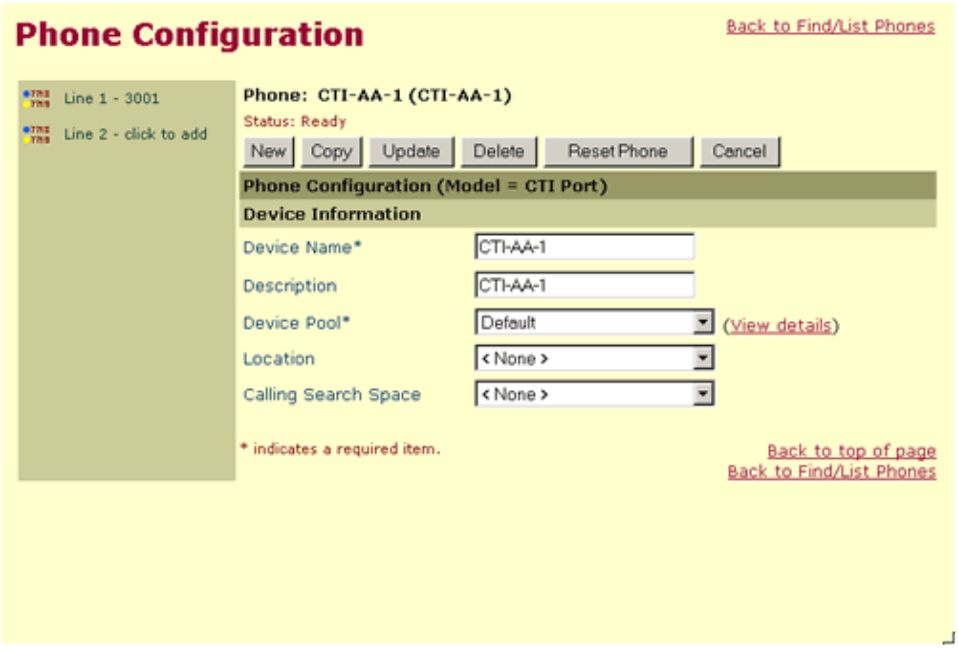
You see a list of all of the phones on the system. Verify that the four CTI Phones that you created in the section **CallManager Configuration: Creating Four Sequential CTI Ports** are in the database.

	Device Name	Description	Device Pool	Copy	Delete	Reset
	CTI-AA-1	CTI-AA-1	Default			
	CTI-AA-2	CTI-AA-2	Default			
	CTI-AA-3	CTI-AA-3	Default			
	CTI-AA-4	CTI-AA-4	Default			

In this case, the names that were assigned to the four separate CTI Phone ports show up in the database. If you only have one CTI Port created, or don't have any created, you need to go back and fix this. If it appears that you have all four CTI Ports created (their names appear on this screen) proceed to Common Configuration Error Two.

Common Configuration Error Two

The second common configuration error is that an incorrect phone type was selected. Click on the first Phone (CTI−AA−1 in this case) shown in the previous screen. You should see this screen, where the heading **Phone Configuration (Model = CTI Port)** indicates that this is a CTI Port phone:



Repeat this step for the remaining three CTI Phone names. In this case CTI−AA−2, CTI−AA−3, and CTI−AA−4. Any phones that are not CTI Ports need to be deleted and recreated. If you discovered any mistakes and fixed them, you should try to start the Application Engine again.

If you are able to get the Engine and JTAPI Subsystem Running and IN_SERVICE, respectively, you should now be able to call the IP AA.

If neither of these common problems applies to your configuration, try power cycling the Cisco CallManager server and waiting five minutes before checking the status of the engine again or attempting to start it again. This has been known to solve this situation. If you still have a problem, open a case with your Customer Support provider.

Avoiding Toll Fraud

At this point in your configuration, it may be possible for outside callers to utilize your system to initiate calls that would result in charges being made against your phone bill. If your system allows users within your location to dial external numbers (perhaps by dialing a "9" first), it is susceptible to this problem. Refer to the

Preventing Toll Fraud section of the Cisco IP Auto−Attendant Administrator Guide, and implement the solution presented.

Related Information

- **Voice Technology Support**
- **Voice and Unified Communications Product Support**
- **Troubleshooting Cisco IP Telephony**
- **Technical Support & Documentation − Cisco Systems**

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