Cisco Unified Enterprise Attendant Console Web Admin and Installation Guide

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Cisco Unified Enterprise Attendant Consoles Web Admin / Installation Guide
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Preface

The following manual relates to the installation and utilisation of the Cisco Unified Enterprise Attendant Console software product.

Cisco Unified Enterprise Attendant Admin provides administrator access to the configuration for Cisco Unified Enterprise Attendant Console.

Cisco Unified Enterprise Attendant Admin is an efficient application specially designed for configuring databases, connections to Cisco Unified Communications Manager, system and user settings.

The user-friendly design of the application gives speed and flexibility to the users.

Purpose

The purpose of this admin guide is to provide information on Cisco Unified Enterprise Attendant Console configuration.

Who Should Read this Guide

The document is intended for:-

- Those involved in the training of Cisco Unified Enterprise Attendant Admin
- System Engineers and installers involved in the planning and provisioning of the installation and operation of Cisco Unified Enterprise Attendant Admin

How this Guide is Organized

This guide includes the following sections:

Table 1 Describes the Chapters of this Guide

Chapter	Title	Description
1	Introduction	This chapter provides a brief Introduction to the Cisco Unified Enterprise Attendant applications
2	Important Information	This chapter provides details for the compatibility of Cisco Unified Enterprise Attendant applications with Cisco Unified Communications Manager.
3	Product Overview	This chapter provides a numbering test plan and gives a brief description of the Cisco Unified Enterprise Attendant applications.
4	Installation Checklist and Procedure for Cisco Unified Business/Department Attendant Admin	In order to start installing applications you must go through the checklist for successful installation. This chapter provides the procedure for installing Cisco Unified Enterprise Attendant Admin.
5	Cisco Unified Business/Department Attendant Admin	This chapter explains in detail all the configurations that can be done through Cisco Unified Enterprise Attendant Admin.
6	Cisco Unified Reporting	This chapter provides an overview of the reporting functionality that can be done through Cisco Unified Enterprise Attendant Admin
7	Uninstall Attendant Admin	This chapter provides an overview on how to unistall Cisco Unified Enterprise Attendant Admin successfully.
A	Creating the Attendant Application User Account for Cisco Unified Communications Manager 7.x	This chapter provides an overview on how to configure Attendant Application User for Cisco Unified Communications Manager 7.x
B	TAPI Configuration for CUCM 7.x	This chapter provides an overview on how to configure the TAPI.
C	Creating the Attendant Application User for Cisco Unified Communications Manager 8.x	This chapter provides an overview on how to configure Attendant Application User for Cisco Unified Communications Manager 8.x
D	TAPI Configuration for CUCM 8.x	This chapter provides an overview on how to configure the TAPI.
E	Downloading, Updating and Registering Software	This chapter provides an overview on how to download, update and register software.

Conventions

This document uses the following conventions:

Table 2 Explains the Writing Conventions Used in the this Guide

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x | y | z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
`courier` font	Terminal sessions and information the system displays appear in `courier` font.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means *reader take note*.

Tip Means *the following information will help you solve a problem*.

Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Warning **Means *reader be warned*. In this situation, you might perform an action that could result in bodily injury.**

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

CHAPTER 1

Introduction

Welcome to the Cisco Unified Enterprise Attendant Console Web Admin and Installation Guide. This document describes the installation and configuration procedures of the applications.

Cisco Unified Enterprise Attendant Admin is the Web application that allows you to configure and manage your system and user configurations.

System configuration provides the facility to manage synchronization of devices and directory contacts with Cisco Unified Communications Manager. Cisco Unified Enterprise Attendant Admin and Cisco Unified Communications Manager communicate via AXL API, using SSL to synchronize the system devices used for queuing, servicing and parking calls. These devices are created as CTI (Computer Telephone Integration) Ports and CTI Route Point devices within the Cisco Unified Communications Manager database.

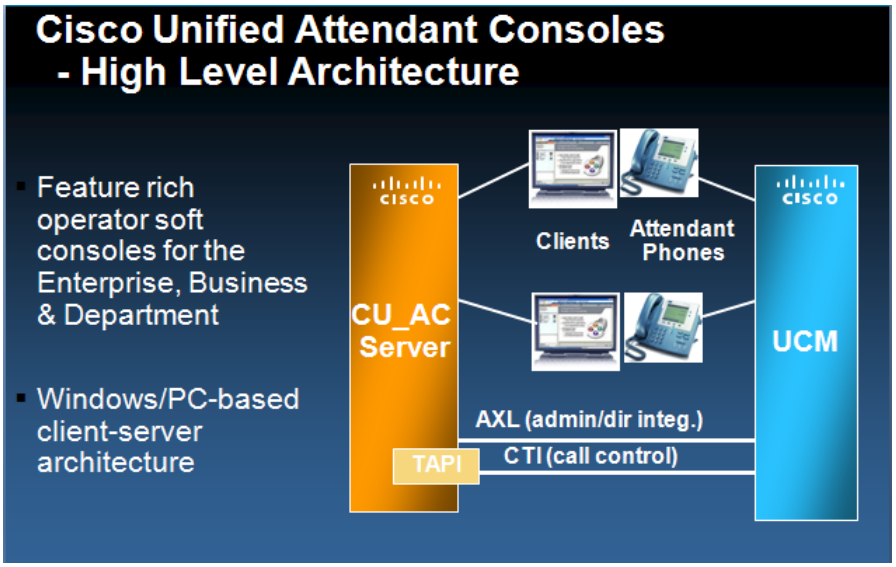
User configuration allows you to manage the configuration for the Cisco Unified Enterprise Attendant Console. These settings include:

- Call queue parameters,
- Operator login credentials
- Global parameters for internal/external calls access,
- Force Authorization and Client Matter Codes (FAC and CMC)
- Recall timers.

These settings are made in order to manage the call flow.

This document assumes that the reader has knowledge of:-

- Cisco Unified Communications Manager
- Windows 2003/2008/Vista/XP
- TCP/IP
- Microsoft TAPI 2.1
- Cisco Unified Communications Manager TSP



Points to Remember

Cisco Unified Enterprise Attendant Admin is a set of rules that govern the way the system will operate. Each configuration is stored in a database on a Microsoft SQL Server and must be maintained to obtain optimal performance. You must note the following points:

- Changes made through this application are not saved until you click on the **Save** button on the page.
- The valid range or types of characters for each field have been specified on the right-hand side of the fields in red.
- Invalid input in any field will be denoted by a red colored asterisk (*).

  Forced authorization code (FAC): [ ] (*,#,0-9)

- Most changes to the system will be made in real-time; however, some changes will require a start and stop of Cisco Unified Enterprise Attendant Server.

Accessibility for Users with Disabilities

Cisco Unified Enterprise Attendant Admin provides accessibility features that make it easier for blind and visually impaired users to use the application.

The application runs in a web browser, therefore, the configurations can be made using a mouse as well as the standard keyboard navigations supported by the web browser.

All buttons are labelled by the functionality they provide. Each icon displays a tool tip when the mouse is hovered on it, clearly defining the function of the graphic button. A list of icons along with their descriptions has also been provided in Chapter 5, “Cisco Unified Business/Department Attendant Admin.”

Attendants also have an option to use Cisco Unified Enterprise Attendant Console with a screen reader plug in called JAWS. The screen reader provides the attendant with information on the status of the attendant console as well as with information about the text in the attendant console windows.

Cisco Unified Enterprise Attendant Admin also comes with context-sensitive help. For every page, users can access help specific to the page they need assistance for.

For more information on Cisco Accessibility Program please contact through the following link,

http://www.cisco.com/web/about/responsibility/accessibility/contact.html

CHAPTER 2

Important Information

Compatibility Between Cisco Unified Enterprise Attendant Console and Cisco Unified Communications Manager

This chapter outlines the compatibility between Cisco UnifiedEnterprise Attendant Console and Cisco Unified Communications Manager. Reference is also made to key functions and considerations that should be understood prior to deploying the software. Table 2-1 shows the required Cisco TAPI TSP to use between Cisco UnifiedEnterprise Attendant Console and Cisco Unified Communications Manager.

Table 2-1 Displays the Compatibility Matrix for Cisco Unified Enterprise Attendant Console with Cisco Unified Communications Manager

Communication Manager	7.1(5)	8.0	8.0(2)	8.0(3)	8.5	8.6
Cisco Unified Enterprise Attendant Console	8.6.0	8.6.0	8.6.0	8.6.0	8.6.0	8.6.0

Music on Hold

Cisco Unified Enterprise Attendant Console supports Music on Hold (MoH) from Cisco Unified Communications Manager in the following areas:

- When an Operator holds a call
- During a blind transfer
- During a re-established transfer
- Call on Arrival Mode*

A music source must be selected on the relevant Service Queue devices to enable this functionality. The use of music in both the transferring and hold scenarios is controlled via settings on Cisco Unified Enterprise Attendant Admin.

Note * In version 8.0.3 an option has been added to configure a Queue with Call Arrival Mode to “Hold Queued Calls when it arrives on the CTI Port.

Important - If using this mode the call is charged from the time that the call is answered and put on hold on the CT Gateway.

This will also allow an integration with Unity where you can have Unity answer and play a welcome greeting message, before using a Call handler to transfer the call to the Queue DDI and have the caller hear music.

TAPI Resilience

Cisco Unified Communications Manager allows a TSP client to communicate with a primary and backup CTI (Computer Telephone Integration) Manager to receive CTI information. This allows Cisco Unified Enterprise Attendant Server and clients to carry on functioning if a Cisco Unified Communications Manager failover occurs. The backup CTI Manager should be the Cisco Unified Communications Manager to which the phones fail over.

Call Park

The Attendant Console Call Park functionality is additional to the standard Cisco Unified Communications Manager call park and directed call park functions. Operators are able to see their available Park devices and choose whether to use a specific device or allow the system to select a device for them to park a call on.

Cisco Unified Presence Server

The Cisco Unified Enterprise Attendant Console can display information extracted from Cisco Unified Presence Server (CUP) from Cisco Unified Communications Manager version 6.x onwards. Cisco Unified Presence is a standards-based platform that collects information about a user's availability and communications capabilities to provide unified user presence status and facilitate presence-enabled communications for Cisco Unified Communications and critical business applications. With this scalable and easy-to-manage solution, Cisco Unified Presence delivers a consistent presence-enabled communications experience across Cisco Unified Communications applications everywhere, every time, independent of user device, application, or workspace location. In addition, Cisco Unified Presence gives customers and partners the flexibility to presence-enable and streamline business communications by interoperating with critical business applications through open interfaces.

The integration is managed via the Cisco Unified Attendant CUP Plug-in directly to the Cisco Unified Enterprise Attendant Web Admin.

Changes to the CUP Plug-in service will be managed in real-time. The CUP Plug-in service will not be required to stop and restart for the changes to take affect.

The Attendant Console information is collected from the Cisco Unified Enterprise Attendant Web Admin.

Other Items to Remember

- Cisco Unified Enterprise Attendantt Server and Cisco Unified Enterprise Attendant Console should not be installed on a machine that will act as Cisco Unified Communications Manage.
- Headset operation is supported.

CHAPTER 3

Product Overview

Cisco Unified Enterprise Attendant Admin is the configuration tool for the Cisco Unified Enterprise Attendant Console applications. It allows communication with the Cisco Unified Communications Manager to create the required system devices, and communicates with the Attendant Server to configure the system parameters. The Cisco Unified Communications Manager integration uses the AXL (Avvid XML Layer) protocol, and requires some initial configuration on Cisco Unified Communications Manager itself to create a User Profile that allows communication via AXL protocol.

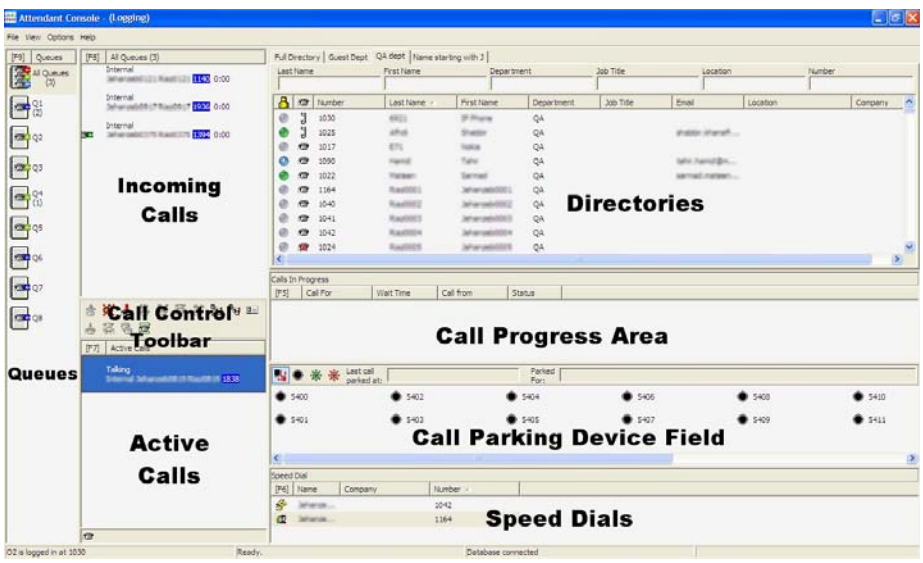
The following application is configured through Cisco Unified Enterprise Attendant Server,

Cisco Unified Enterprise Attendant Console

This is a screen-based operator console that has been developed to work exclusively on Cisco Unified Communications Manager. The traditional functions of a telephone switchboard have been re-created as a Windows application. It is visually more appealing, easier to operate and more user friendly.

