Integrating Cisco CallManager IVR and Active Directory

Document ID: 29969

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Introduction

This document describes how to configure Interactive Voice Response (IVR) / Extended Services when you use Active Directory in Cisco CallManager.

Prerequisites

Requirements

Ensure that you meet these requirements before you attempt this configuration:

- Cisco CallManager must already be successfully integrated with the Microsoft Active Directory server on the system in question.
- You understand how Computer Telephony Integration (CTI) route points and CTI ports function.

For more information, refer to Installing Active Directory Plugin for Cisco CallManager.

Components Used

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

- Microsoft Active Directory Server
- Cisco CallManager 3.2.2(c)
- Extended Services 2.2.5 (coresident installation)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

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

Configure

In this section, you are presented with the information to configure the features described in this document.

Note: Use the Command Lookup Tool (registered customers only) to obtain more information on the commands used in this section.

Network Diagram

This document uses this network setup:

Cisco CallManager Configuration

Step 1: Cisco CallManager Configuration

First, configure Cisco CallManager. This is the same configuration that you use for normal DC Directory integration. Complete these steps:

1. Add a CTI Route Point:

```
Device name: rp_1
Line-1: 9000
```

2. Add four CTI Ports:

```
Device name: cti_port_1
Line-1: 9001
...
...
Device name: cti_port_4
Line-1: 9004
```

3. Add a user to control these devices:

   Note: If you already have other IVR applications configured, ensure that you associate those devices with the user who controls existing CTI route points and CTI ports.

```
First Name jtapi
Last Name jtapi
                    Userid:  jtapi
                    Password: cisco
                    Enable CTI Application Use:  TRUE
                    List of Controlled Devices:
```

```
rp_1, cti_port_1, cti_port_2, cti_port_3, cti_port_4
```

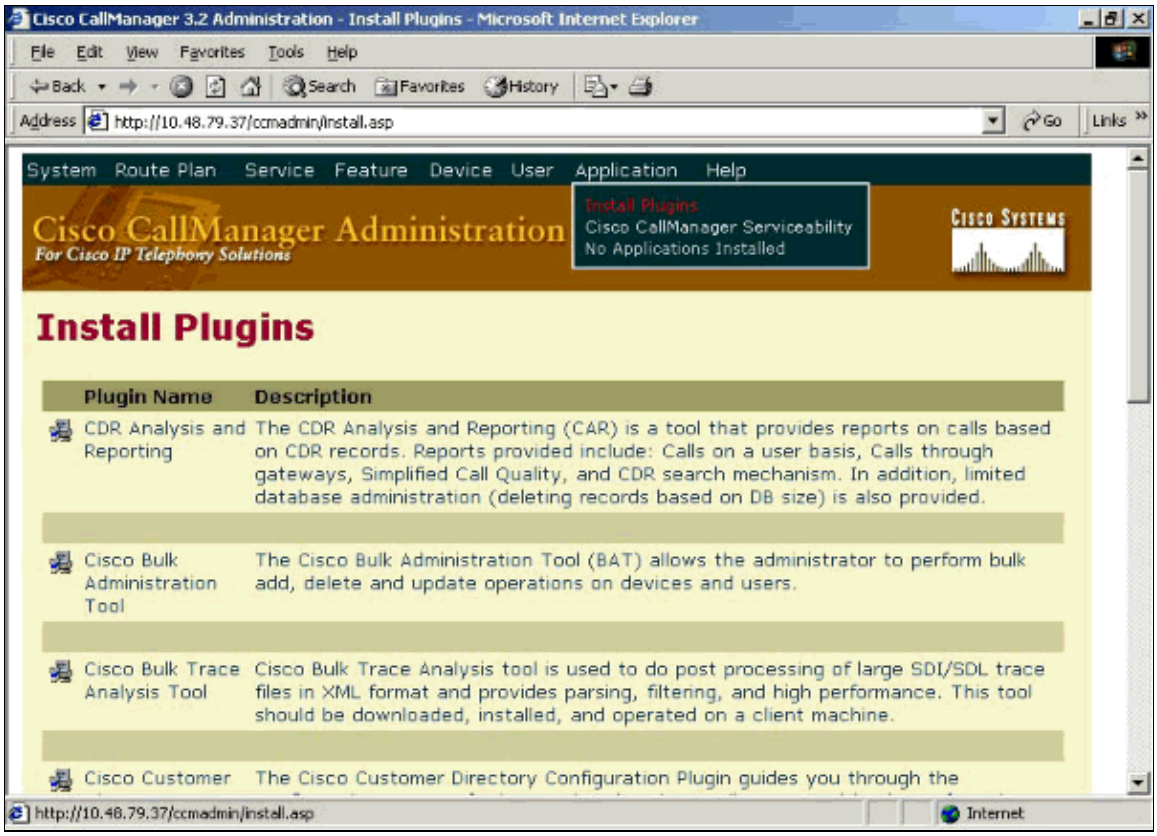
Note: In order to test this user, go to http://*ipaddressCallManager*/ccmuser, and log in with username **jtapi** and password **cisco**. If you can log in, you must be able to see all the controlled devices. *ipaddressCallManager* is the IP address of the newly configured Cisco CallManager server. In this case it is 10.48.79.37, as indicated in the network diagram.