Figure 3-1 shows the default layout of Cisco Unified Enterprise Attendant Console with the various areas of the screen labeled as to the purpose.

Figure 3-1 Displays the Default Layout of the Cisco Unified Enterprise Attendant Console



The following devices are used to manage call routing and functionality,

Queue DDI

A Queue DDI (Direct Dial In) is the DN that is dialed to route calls into a call queue. Each configured DDI will be created on CCM as a CTI Route Point, and any call that is intended for this queue must be directed to this port, either directly or through translation.

CT Gateway Devices

The primary purpose of the CT gateway is to queue calls awaiting distribution to Cisco Unified Enterprise Attendant Console. CT Gateway devices are CTI Ports that are created by the Admin application when synchronized with Cisco Unified Communications Manager.

Service Queues

The Service Queue is a range of devices (CTI Ports) that are used to manage calls after they leave the operator's handset, for example when transferring or holding calls.

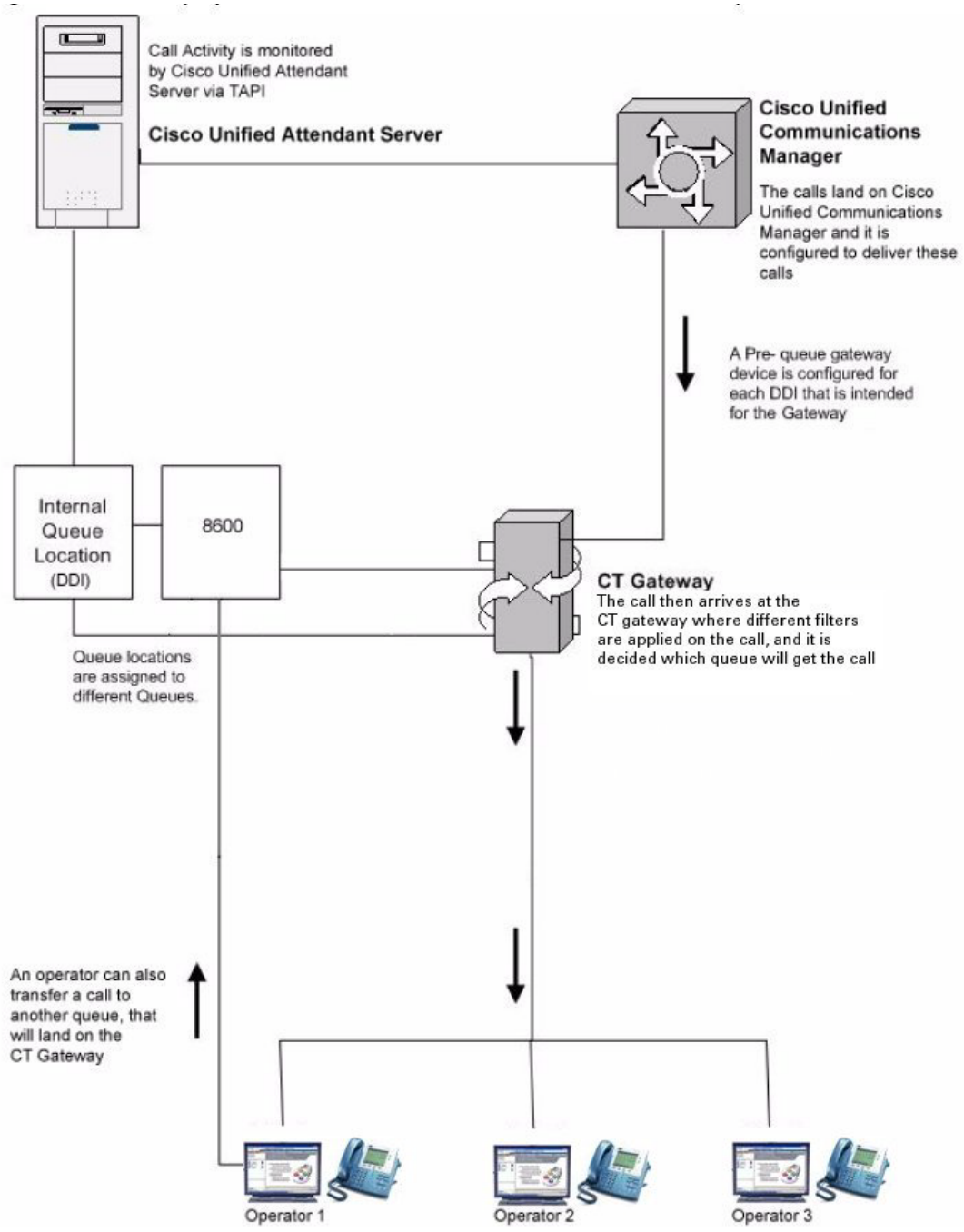
Park Devices

Another range of CTI Ports that are used exclusively for when the attendant's wish to park a call. They can either select the preferred Park port of allow the system to select the port for them. A parked call can then be picked up by anyone on the system by dialling the Park port number. As these Park Devices are exclusive to the console attendants they are situated on the Cisco Unified Enterprise Attendant Server and will require an additional range of DN's.

Call Flow

Figure 3-2 shows how calls flow through Cisco Unified Enterprise Attendant Console and how they are controlled by Cisco Unified Enterprise Attendant and Cisco Unified Communications Manager.

Figure 3-2 Displays the Call Flow from CIsco Unified Communications Manager to the Cisco Unified Enterprise Attendent Console



Numbering Plan for Test Install

In order to use the system devices, that are, Service Queues, CT Gateway and Park Devices for call handling you can use the following numbering for a test install (Table 3-1). Take a printout of the following table and fill in your own number plan in the **Directory Number** field.

Table 3-1 Shows a Numbering Plan for a Test Install

Device Type	Directory Number (Example)	Directory Number
Queue DDI	8100	
Queue DDI	8101	
CT Gateway	8000	
CT Gateway	8001	
CT Gateway	8002	
CT Gateway	8003	
CT Gateway	8004	
Service Queue	8400	
Service Queue	8401	
Service Queue	8402	
Service Queue	8403	
Service Queue	8404	
Park	8600	
Park	8601	
Park	8602	
Park	8603	
Park	8604	

Performance Information

Performance of Cisco Unified Enterprise Attendant applications can be measured in several ways:

- Number of Attendants (Operators)
- Number of Contacts Supported
- Number of Console Queues
- Busy Hours Call Completions (BHCC). This is a measurement of telephone traffic determined by the network's most active hour and used to gauge system capacity.

Table 3-2shows the maximum numbers that can be achieved against each of the performance criteria.

Table 3-2 Shows the Performance of Cisco Unified Enterprise Attendant Console

Performance Item	Maximum numbers with Cisco Unified Enterprise Attendant Console
Number of Attendants (Operators)	25
Number of Contacts Supported	100k

Table 3-2 Shows the Performance of Cisco Unified Enterprise Attendant Console

Performance Item	Maximum numbers with Cisco Unified Enterprise Attendant Console
Number of Console Queues	50
Busy Hours Call Completions (BHCC)	6000

Hardware / Software Requirements

The information in Table 3-4 and Table 3-5 provide details of the minimum hardware/software required to run Cisco Unified Enterprise Attendant applications.

Table 3-4 Minimum Specification Required by Cisco Unified Enterprise Attendant Server

Applies To	PC Specification
Cisco Unified Enterprise Attendant Server	Pentium 4 2.2 GHz 2 GB RAM 72 GB Hard Drive CD-ROM/DVD-Rom Network Card SVGA (1024x768) display card with correct drivers Windows 2003 Server SP2 running Windows English Regional Settings. Windows 2008 R1 (32 bit) Server is also supported. For non-English characters the relevant language pack needs to be installed for the locale. .Net Framework 3.5** One of the following databases:* - MS SQL Server 2005 Express, Standard or Enterprise, or - MS SQL Server 2008 Express, Standard or Enterprise (See "SQL Consideration and Scalability" on page 3-7 for further information). Internet Information Service (IIS) 6.0 (or later).** * **Note:** The Attendant Console Server installation will operate in an MS SQL 2005 Server environment, but MS SQL 2008 is recommended. In an environment where MS SQL is not present the installation will install MS SQL 2008 (Express) application automatically. If MS SQL Express 2008 is installed manually, it must be installed as the **Default instance** for the Attendant Console to function. Cisco Unified Attendant applications will not work with a **Named instance** of SQLExpress. ** **Note**: IIS is installed seperately to the Attendant Console Server Installation and the ASP.NET component must be enabled and installed. This is done via the **Add/Remove Windows Component > Applications Server** and **Details**.

The Server should be connected to the network via the TCP/IP protocol.

You will require appropriate Operating System Licenses.

Note Cisco Unified Enterprise Attendant Server is not supported within a 64 bit Operating System.

Note NIC Teaming is not supported.

Note Cisco Unified Enterprise Attendant Server is not supported on the Cisco MCS (Media Convergence Server) Operating System.

Note Cisco Unified Attendant Server is only supported in a live environment on VMware ESXi 4.0 running on Cisco UCS B200M1 hardware.
Cisco Unified Attendant Server is not supported in a live environment on HyperV or any other virtual based operating system.
It is also worth noting that the Cisco TSP is only supported on VMware with Windows 2008, and not with Windows 2003.

Note Access to the Cisco Unified Attendant Server is not supported at any time via Remote Desktop (RDP), Terminal Services (TS) or any other session based application. These applications can cause stability problems with the required TAPI/TSP and Wave Driver operation. Only local connection or VNC Connection is supported. See http://support.microsoft.com/kb/308405.

Table 3-5 Minimum Specification Required by Cisco Unified Enterprise Attendant Console Client

Applies To	PC Specification
Cisco Unified Enterprise Attendant Console	Pentium 4 Entry Level Specification 1 GB RAM 1GB available Hard Drive space CD-ROM/DVD-ROM Network Card Connected to Network via TCP/IP SVGA (1024x768) display card Windows Small Fonts *17 Monitor highly recommended* XP Professional / Vista Professional (32 bit and WoW64) / Windows 2003/2008 and Windows 7 (32 bit and WoW64) (See Note below this table). SoundBlaster compatible sound card and speakers are recommended for the Console Operator.

Note If the Cisco Unified Enterprise Attendant is installed on Windows 7, Windows 2003 or Windows 2008 Operating System then 'Data Execution Prevention (DEP)' must be enabled. See Installing Cisco Unified Business/Department Attendant Console Client, page 4-15

Note If you are installing Cisco Unified Enterprise Attendant Console client on Windows Vista or Windows 7, or 2008, there is an additional process that you need to complete by disabling the User Account Control. See ***Disabling the User Account Control in Windows 7/ Vista/ 2008, page 4-24***.

Backups

As with all systems, we advise that backup facilities are provided to ensure application and data integrity, should an unforeseen circumstance arise.

Examples:

- CD Writer
- Tape streamer. DLT, DAT, Travan etc
- Zip / Jaz drive or other type of Magneto Optical drive

If possible, choose a solution that gives a one step disaster recovery. This is a solution that has the ability to restore the complete contents of a hard drive from a bootable floppy disk and the restore media.

Server Redundancy

It is strongly recommended that the PC Server should be a redundant system with the following redundancy methods. This is at the discretion of the customer

- Multiple hot-swap power supplies
- Hot-swap Hard Drive arrays
- UPS / power conditioners
- RAID

Security Considerations

There are many different AntiVirus products that are supported on a Cisco Unified Enterprise Attendant Console system server. Supporting guidelines on AntiVirus software can be found on the following site:-

http://www.cisco.com/en/US/products/ps7282/products_implementation_design_guides_list.html

Folder/File Exclusions

It is important that the AntiVirus product supports "Exclusions". This is the ability for the user to specify specific files and/or folders that will NOT be scanned by the AntiVirus program.

The following exclusions should be set when using AntiVirus on a Cisco Unified Enterprise Attendant Server

File Location	Use
\\DBData	This folder is where the System Configuration Databases are located
\\Program Files\Cisco\Logging	This is where all the system log files are stored.
\\Temp\Cisco\Trace	This is where the Cisco TSP Trace files are located

Network Requirements

The files in the above table are constantly being written to and updated during standard operation of the Cisco Unified Enterprise Attendant system.

Due to this, these files are permanently being accessed - an AntiVirus "Scan on access" policy for these files will mean that the files are constantly being scanned for Viruses. This will in turn slow down the operation of the Server. Therefore, excluding these files from being continuously scanned will allow the Server to function as expected.

6. The following table outlines the network requirements for running Cisco Cisco Unified Enterprise Attendant applications.

Table 3-6 network requirements for running Cisco Unified Attendant applications

Applies To	Network Specification
All Network Types	The network will need to support/run TCP/IP.
	Cisco Unified Enterprise Attendant Admin application will need to run under an Administrator profile. (Local Administrator is acceptable)
Microsoft Windows Network	If the network uses DHCP then the Cisco Unified Enterprise Attendant Server will need a static IP address allocated to it.

SQL Considerations and Scalability

Cisco Unified Enterprise Attendant Console installs SQL 2008 Express by default as part of its standard installation process. The performance limitation that SQL Server 2008 Express possesses is that it can access only a single CPU and 1 GB of RAM with a maximum database size of 4Gb.

In sites where one or more of the following are expected;-

- A large number of operators – more than 10,
- A high call volume – greater than 500 calls per operator per day,
- A Large Directory – greater than 10,000 contacts;

The use of SQL Server 2008 Standard or Enterprise should be strongly considered. Where a system out grows the SQL2008 Express deployment, the Standard or Enterprise versions of SQL 2008 can be used to upgrade the existing implementation with minimal effort.

Product Feature Table

The following table displays a break down by feature of the following products. It is meant as a quick reference to the product range and shows features as either Supported, Partial Support, or Unsupported. For a more detailed features list it is recommented that the respective product data sheets are consulted from http://www.cisco.com/en/US/products/ps7282/products_data_sheets_list.html.

- Cisco Attendant Console (CAC). (EOL (End of Lifed) April 2009).
- Cisco Unified Department Attendant Console (CUDAC)
- Cisco Unified Business Attendant Console (CUBAC)
- Cisco Unified Enterprise Attendant Console (CUEAC)
  The symbols denote the level of support within the product :-
  ● = Supported, ◗ = Partial Support ○ = Unsupported

Table 3-7 Product Feature table

Feature	Version			
	CAC	CUDAC	CUBAC	CUEAC
Installation	Browser	Web & Wizard	Web & Wizard	Web & Wizard
Configuration	CUCM	Browser	Browser	Browser
Queue Features				
Queues supported	Hunt Groups	● 1 per instance (5 instances on a server)	● 3	● 50
Configurable queue names and priority	○	○	●	●
Show all calls in all queues option	○	○	●	●
Queue salutations	○	○	○	●
Show & pick calls from each Queue	●	●	●	●
Queue wait time overflow	●	○	●	●
Queue limit overflow (no of calls)	●	●	●	●
Operator overflow (no operators)	○	●	●	●

Table 3-7 Product Feature table

Feature	Version			
	CAC	CUDAC	CUBAC	CUEAC
Queue overflow destinations supported	○	●	●	●
Overflow options	●	●	●	●
Music in Queue	●	○	●	●
Operator Handset Ringing	●	●	●	●
Service options				
Emergency mode switch	○	○	●	●
Emergency mode destination	○	○	●	●
Night service switch	●	○	●	●
Night service hours/timing	●	○	●	●
Night service destination	●	○	●	●
Directory features				
Directory size supported	100k	150 per instance (5 instances on a server)	500	100k
Search fields	2	3	4	6
Mobile number support	○	●	●	●
Internal directory support	●	●	●	●
External directory support	○	◗	◗	◗
Speed dials	●	●	●	●
Alternative number search (hotkey)	○	●	●	●

Table 3-7 Product Feature table

Feature	Version			
	CAC	CUDAC	CUBAC	CUEAC
AND Searching	○	●	●	●
Alternate Contacts search	○	○	○	●
Directory to XML phones	○	○	○	○
Cross tab searching	○	○	○	●
Notes against person	○	●	●	●
Presence / Status features				
Busy Lamp Fields / Phone Status supported	Yes	150 per instance (5 instances on a server)	500	7000
Presence integration with CUP	○	●	●	●
Presence integration with OCS	○	● Locally	● Locally	● Locally
Telephony features				
Transfer Reversion (Call Recall)	○	●	●	●
Hold Recall	○	●	●	●
Call toggle	●	●	●	●
Camp on	○	○	○	●
Call hold with notes	○	○	○	●
Undirected Call park (finds first slot)	●	●	●	●
Directed Call Park (to specific Park location)	●	●	●	●
Call Hold	◗	●	●	●

Table 3-7 Product Feature table

Feature	Version			
	CAC	CUDAC	CUBAC	CUEAC
Park recall	◗	●	●	●
Transfer	●	●	●	●
Conference	●	●	●	●
System features				
No of Clients	●	2	6	25
Keyboard driven	●	●	●	●
System logging	○	◗	◗	●
System Reports	○	○	●	●
VMWare (ESXI-4)	○	●	●	●
Cisco Unified Communications Manager Supported				
Communications Manager Supported	4.3, 5.1, 6.0, 6.1, 7.0	7.1, 8.0, 8.5, 8.6	7.1, 8.0, 8.5, 8.6	7.1, 8.0, 8.5, 8.6
Localisation and accessibility				
Languages supported*	20	1* (15)	1* (15)	1*(15)
Accessibility support (with JAWS Script)	○	●	●	●

Legend: ● = Supported, ◗ = Partial Support, ○ = Unsupported

* = The initial CUEAC (v8.6.0.x) release supports English only. This will be expanded to the 15 core languages within later versions scheduled 2011.

Core Languages

The 15 core languages that are supported are: English, French, Italian, German, Spanish, Portugese, Chinese (simpl), Chinese (trad.), Japanese, Korean, Arabic, Dutch, Swedish, Russian & Danish

CHAPTER 4

Installation Checklist and Procedure for Cisco Unified Enterprise Attendant Admin

This section describes in detail the installation procedures for the following applications,

- Cisco Unified Enterprise Attendant Server
- Cisco Unified Enterprise Attendant Console

In order to install Cisco Unified Enterprise Attendant Applications, you must configure an Application User profile on the Cisco Unified Communications Manager. All other configuration on the Cisco Unified Communications Manager will be handled by the Attendant Admin. Please refer to the following installation checklist for step-by-step installation sequence.

Note If you are upgrading from one variation of Cisco Unified Attendant Console (such as a Business version to an Enterprise version) it is strongly recommended that you start with a completely clean server installation.

Note Please note that installation via Terminal Services/Remote Desktop is NOT supported. Only a local installation or VNC connection is supported.

Note Earlier versions of Cisco Unified Enterprise Attendant Server used End User accounts. If upgrading from a previous version of the software it is important to confirm that the connection account is an Application Account.

Installation Overview

This overview is designed to guide you through the installation process for Cisco Unified Enterprise Attendant Console in an easy to follow step-by-step sequence. A certain amount of preparation is required to ensure that a quick setup is achieved. Table 4-1 provides an overview of the Installation and Configuration steps that are required for a successful install of the software.

Table 4-1 Installation and Configuration Overview

Step 1 Preperation	
Formulate numbering plan for test install. Refer to "Shows a Numbering Plan for a Test Install" on page 3 - 4 for required Directory Numbers.	
Prepare a Service with Internet Information Services (IIS) installed and ASP.NET. Refer to "Hardware / Software Requirements" on page 3 - 6 for Server Requirements.	

Step 2 Cisco Unified Communications Manager Configuration	
Create partition and Calling Search Space or add to existing ones as required. (Note: All CTI devices created for the Cisco Unified Enterprise Attendant Console, as well as operators extensions need to be able to receive and make calls to a full range of destinations.) For CUCM 7.x/8.x see "Creating the Attendant Application User Account for Cisco Unified Communications Manager 7.x" on page A - 1or "Creating the Attendant Application User for Cisco Unified Communications Manager 8.x" on page C - 1	
Create an Application User Create a User Group Assign roles to User Group Assign Application User to User Group Assign Application User to CCM Super User Group	

Step 3 Install and Configure Cisco Unified Enterprise Attendant Admin	
Install Cisco Unified Enterprise Attendant Admin. See *"Installing Cisco Unified Business/Department Attendant Server" on page 4 - 4*	
Check Cisco Unified Communications Manager connectivity. See *"CUCM Connectivity" on page 5 - 13*.	
Configure CT Gateway, Service and Park devices. See *"System Configuration" on page 5 - 21*.	
Synchronize with CCM. Adds all required CTI devices to CCM, and adds them to the Application User profile for CTI control. *See "Synchronizing with CUCM" on page 5 - 24*.	

Step 3 Install and Configure Cisco Unified Enterprise Attendant Admin	
Configure Directory Synchronization if required. "Directory Synchronization" on page 5 - 30.	
Configure Cisco Unified Enterprise Attendant Console User Settings. See *"User Configuration" on page 5 - 33*	
General Properties, Access Numbers FAC and CMC Settings Recall Timers Working Days Queue Management General (Name, DDI, Priority) Emergency destination Overflow destinations Night Service destination Operator management Operator login names and passwords Queue Association	

Step 4 Install Cisco TSP on Cisco Unified Enterprise Attendant Server

Note Installation of the Cisco TSP with Cisco Unified Communications Manager 8.x is silent and is completed within the installation of the Cisco Unified Enterprise Attendant Server

Run the CiscoTSP.exe. As part of the install this file is extracted from the CUCM to the desktop. If you require to manually collect the file go to Communication Manager configuration and select *Application* > *Plugins.* For CUCM 7.x See *"Installing the TAPI TSP" on page B - 1* or for CUCM 8.x see *"Manually Installing the TAPI TSP" on page D - 1*	
Select Cisco Telephony Service Provider and run the install following the onscreen instructions	
After rebooting the Server configure the TSP	
Install Cisco TAPI Wave Driver (instructions are in the TSP readme file). See *"Installing the TAPI TSP" on page B - 1*	
Reboot the server.	

Step 5 Test TAPI	
Use Phone1.exe (TAPI Soft Phone) from Julmar.com to test that, a) all Associated devices appear in the line list, and b) that a CTI Ports can be monitored and a call made to a nearby handset.	

Step 6 Install Cisco Unified EnterpriseAttendant Console.	
See *"Installing Cisco Unified Business/Department Attendant Console Client" on page 4 - 15*	

Installing Cisco Unified Enterprise Attendant Server

Note If you are upgrading from a previous version of the software you will follow the same installation process as outlined below. It is important to note that on Step 12, you have the ability to retain your existing configuration or create a brand new one.

It is also important that if the server is updated, then the Attendant Console will also need to be updated. Attempting to use an older version of the Attendant Console with a new server may result in some inconsistent system performance due to database changes.

Note If you are upgrading from one variation of Cisco Unified Attendant Console (such as a Business version to an Enterprise version) it is strongly recommended that you start with a completely clean server installation.

Note When installing the software you will need to be logged in with local administration rights.

Prior to installing the Cisco Unified Enterprise Attendant Console software, it has to be downloaded. For information related to the download and registration of the software, refer to Appendix D "Downloading, Updating and Registering Software" on page E - 1 of this manual.

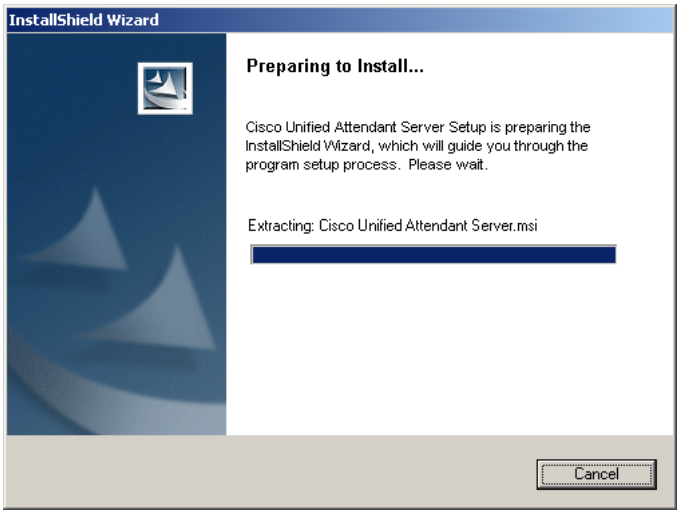
1. Browse to the directory where the downloaded installation files are saved.