Step 2: JTAPI Configuration

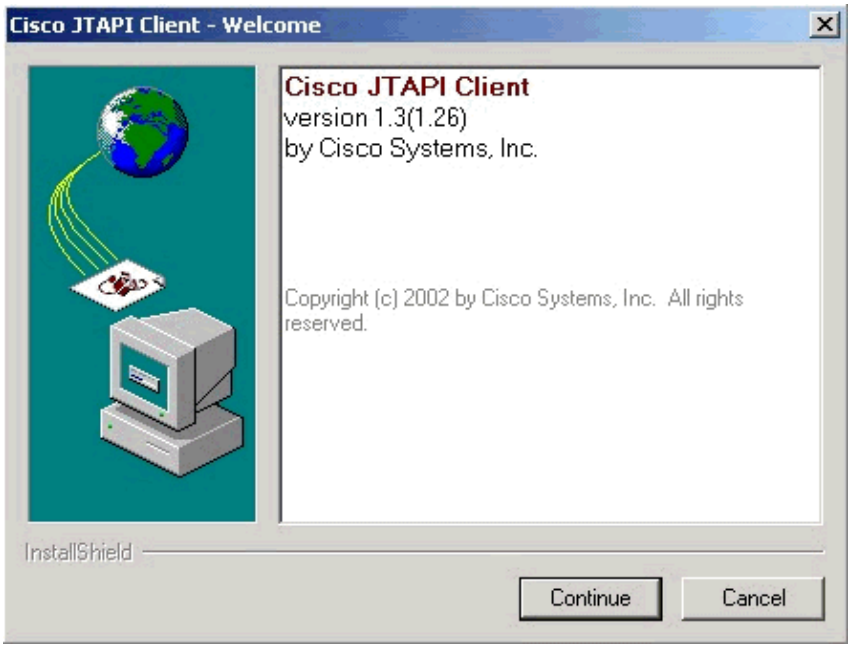
Second, install the Java Telephony Application Programming Interface (JTAPI) client on the server where the IP/IVR will be installed. In this case the installation goes on the same server as Cisco CallManager, as it is a coresident installation.

1. Go to http://*ipaddressCallManager*/ccmadmin, where *ipaddressCallManager* is the IP address of the Cisco CallManager server.

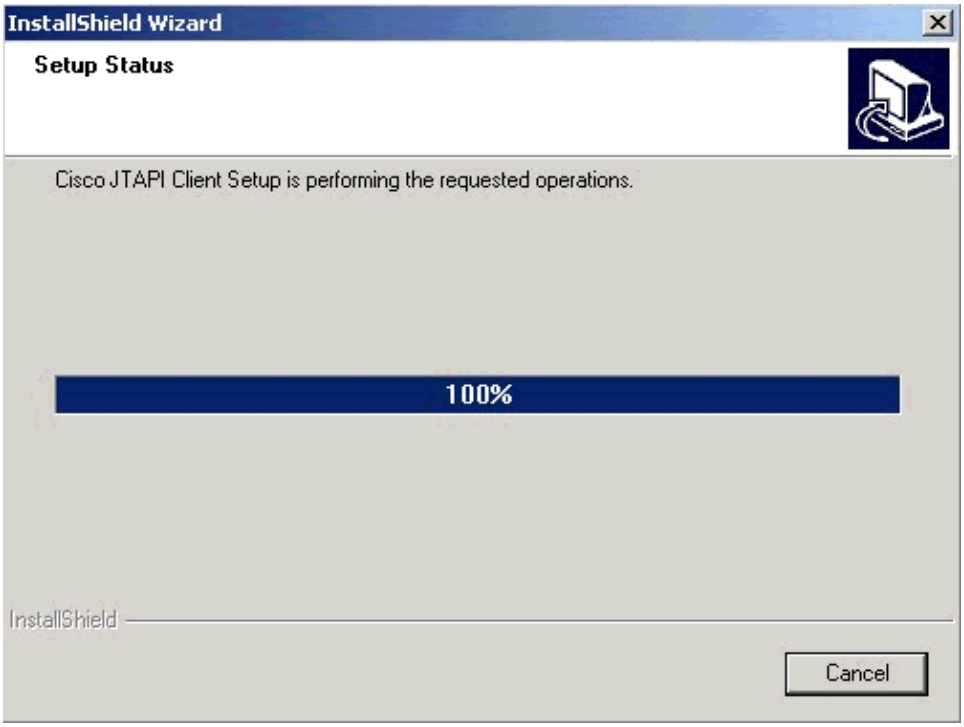
   Note: In the example browser windows illustrated in step 2 and subsequent steps, the IP address of the Cisco CallManager server is 10.48.79.37.
2. Select **Application > Install Plugins**, then click the **JTAPI** icon.