To install the application, perform the following steps:

Procedure

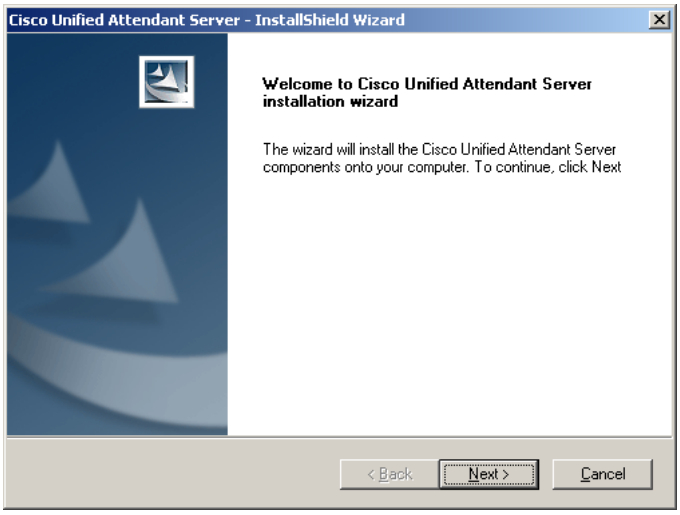
Step 1 The initial part of the installation will install the 3rd party applications, including MS SQL Server 2008 Express, IE 6.0 and MS Dotnet 3.5 if they are not already installed. The default user name for the SQL connection will be **sa** and the default password will be **Z1ppyf0rever**. Figure 4-1 shows the first window that appears displaying a progress bar while the setup prepares the system for installation.

Figure 4-1 Displays the Screen that is Shown While the Setup Prepares for Installation



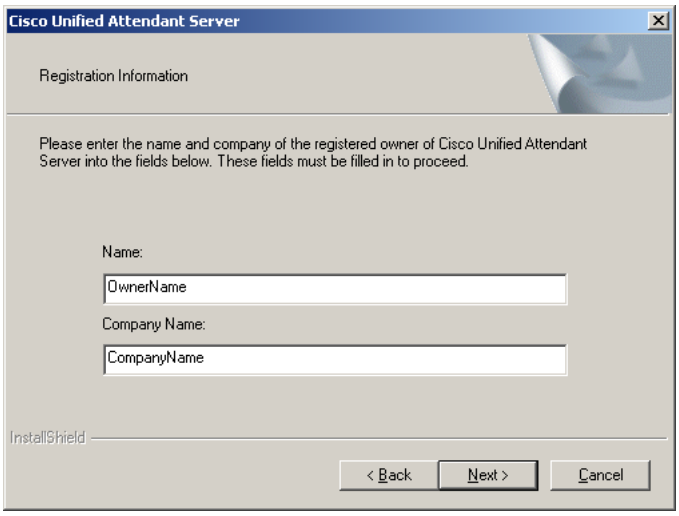
Step 2 The next screen displays a welcome note and instructions on installing (Figure 4-2). Click **Next**.

Figure 4-2 Displays the Welcome Screen



Step 3 The next window contains registration information (Figure 4-3). In the **Name** text box, type the name of the license holder, and type the company name into the **Company** text box. Click the **Next** button to proceed.

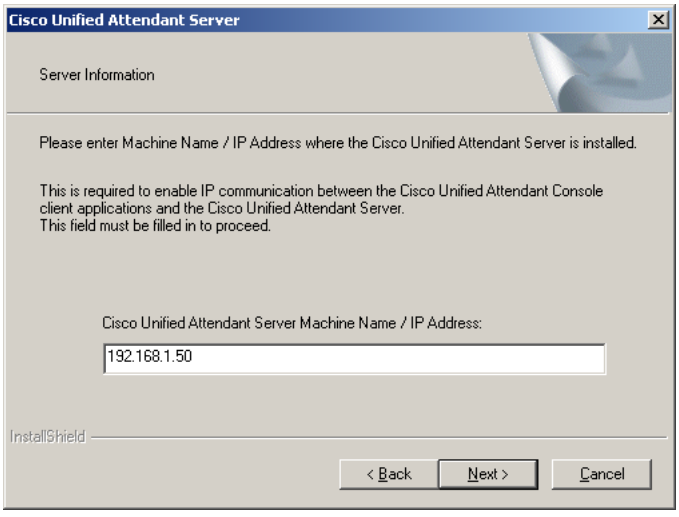
Figure 4-3 Displays the Registration Information Screen of the Install



Step 4 In the next window (Figure 4-4), it is necessary to type the **Machine Name** or **IP Address** of the machine onto which the Server application is being installed. Click **Next**.

Note If you are unsure of the machine name, it is possible to find out through **Control Panel >Network**. This must be done on the machine that runs Cisco Unified Enterprise Attendant Server.

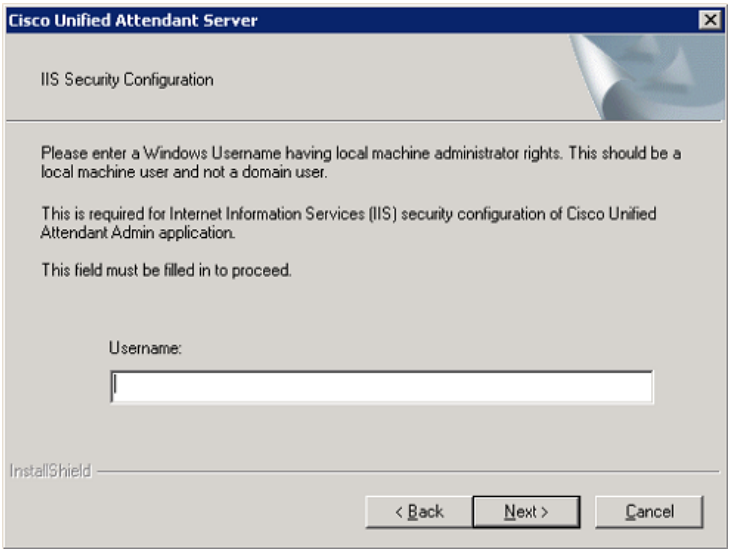
Figure 4-4 Displays the Server Information Screen for the Installation



Step 5 In the next window you have to enter a Windws Username. This Username has to be configured for local machine administrator rights. This is required for the IIS security configuration of the Cisco Unified Enterprise Attendant Admin. You will not be able to proceed without entering this information. Click on **Next**.

Note It is advised that you should not use a domain account. This should be a local account with machine administration privileges.

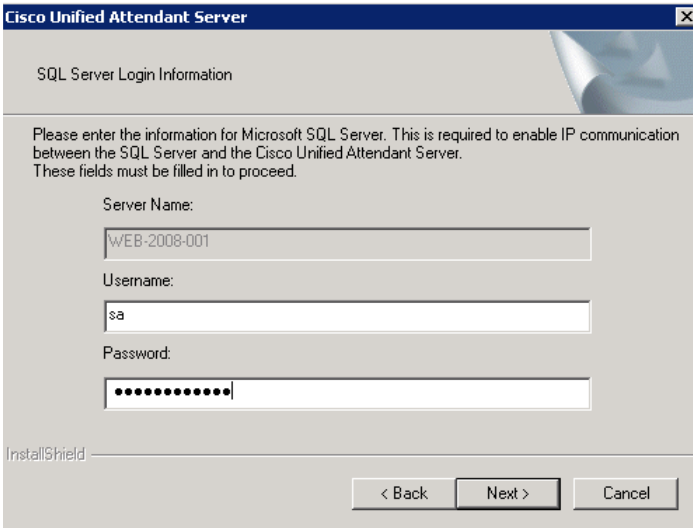
Figure 4-5 Displays the IIS Security Configuration Screen for the Installation



Step 6 If you already have MS SQL Server 2008 Express Edition, the screen in Figure 4-6 will be displayed. Enter the **Server Name, Username** and **Password** to connect to MS SQL Server Express 2008 Edition. The default user name for the SQL connection will be **sa** and the default password will be **Z1ppyf0rever**. Click **Next**.

Note If MS SQL Server is not installed on your machine, it will be installed automatically by Cisco Unified Enterprise Attendant Server Installation. This is done during Step 1 (Figure 4-1).
IMPORTANTLY - If the SQL Server is installed this way, the following screen will not appear.

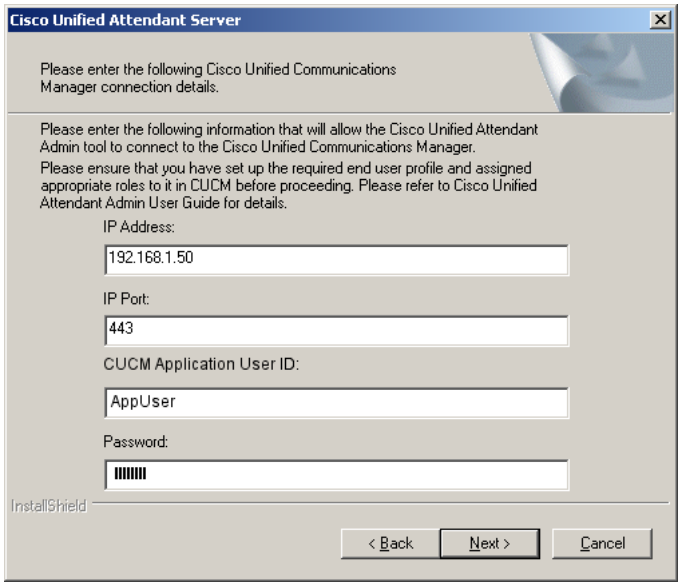
Figure 4-6 Displays the Server Login Information Screen for Installation



Step 7 In order to connect to Cisco Unified Communications Manager, you must enter the **IP address** and **Port**.This is shown in Figure 4-7. You must also specify the **Cisco Unified Communications Manager Application User ID** and **Password**. Make sure the Application User account specified is available on the Cisco Unified Communications Manager administration. The creation of an Application User ID has been explained in the following appendices towards the back of this document. Appendix A, "Creating

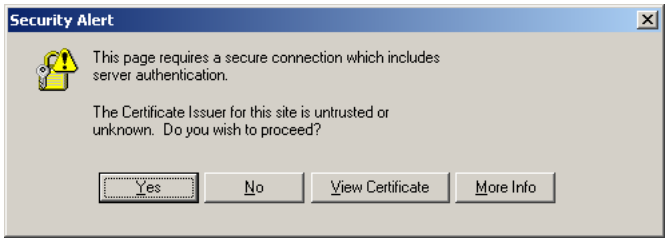
the Attendant Application User Account for Cisco Unified Communications Manager 7.x."and Appendix C, "Creating the Attendant Application User for Cisco Unified Communications Manager 8.x.". Click **Next**.

Figure 4-7 Displays the Cisco Unified Communications Manager Information Screen



Step 8 When you enter the **Username** and **Password** to connect to Cisco Unified Communications Manager in the previous window (Figure 4-7), two security alerts will be displayed (Figure 4-8). Click **Yes** on both the alerts to proceed.

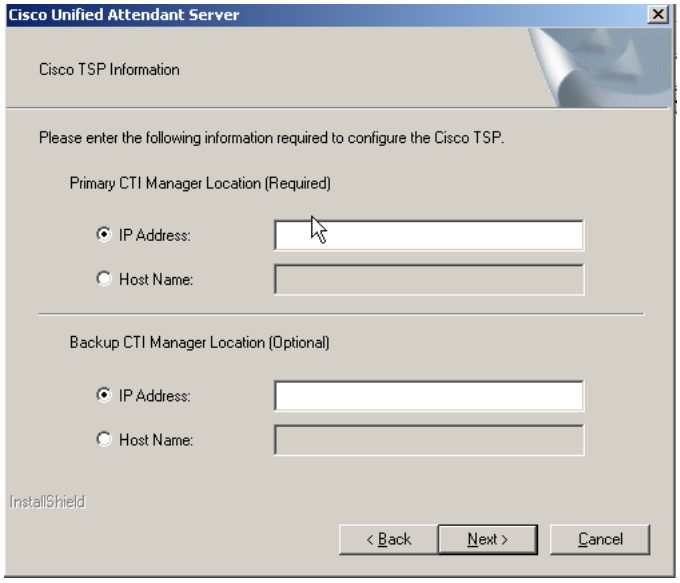
Figure 4-8 Displays the Confirmation to Access Cisco Unified Communications Manager



Note Step 8 is only available during an installation to Cisco Unified Communication Manager 8.x. For an installation to Cisco Unified Communication Manager 7.x, move on to Step 9.

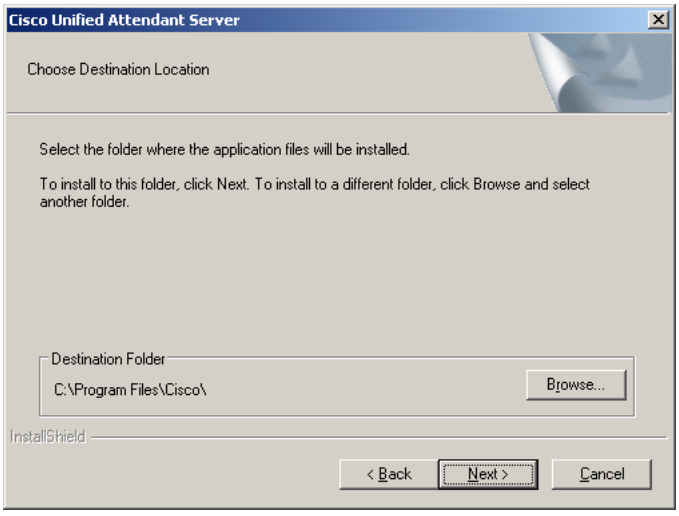
Step 9 This next window will only appear if the installation is being completed with Cisco Unified Communication Manager 8.x. You will be prompted to enter the IP Address or Host Name for the Primary CTI Manager location (See Figure 4-9). There is also an option to add the IP Address or Host Name for the Backup CTI Manager location.

Figure 4-9 Displays the Cisco TSP location Information



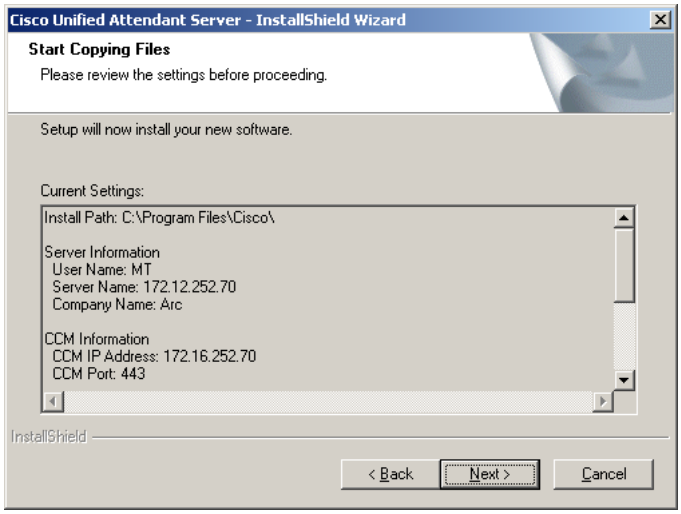
Step 10 The next window is for selecting the directory into which you wish to install the application (Figure 4-10). The default location is **C:\Program Files\Cisco**. By using the **Browse** button, you can select a different path and directory. Click the **Next** button.

Figure 4-10 Displays the Screen to Specify Location for the Files to be Installed



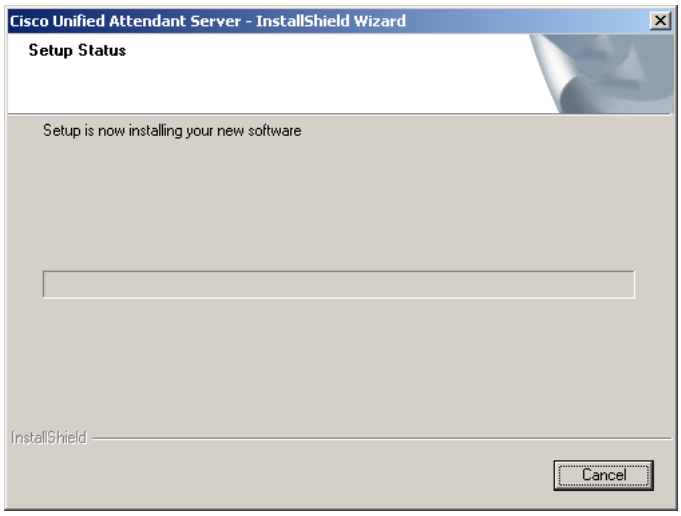
Step 11 A summary windows with the current settings specified will be displayed (Figure 4-11). Click **Next** to proceed with installation or click **Back** to edit the settings made on the previous screens.

Figure 4-11 displays the summary for the configuration made



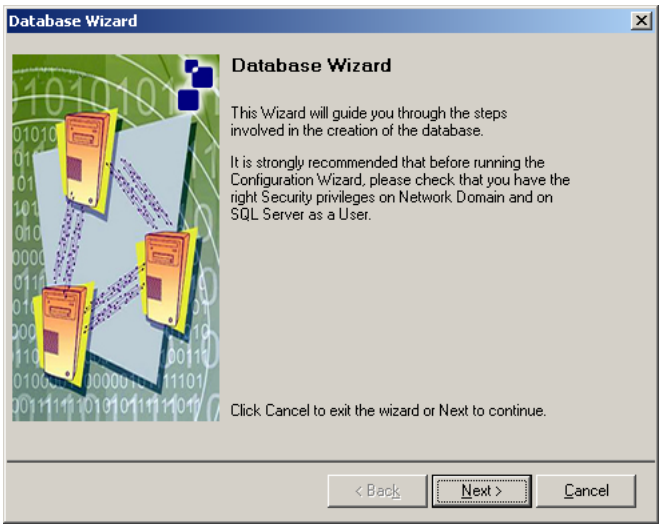
Step 12 The installation will start and a progress bar will reflect how much of the process is completed (Figure 4-12).

Figure 4-12 Displays the Progress Bar for the Installation

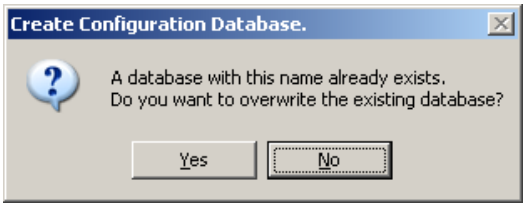


Step 13 Once the application has been installed, the **Database Wizard** will create and configure the databases for the application (Figure 4-13). Click **Next**.

Figure 4-13 Displays the Database Wizard Welcome Screen

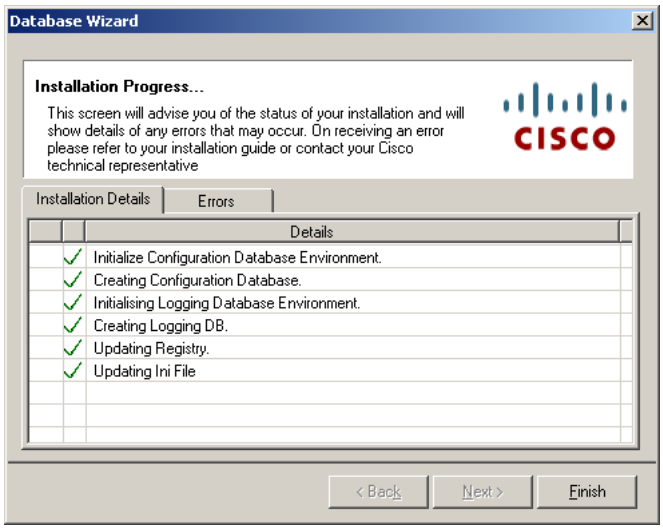


Note If a previous installation has been installed on the machine you will be prompted that the database already exists. Clicking on **Yes** will give you a clean database with no configuration set. Clicking on **No** will upgrade your existing configuration.



Step 14 The next window shows the status of database installation (Figure 4-14). Once the installation is complete.

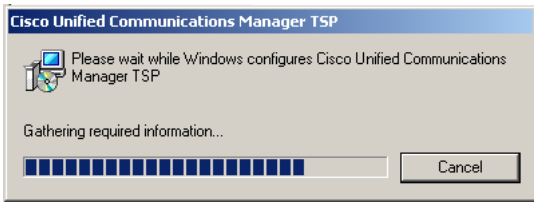
Figure 4-14 Displays the Installation Progress of the Databases



Note Step 14 is only applicable if you are connecting to Cisco Unified Communications Manager 8.x where the installation and configuration of the TSP is integrated into this process. If you are connecting to Cisco Unified Communications Manager 7.x move on to Step 15.

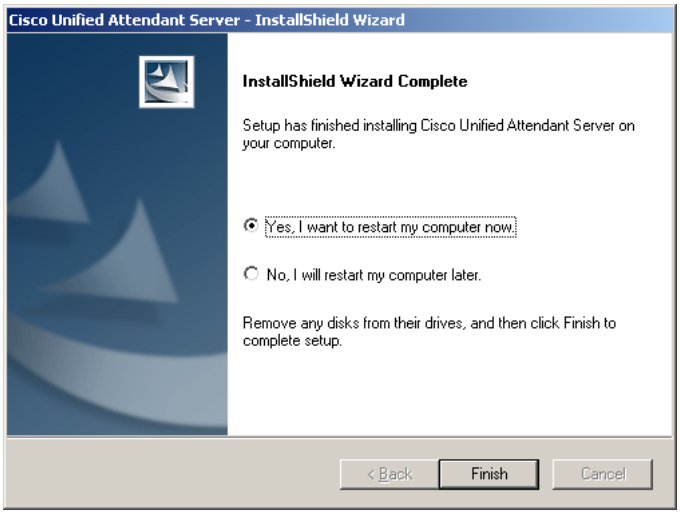
Step 15 If you are installation is connected to Cisco Unified Communications Manager 8.x a progress bar will appear while the Cisco TSP is being installed and configured (Figure 4-15).

Figure 4-15 Displays the Progress of the Cisco Unified Communications Manager TSP v8.0



Step 16 The application has now been installed successfully (Figure 4-16). It is recommended that you restart your computer. Click **Finish**.

Figure 4-16 Displays the Screen Once the Installation is Complete



Note After the restart and before using the software, the Cisco TSP and Cisco TAPI Wave driver have to be installed and configured. This is covered in Appendix C "TAPI Configuration for CUCM 7.x" on page B - 1

Disabling the User Account Control in Windows 2003/2008

If you are installing Cisco Unified Enterprise Attendant Server on Windows 2003 or Windows 2008, there is an additional process that you need to complete by disabling the User Account Control. To do this perform the following steps:

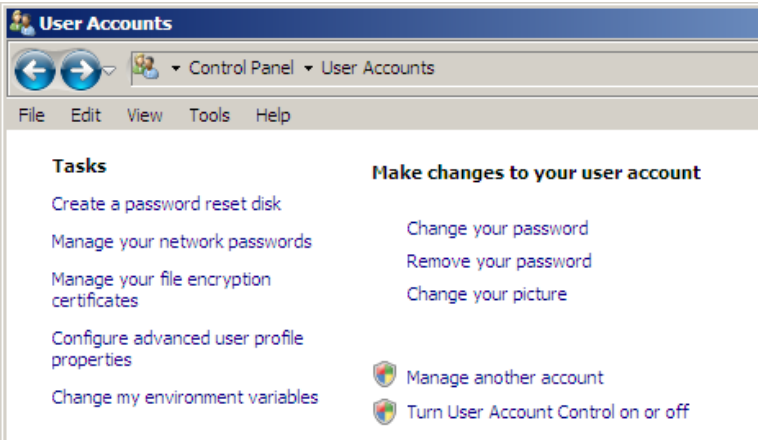
Procedure

Note To complete this procedure you will need to have administration rights.

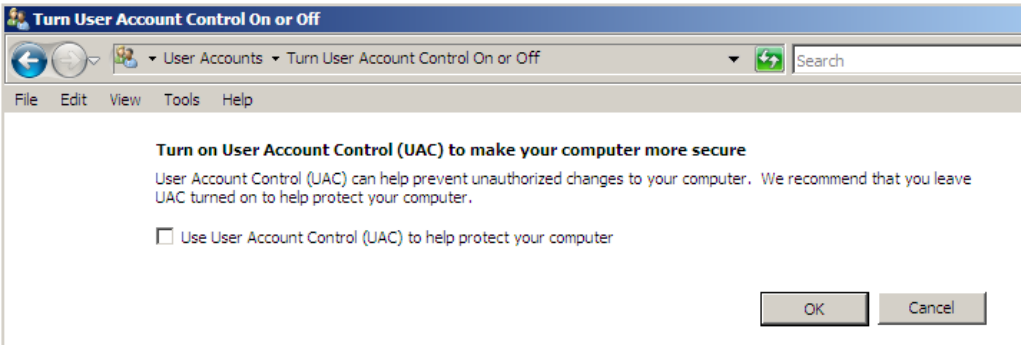
Note The Screens used in the following steps may vary between Window Versions. The ones used are based on Windows 2008.