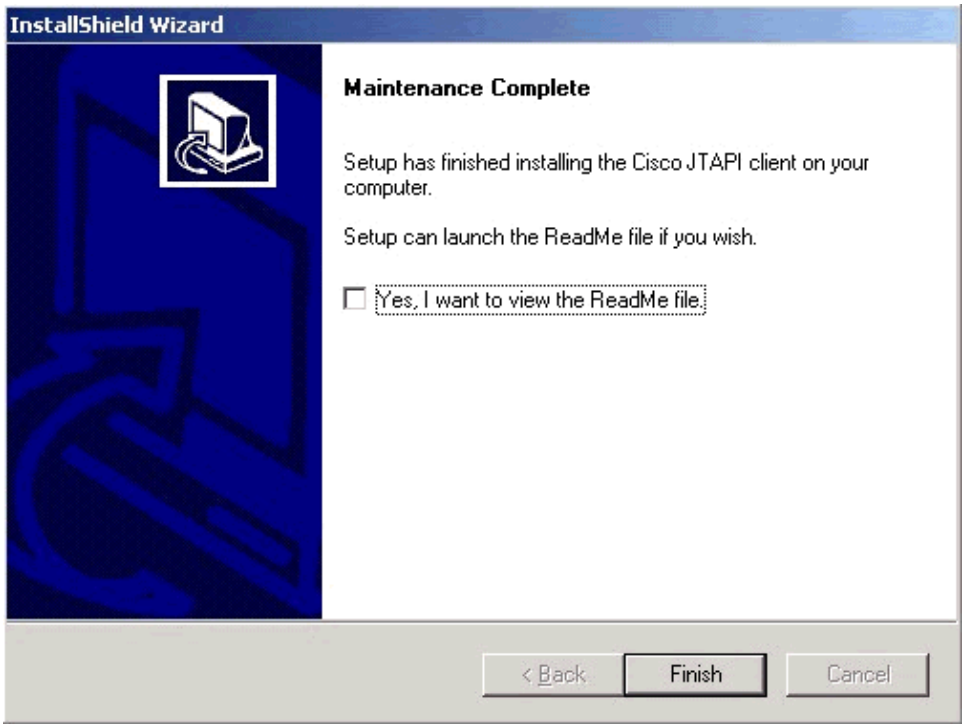
The JTAPI client installation wizard launches:



3. Click **Continue**. The wizard displays the next window.



4. When the final window appears, click **Finish**. The JTAPI client installation wizard terminates.



Step 3: Directory Configuration

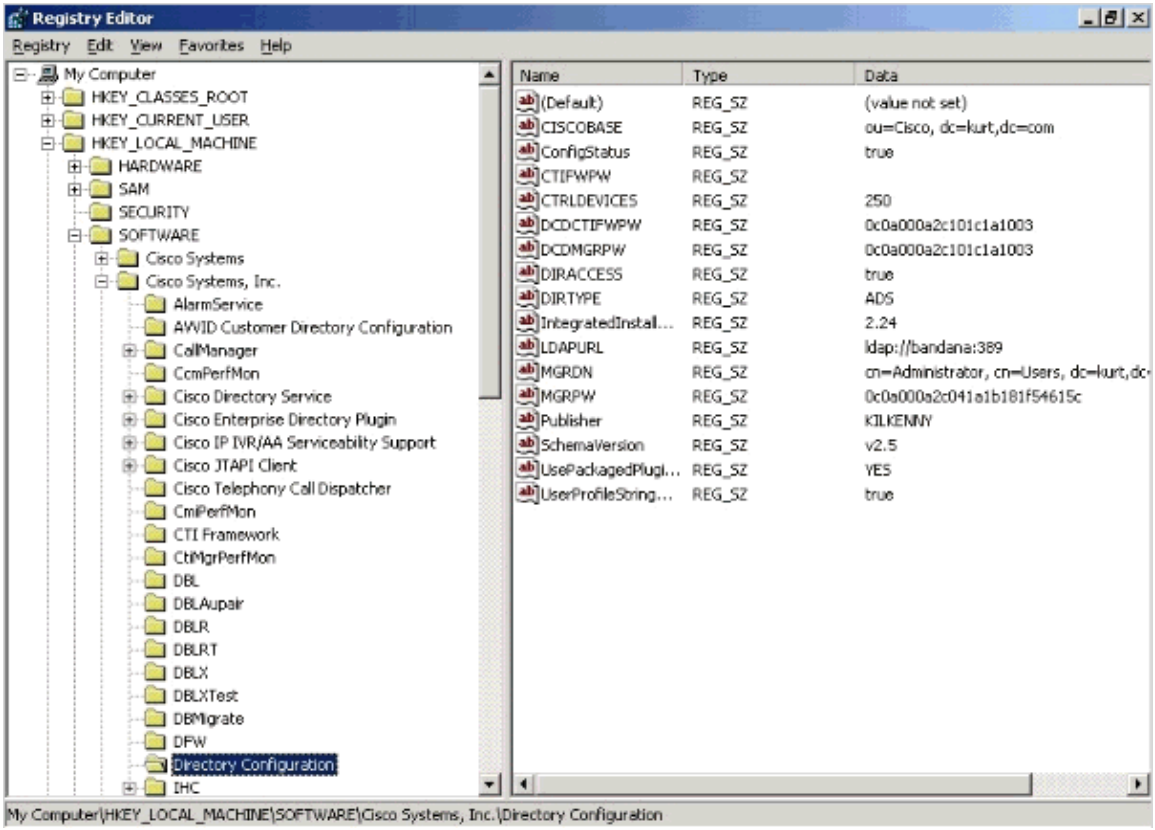
Third, integrate the Customer Response Applications (CRA) Server with Cisco CallManager.