Step 1 Select the **Control Panel**, and go to **User Accounts**.

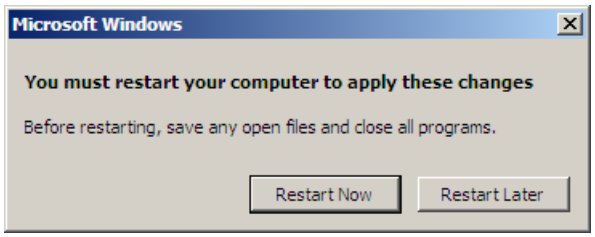
Step 2 Click on **Turn User Account Control on or off**.



Step 3 De-select the tick box, **Use User Account Control (UAC) to help protect your computer**. Then click on **OK**.



Step 4 You will be asked to Restart the machine for the change to take affect.



Disabling Remote Access Connection Manager Service

The Microsoft Windows “Remote Access Connection Manager” service should also be disabled on the Operating System. This service is known to cause stability issues with the CUxAC server and Cisco TSP, which could result in a system failure. Ensuring that this service is disabled will remove the exposure to this potential issue. Ensure that this service is set to **Disabled**. After making this change, a reboot of the server is required for this change to become active.

Installing Cisco Unified Enterprise Attendant Console Client

To install Cisco Unified Enterprise Attendant Console Client, perform the following steps:

Procedure

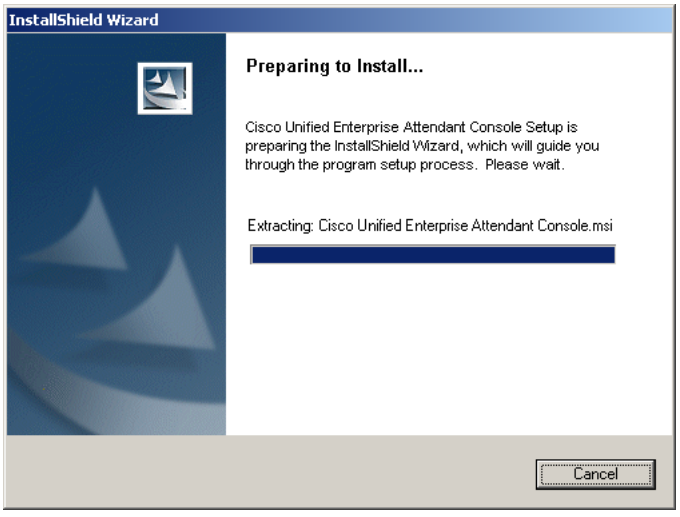
Note When installing the software you will need to have administration rights.

Note If this installation is an upgrade to a previous version then any user preferences that have been configured will be maintained.

Step 1 Browse to the directory where the downloaded installation files are saved.

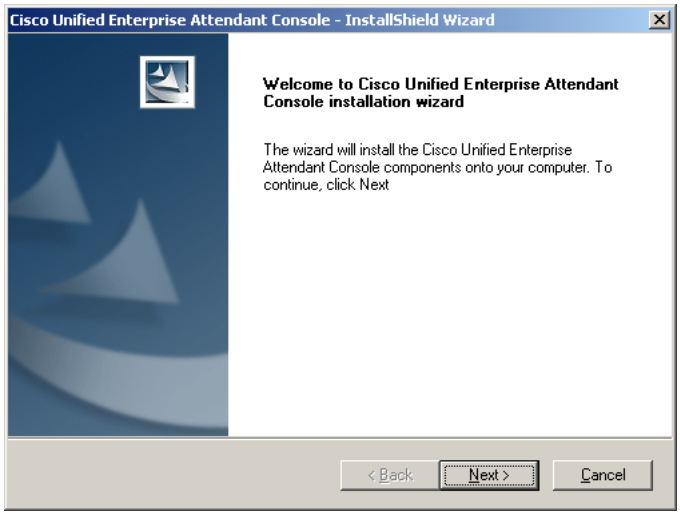
Step 2 The first window appears displaying a message that Cisco Unified Enterprise Attendant Console Installation Wizard is preparing to install (Figure 4-17). The progress bar on the screen shows the status of the setup and also shows the names of the files being extracted. Once the installation wizard is ready to install the application, a new screen will be displayed that will guide you through the setup process for Cisco Unified Enterprise Attendant Console.

Figure 4-17 Displays the First Install Screen



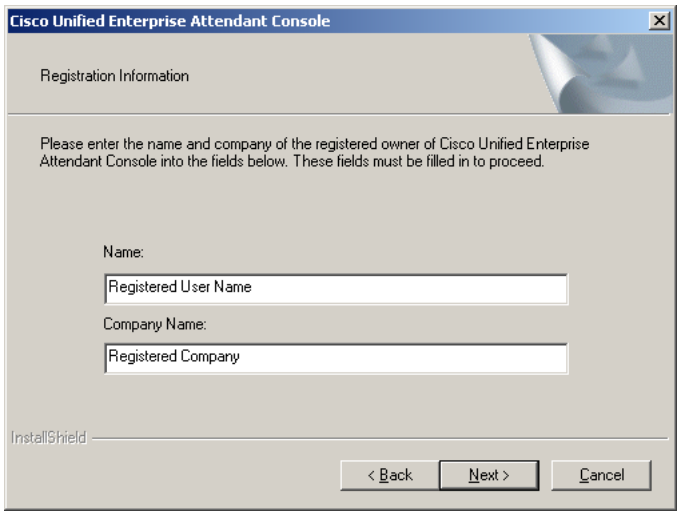
Step 3 After the **Preparing to Install** window, a Welcome screen will appear (Figure 4-18). This screen specifies that Cisco Unified Enterprise Attendant Console and its components will be installed on your computer. To continue, click **Next**. If you wish to exit from the setup at this point, click **Cancel**.

Figure 4-18 Displays the Welcome Screen to Installation



Step 4 The next window contains the registration information (Figure 4-19). In the **Name** text box, type the name of the registered owner of Cisco Unified Enterprise Attendant Console, and type the owner's company name into the **Company** text box. Click the **Next** button to proceed.

Figure 4-19 Displays the Screen for Registration Information

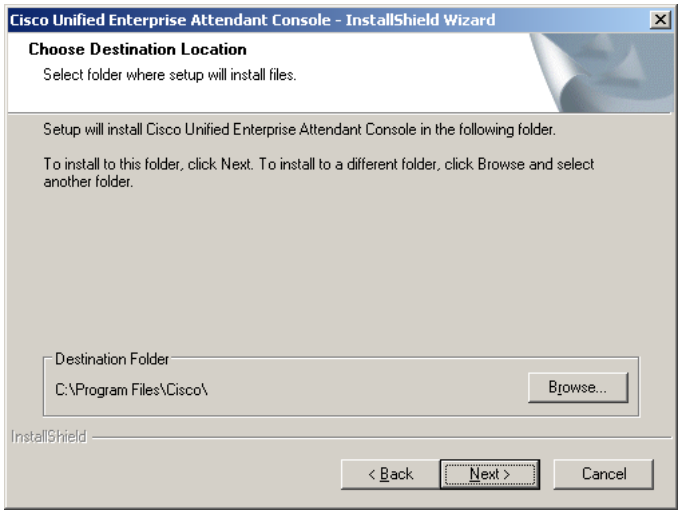


Step 5 Select the folder where you wish to install the application (Figure 4-20). It is recommended to use the default destination folder specified on the screen. The default destination folder is created on the following path:

C:\Program Files\Cisco

If you wish to install the application to a different location, use the **Browse** button to select a different location. Click **Next** to proceed.

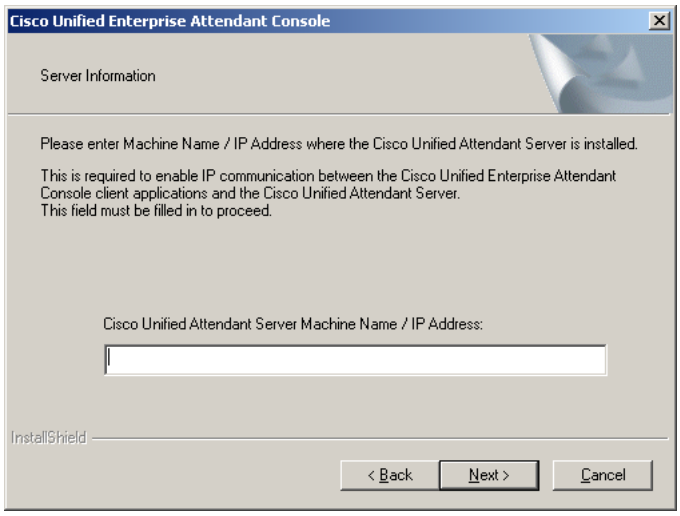
Figure 4-20 Displays the Screen Used to Select a Location Where the Application must be Install



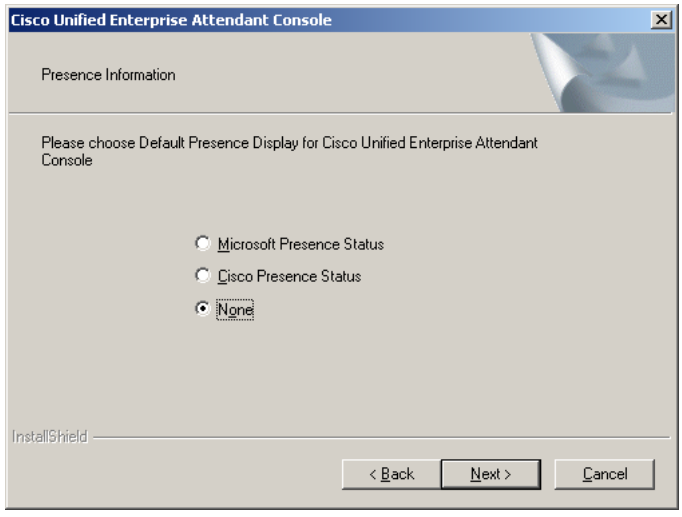
Step 6 In the next window, enter the **IP Address** or **name** of the machine running Cisco Unified Enterprise Attendant Server (Figure 4-21). This is required in order to enable communication between Cisco Unified Enterprise Attendant Console and Cisco Unified Enterprise Attendant Server. Click **Next** to proceed.

Note If the IP address for Cisco Unified Attendant Server is entered incorrectly, Attendant Console will not be able to connect to the server and will therefore not function.

Figure 4-21 Displays the Screen for Server Information



Step 7 In the next window select which type of presence is required. The choice is between **Microsoft Presence Status**, **Cisco Presence Status** or **None**. Click on **Next** to proceed.

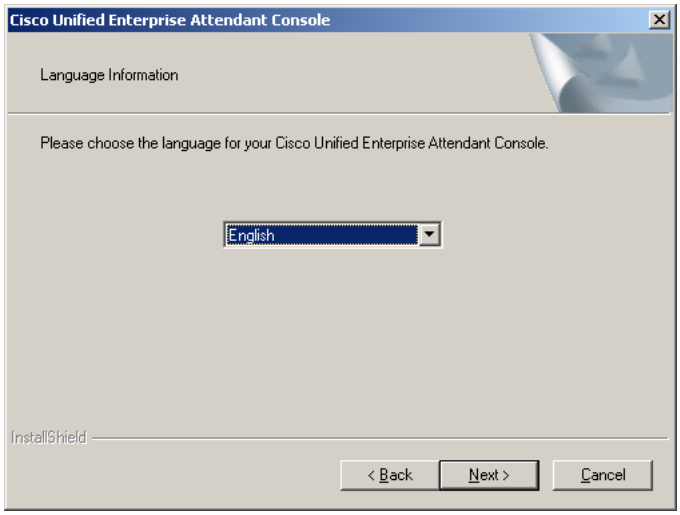


Note If required, this can be changed at a later date within the attendant console preferences window. In the Attendant Console software, select **Options** from the meu bar, and **Preferences** and **Presence**.

Step 8 In the next window select the language in which you want to install the application (Figure 4-22). Click **Next** to proceed.

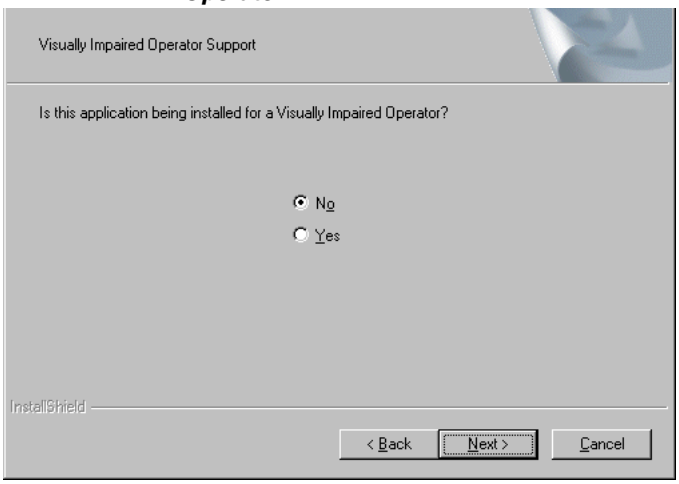
Note Where a DNS Server is not present on the network or the Servers Machine Name cannot be resolved, the Hosts file (WINDOWS\system32\drivers\etc\) should be amended to reflect the IP Address and Server Machine Name of the server

Figure 4-22 Displays the Screen Used to Select the Language for the Application



Step 9 In the next window, select if the application is being installed for a visually impaired operator (Figure 4-23). Click **Next** to Proceed.

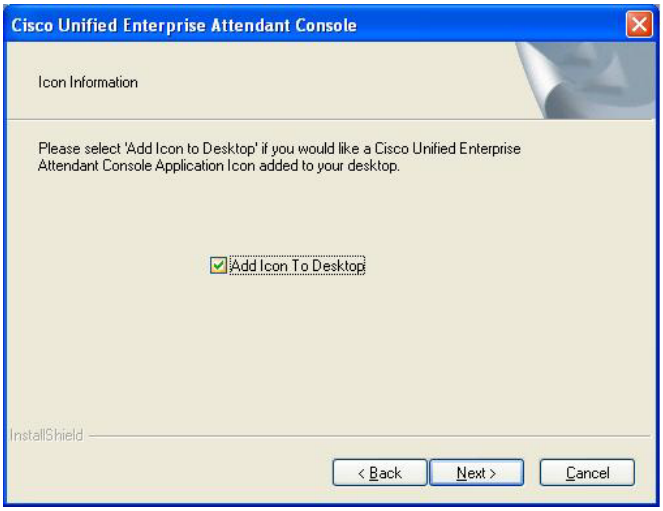
Figure 4-23 Displays the Screen Used if the Application is being installed for a Visually Impaired Operator.



Note If this is selected there is an additional step required if the product is going to be used with JAWS screen reading software, see for further details.

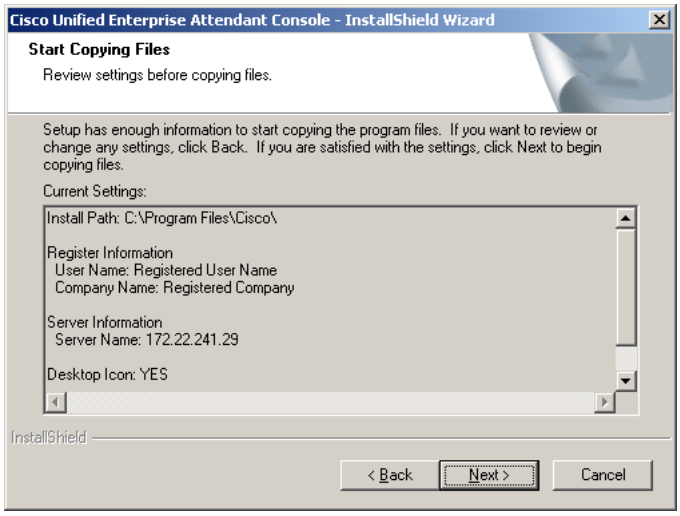
Step 10 In the next window, select the check box to add an icon for Cisco Unified Enterprise Attendant Console on the desktop (Figure 4-24). Click **Next** to proceed.

Figure 4-24 Displays the Screen that Asks to Add an Icon to Desktop



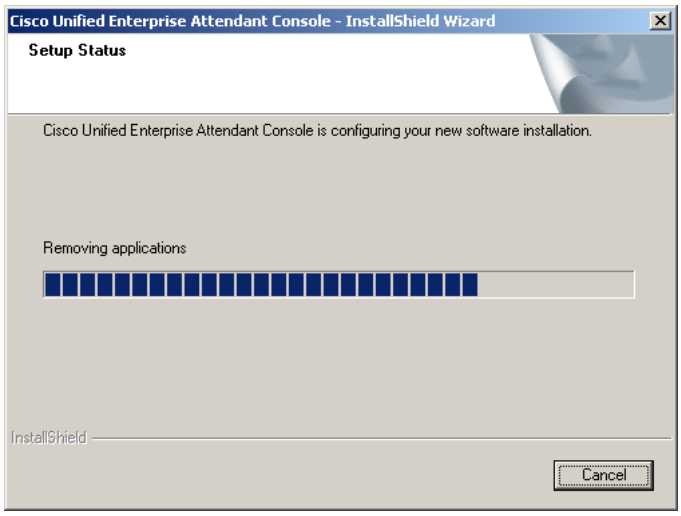
The installation wizard will display a summary of the information you have entered so far (Figure 4-25). You can review these settings on this screen and click **Back** if you wish to edit some information. If you are satisfied with the settings, click **Next** to allow the setup to start copying the files.

Figure 4-25 Displays the Screen that Shows the Summary for the Setup



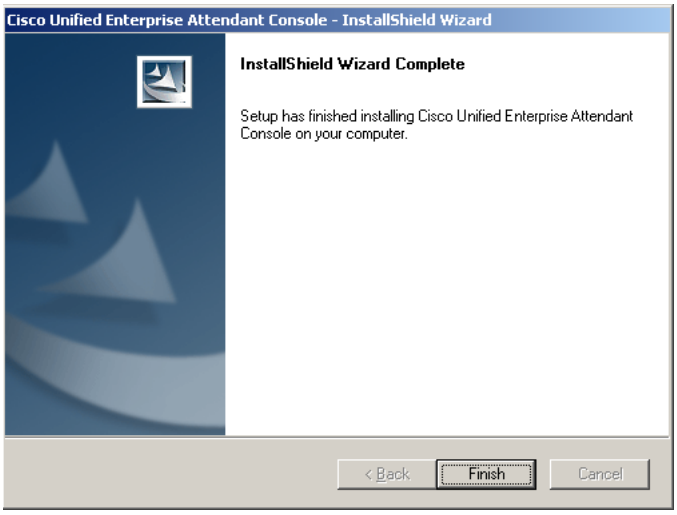
Step 11 A progress bar is displayed that shows the status of the installation configurations and the files being copied (Figure 4-26). If you wish to exit the setup at this point, click **Cancel**.

Figure 4-26 Displays the Progress Bar for the Software Configuration



Step 12 The final window displays the confirmation that Cisco Unified Enterprise Attendant Console has been installed successfully (Figure 4-27). Click the **Finish** button.

Figure 4-27 Displays the Screen Notifying that the Installation is Complete



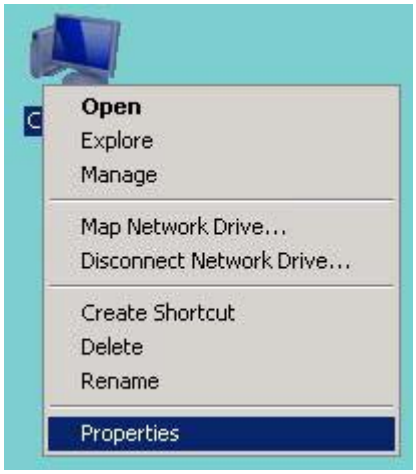
Installing Cisco Unified Enterprise Attendant Console Client on Windows 2003/2008/Vista (32 bit and WoW64)/7 (32 bit and WoW64)

If you are installing Cisco Unified Enterprise Attendant Console Client on Windows 2003 or Windows 2008, Vista (32 bit and WoW64), 7 (32 bit and WoW64) there is an additional process that you need to complete by setting Data Execution protection on. To do this perform the following steps:

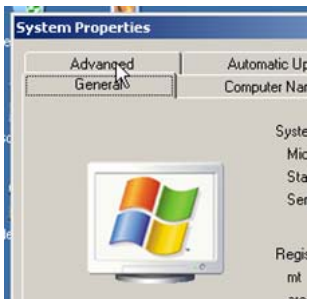
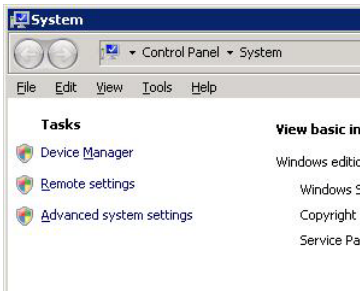
Procedure

Note When installing the software you will need to have administration rights.

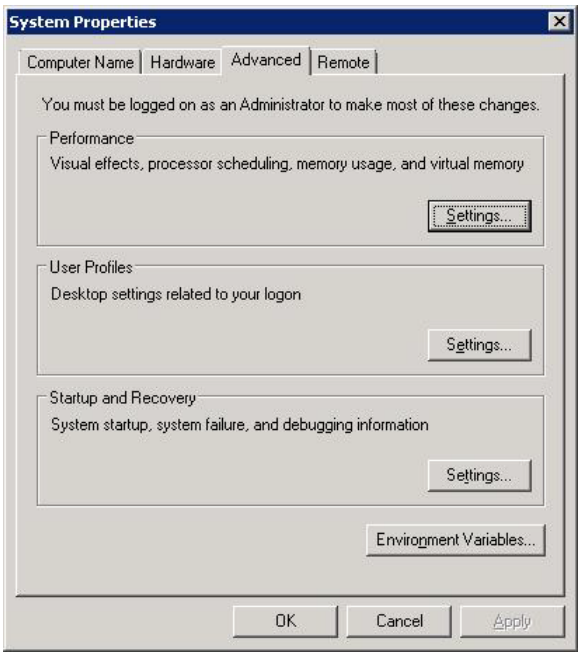
Step 1 Right Click on **My Computer** and select Properties.



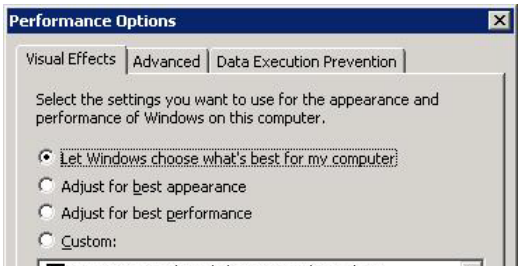
Step 2 The System window will open. Select Advanced System Settings. Note the image below shows the Windows 2008, .

Windows 2003	Windows 2008
	

Step 3 Select the Advanced tab. Under the heading Performance, click on the **Setting** button.



Step 4 The Performance Option Dialogue Box will open. Select **Data Execution Prevention** tab.



Step 5 On the Data Execution Prevention tab select the option to **Turn on DEP for essential windows programs and services**. Click on **Apply** and **OK** to close this dialogue box.

Disabling the User Account Control in Windows 7/ Vista/ 2008

If you are installing Cisco Unified Enterprise Attendant Console client on Windows 7, Vista, or Windows 2008, there is an additional process that you need to complete by disabling the User Account Control. To do this perform the following steps:

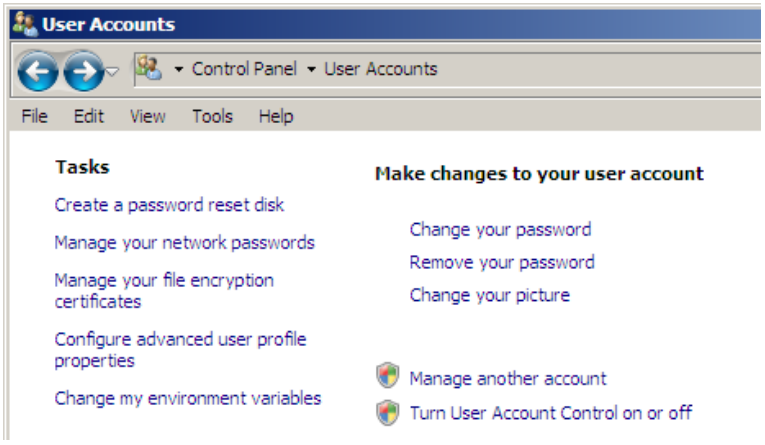
Procedure

Note To complete this procedure you will need to have administration rights.