The Cisco IP Telephony Directory server stores configuration information and application scripts in the Repository subdirectory. The application server can also receive directory information from one Cisco IP Telephony Directory, and application logic from a repository on another server. For efficient management of resources, the directory server stores each type of configuration as a profile.

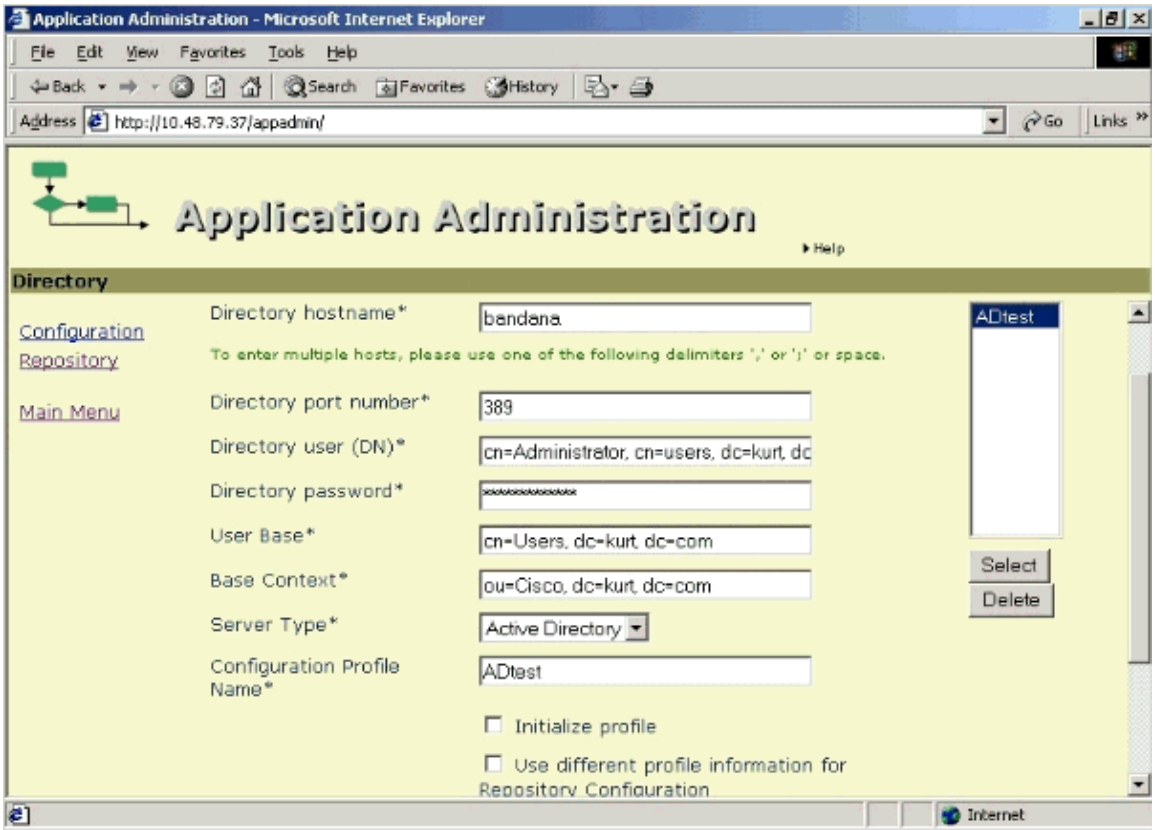
Note: Directory profiles can only be used by one application server at a time.

You can use repository profiles to centralize the storage of application logic. Unlike directory profiles, repository profiles may be shared by more than one application server.

1. For reference information, open **Regedit**, and browse to HKEY_LOCAL_MACHINE / SOFTWARE / Cisco Systems, Inc./ Directory Configuration, as shown here:



2. Open the Application Administration page in a browser as shown, and complete the fields listed in the following table.

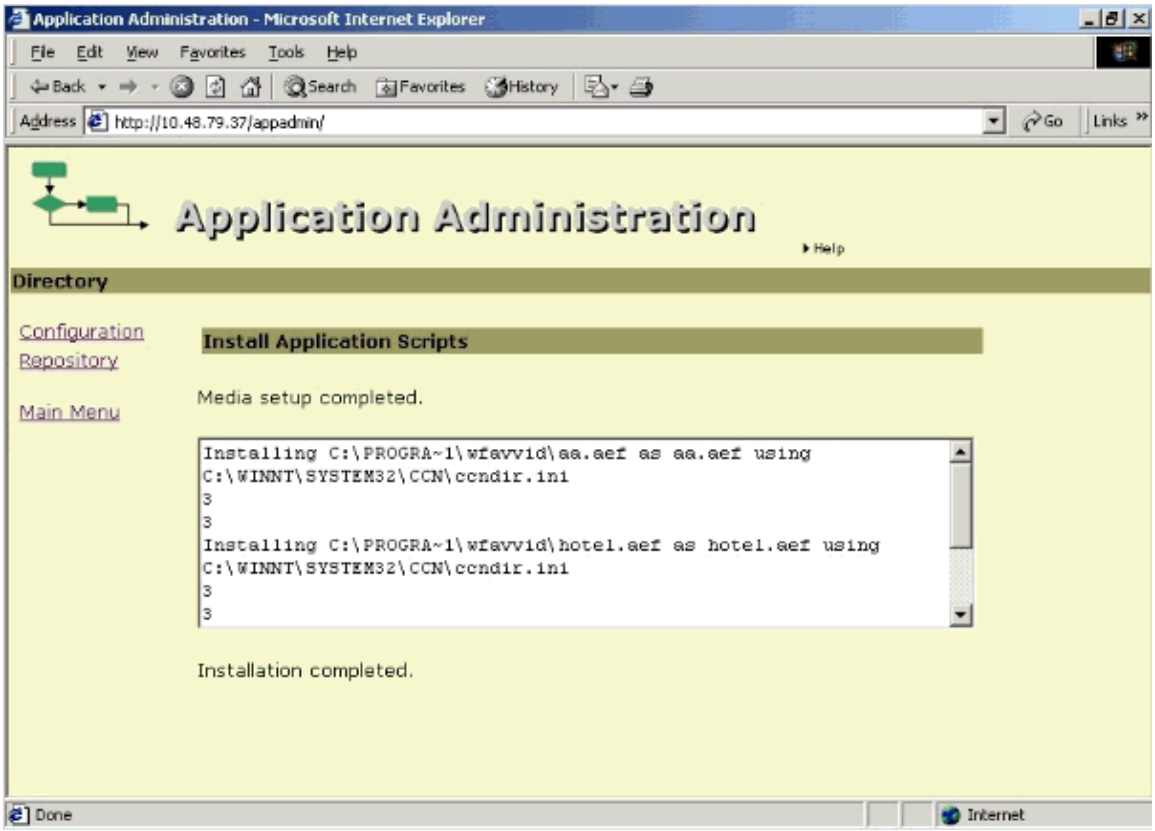


Field Name	Description
Directory	Hostname or IP address of the Active

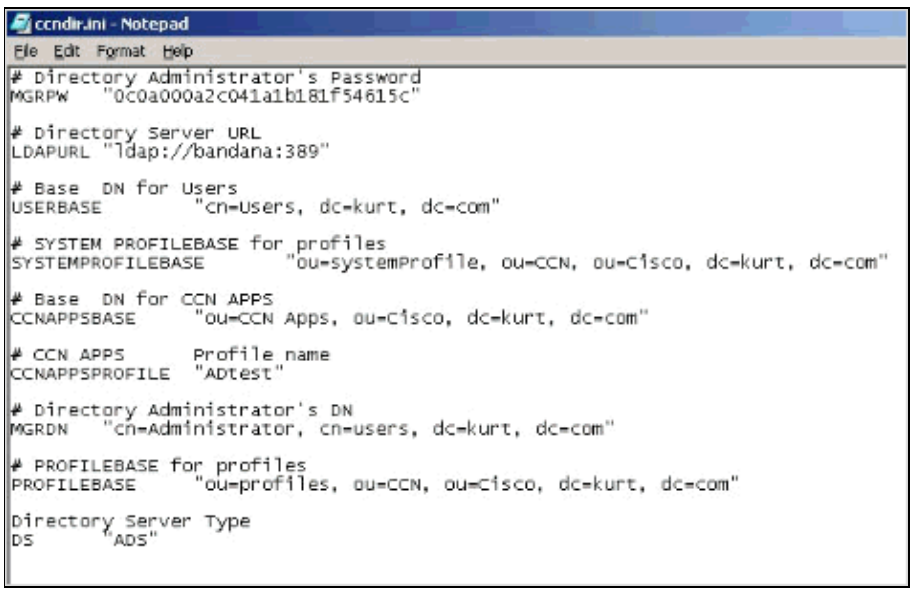
Hostname	Directory Server.
Directory Port Number	In the **Directory port number** field, enter the appropriate numeric value for the port that is used. If you are using Active Directory the default will be 389.
Directory User (DN)	The User needed to access the Directory, in this case the administrator: cn=Administrator, cn=Users, cn=kurt, cn=com
Directory Password	In the Directory password field, enter the appropriate password for the directory.
User Base	See registry entry HKEY_LOCAL_MACHINE / SOFTWARE / Cisco Systems, Inc./ Directory Configuration. cn=users, dc=kurt, dc=com. (This is the organizational uint (OU) specified when installing the Active Directory plugin. All Cisco−related profiles will be stored in this OU.)
Base Context	See registry entry HKEY_LOCAL_MACHINE / SOFTWARE / Cisco Systems, Inc./ Directory Configuration. ou=Cisco, dc=kurt, dc=com. (This is the OU specified when installing the Active Directory plugin. All Cisco−related profiles will be stored in this OU. For more information, see Creating Cisco OU on the AD Server.)
Server Type	Click the **Server Type** drop−down arrow to choose the appropriate directory server type; in this case, Active Directory.
Configuration Profile Name	Provide a name for this configuration profile, in this case, Adtest.

3. Select the **Initialize Profile** check box, and click **OK**.

The next page indicates completion of the configuration scripts.



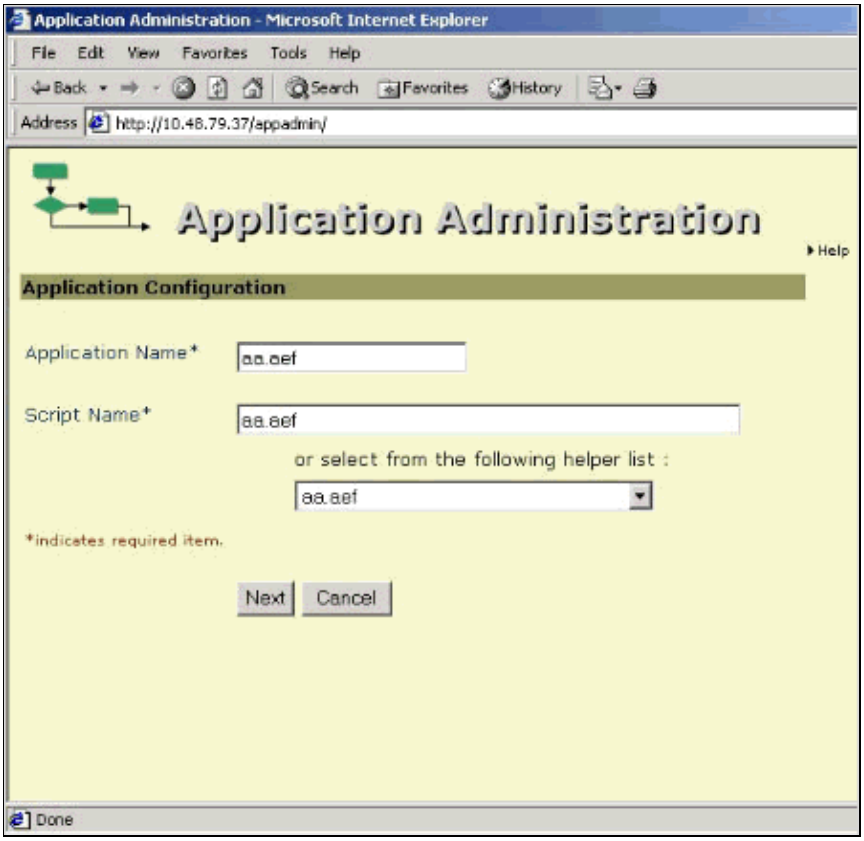
After the configuration of the directory, the system updates the **ccndir.ini** file which resides in `C:\winnt\system32\ccn`. This .ini file is used by various processes to determine how to locate the Lightweight Directory Access Protocol (LDAP) directory. Here is a sample Administrative Domain (AD) **ccndir.ini** file:



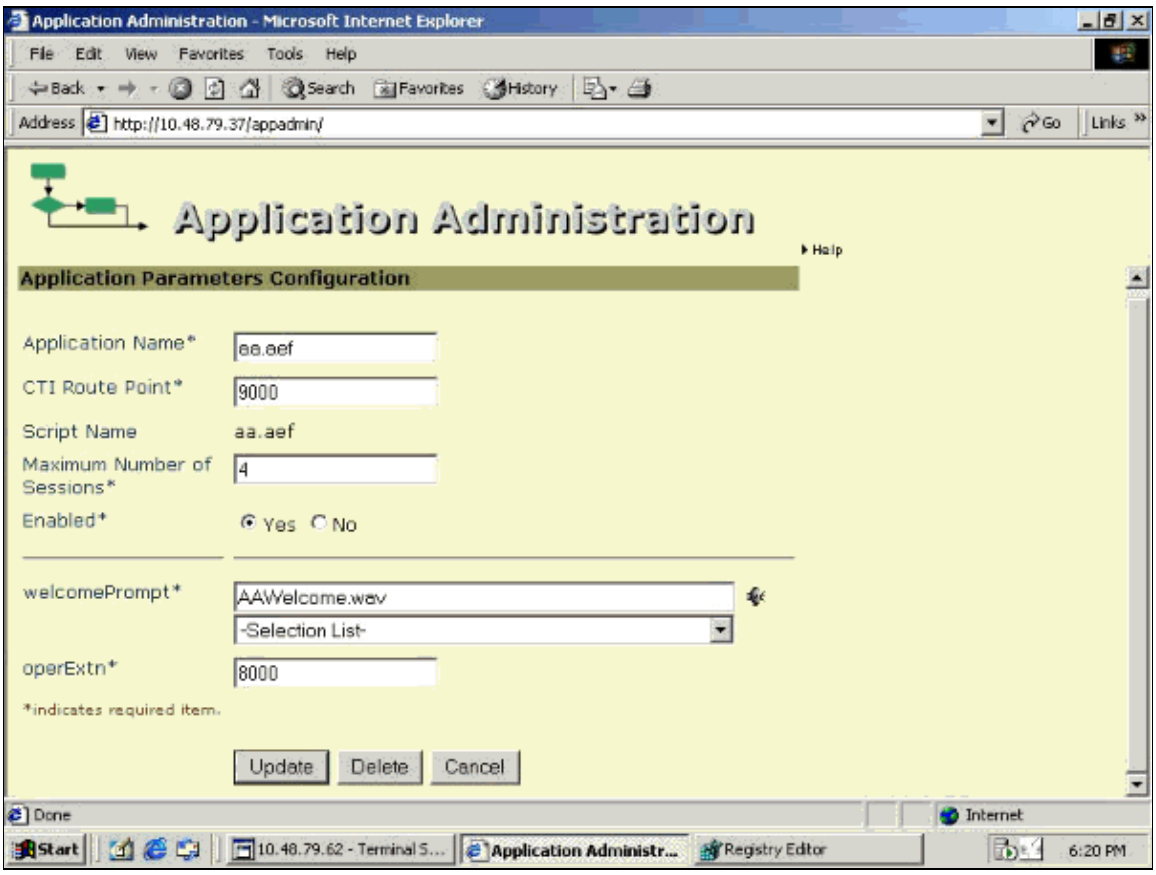
Step 4: IVR Server Configuration

Fourth, configure the IVR server. Complete these steps:

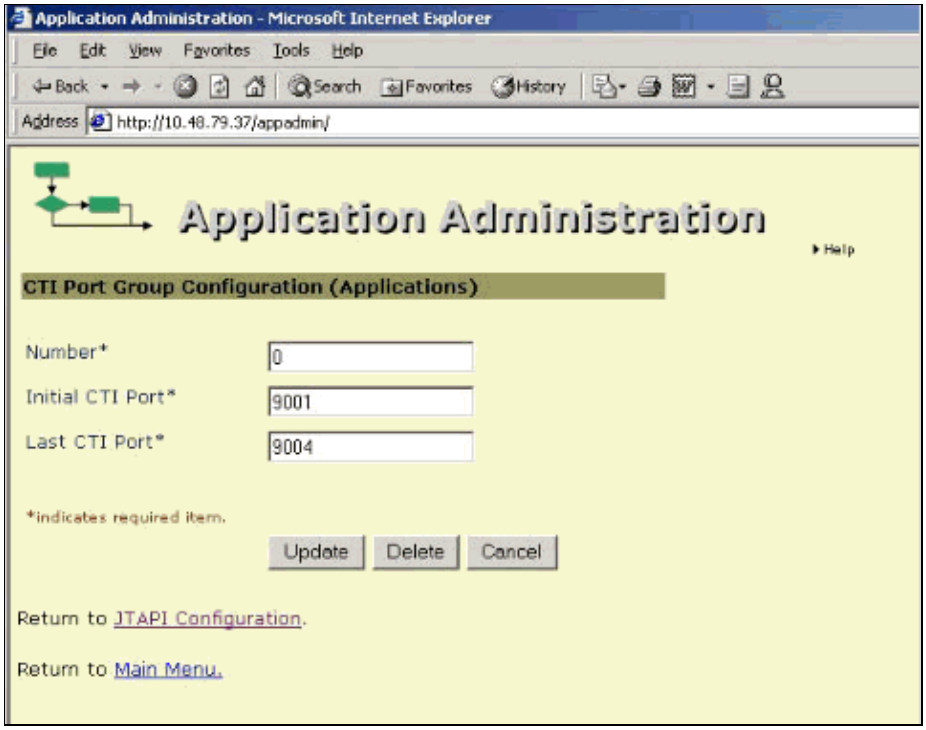
1. Go to the Application Administration main menu, then click **Telephony Applications**. Add the AutoAttendant **aa.aef** script in the appropriate field, as shown, then click **Next**.



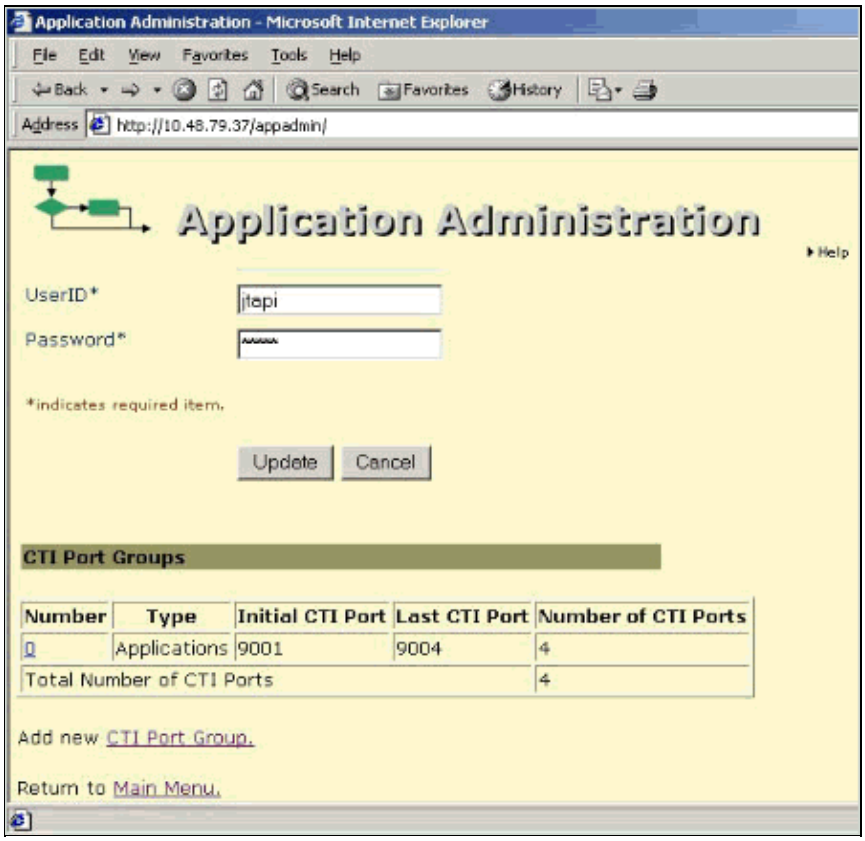
2. Insert the application parameters for the route point created in Step 1 under Cisco CallManager Configuration. In this example, four sessions were created. Click **Update**.



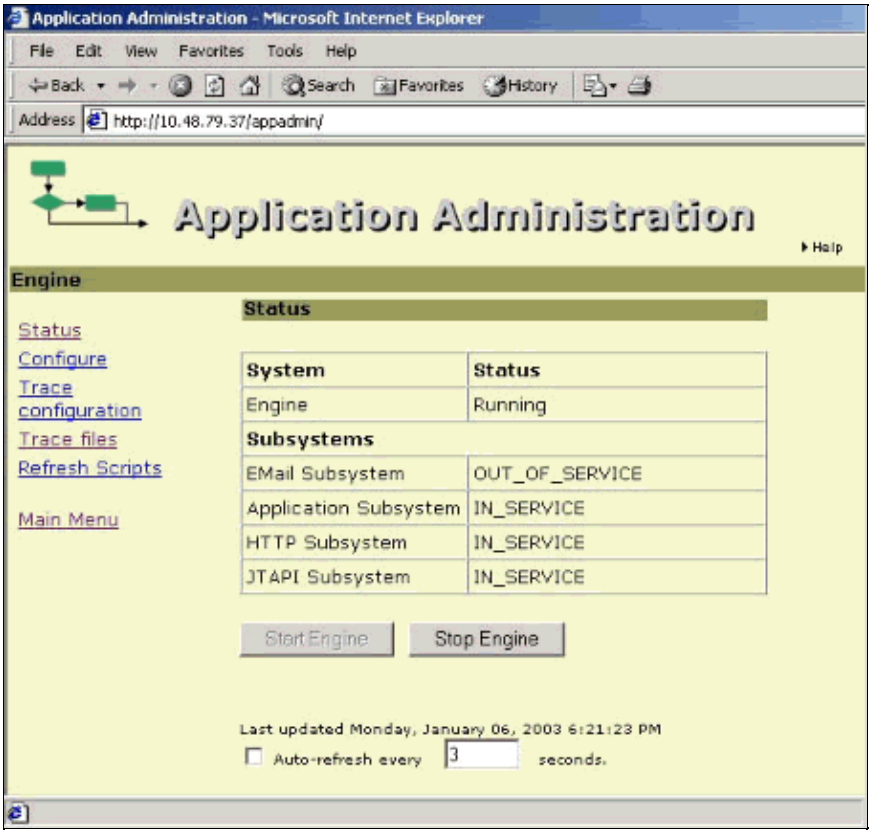
3. Add a new port group. To do so, click **JTAPI** in the main menu, then click **Add New Port Group**. In this case, the CTI port group type is Applications. Click **Update**.



The next page shows a table of CTI port groups.



4. Return to the main menu, then start the application engine by clicking **Engine**. The Engine page opens, as shown.



On the Active Directory (AD) server, you can browse your directory schema by opening the Active Directory Services Interface (ADSI) edit utility. Drill down to dc=xxxxx, dc=com, ou=Cisco (or whichever OU you specified during installation of the AD plugin on Cisco CallManager), ou=Profiles. All the profiles can be found in that directory.

To install the ADSIEdit utility on (an external) system, install the support tools from the Windows 2000 CD located at <*CD drive*>:\SUPPORT\TOOLS\setup.exe.

Copy **adsiedit.exe** and **adsiedit.dll** into a folder on the Cisco Unity system. The folder should be named c:\adsiedit\.

Register **adsiedit.dll** by running **regsvr32.exe** c:\adsi\adsiedit.dll after the c:\winnt\system32 command prompt.

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

Related Information

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

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