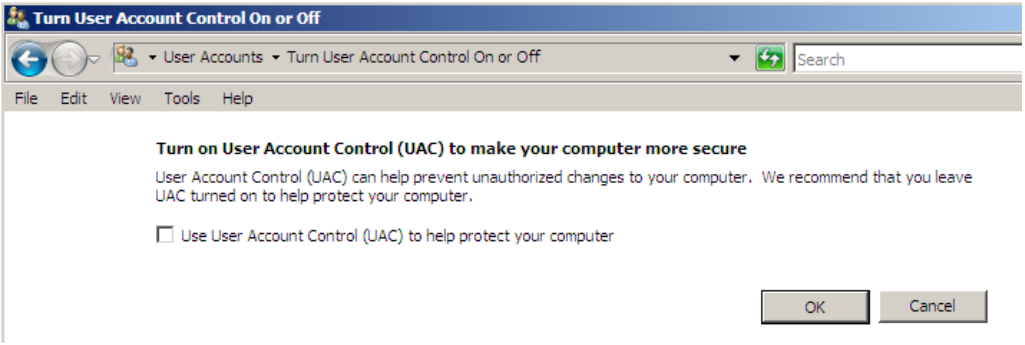
Note The Screens used in the following steps may vary between Window Versions. The ones used are based on Windows 2008.

Step 1 Select the **Control Panel**, and go to **User Accounts**.

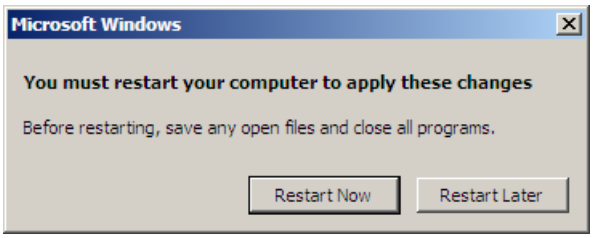
Step 2 Click on **Turn User Account Control on or off**.



Step 3 De-select the tick box, **Use User Account Control (UAC) to help protect your computer**. Then click on **OK**.



Step 4 You will be asked to Restart the machine for the change to take affect.



Installing JAWS scripts for Visually Impaired Operation

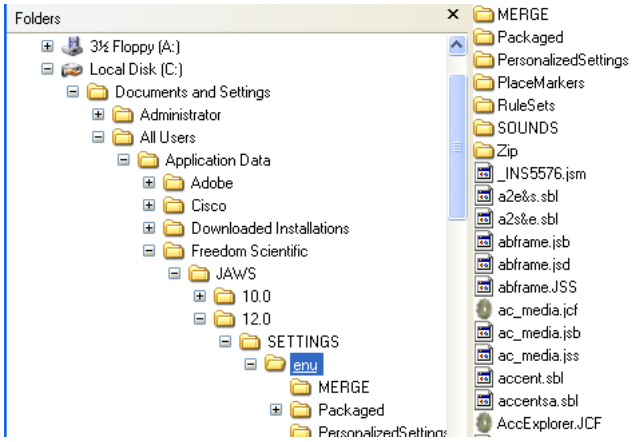
Cisco Unified Enterprise Attendant Console client can be used with JAWS screen reading software from versions 10 upwards. For JAWS to work correctly some file scripts need to be copied from the folder that Cisco Unified Enterprise Attendant Console client was installed in, to the JAWS folder.

Procedure

Step 1 After the installation has finished, open a explorer window and navigate to the folder that the Attendant Software was installed, by default the folder path is Program Files/Cisco/Attendant Console/Accessibility Scripts. With exception to the PDF file, select the remaining files within this folder and copy them.

Step 2 Navigate to the folder where the JAWS software has been installed. The typical default path is C:\\Documents and Settings\ All Users\ Application Data\ Freedom Scientific\JAWS\ 12.0 (***version***) Settings\enu (***language***)\

Figure 4-28 An example path for the JAWS scripts to be placed



Step 3 Then paste the copied files.

CHAPTER 5

Cisco Unified Enterprise Attendant Admin

This section will guide you through the configuration for Cisco Unified Enterprise Attendant Console.

Cisco Unified Enterprise Attendant Admin allows you to create and manage the Attendant Console system.

System configuration provides the facility to manage synchronization of devices and directories with Cisco Unified Communications Manager. Cisco Unified Enterprise Attendant Console and Cisco Unified Communications Manager communicate via AXL API, using SSL, to synchronize the system devices used for queuing, servicing and parking calls. These devices are created as CTI Port and CTI Route Point devices within the Cisco Unified Communications Manager database.

User configuration allows you to make configurations for the Cisco Unified Enterprise Attendant Console. These settings are configured in order to make global configurations for internal/external calls access, Force Authorization and Client Matter Codes and Recall timers. These settings are made in order to manage the call flow.

In order to get started, an initial URL will be used to access Cisco Unified Enterprise Attendant Admin web session. This URL will be in the following format:

http://<<*ip address of Cisco Unified Enterprise Attendant Server*>>/webadmin/login.aspx

The URL, as provided by the network administrator will be entered in the address bar of the web browser, Figure 5-1 shows an example of the URL that would be used.

Figure 5-1 Displays an example of the URL Entered in the Internet Explorer Address Bar

You must login to Cisco Unified Enterprise Attendant Admin in order to configure settings for Cisco Unified Enterprise Attendant Console.

Table 5-1 shows a list of the icons that are used while configuring the Cisco Unified Enterprise Attendant Console,

Table 5-1 Provides the description for the icons used in the user guide

Icon	Description
	Save
	Reset Password
	Test Connection
	Repair Database
	Database Repair Report
	Calendar: this will present a calendar page to select a date from.
	Start Server
	Stop Server
	Information Icon: Used to view runtime information for a service.
	Refresh
	Synchronize with CUCM

Administrator Login

Cisco Unified Enterprise Attendant Admin requires authentication for users, and is accessible only to Administrators for making new configurations for Cisco Unified Enterprise Attendant Console or updating them. Most of the settings configured using Cisco Unified Enterprise Attendant Admin will be made in real-time, however, some changes may require Cisco Unified Attendant Server to be restarted. The default user name is **ADMIN** and the default password is **CISCO** (Username and Password are not case sensitive).

To log on to Cisco Unified Enterprise Attendant Admin,

Step 1 Enter the URL specified by your network administrator to access Cisco Unified Enterprise Attendant Admin.

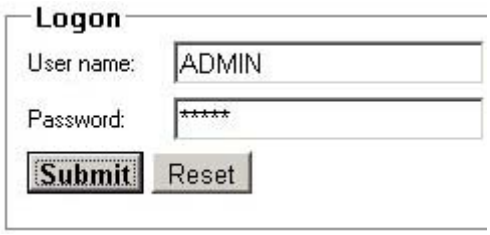
Step 2 The **Logon** page will open.

Step 3 Enter *User name*.

Step 4 Enter *Password*.

Step 5 Click **Save**.

Figure 5-2 Displays the login page for the application



The following table gives a brief description for the fields mentioned in the form displayed above,

Table 5-2 provides the description for the fields of the login page

Field	Example	Description
User name	ADMIN	This field specifies the user name to log in with. The user name is ADMIN by default (Not case sensitive).
Password	*****	The password used by the Administrator to log in (Not case sensitive).

To clear the contents of the User name and Password fields, click **Reset**.

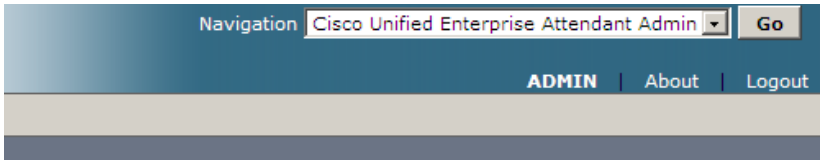
Home Page

Following a successful log in, you will be shown the home page that displays the main menus for configuring the application. There are two main areas that can be accessed from this page:

- Cisco Unified Enterprise Attendant Admin
- Cisco Unified Reporting.

This is done by making the selection in the **Navigation** box on the top of the screen and then clicking on **Go**.

Figure 5-3 Displays the navigation option to select either Attendant Admin or Reporting



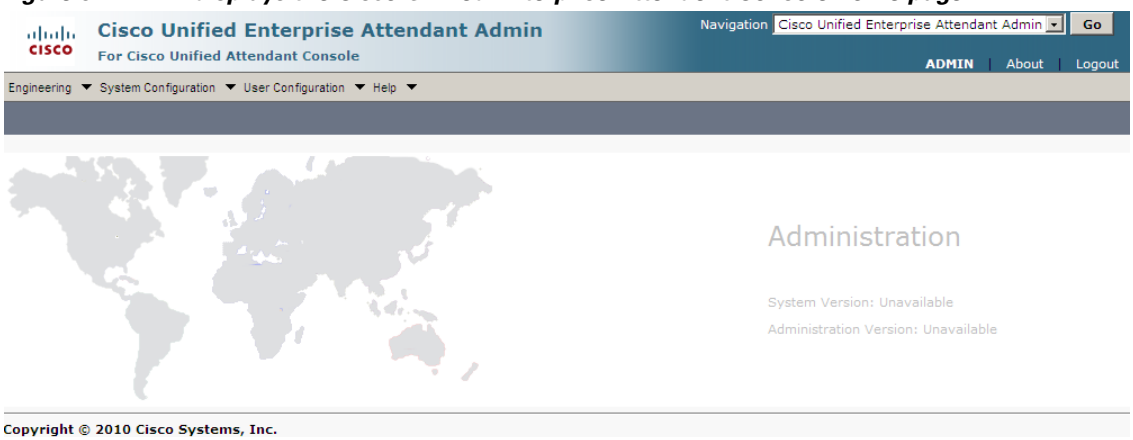
The rest of this chapter focuses on the *Attendant Admin* area. For information reguarding the ***Cisco Unified Reporting*** please see Chapter 6, “Cisco Unified Reporting”.

Table 5-3 provides the details for different types of configurations available

Configuration Menu	Description
Engineering	This section provides connectivity and support management facilities.
System Configuration	This section provides the administrator with facilities to manage synchronization of devices and queues with Cisco Unified Communications Manager.
User Configuration	This section provides the administrator with facilities to manage Cisco Unified Enterprise Attendant Console configuration.
Help	Provides help information and also includes a section for licensing the applications.

As well as the configuration options the Home Page also displays version numbers and the registration status.

Figure 5-4 displays the Cisco Unified Enterprise Attendent Console home page.



These configurations are explained in detail in the following sections.

Engineering

The Engineering section provides connectivity and support management facilities. It allows administrators to:

- Administrator Management
- Database Management
- Database Purge
- Service Management
- Cisco Unified Communications (CUCM) Connectivity

- CUPS Connectivity
- Logging Management

Administrator Management

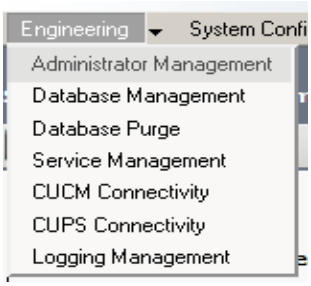
This section allows you to change or reset the password used for logging into the Web Admin application.

Note The Password is not case sensitive.

To change password,

Step 1 Go to *Engineering* > *Administrator Management*.

Figure 5-5 displays the menu option for Administrator Management



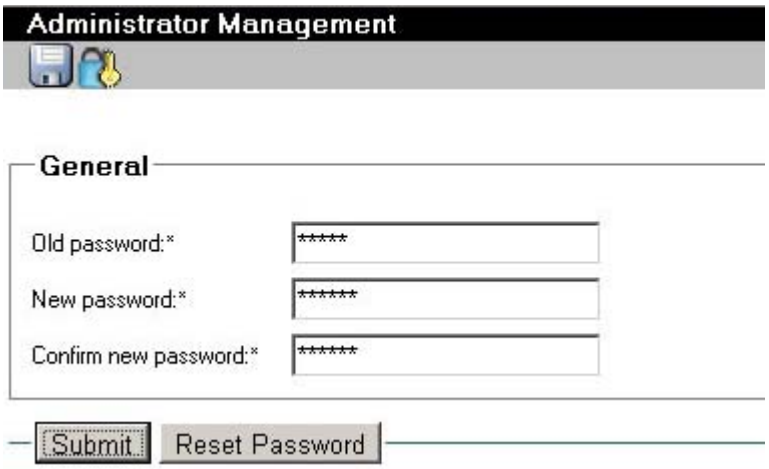
Step 2 Enter *Old Password*.

Step 3 Enter *New Password*.

Step 4 Re-enter new password in the *Confirm New Password* field.

Step 5 Click **Save** to save changes.

Figure 5-6 displays the Administrator Management page



The following table gives a brief description for the fields mentioned in the form displayed,

Table 5-4 descriptions for the fields mentioned on the Administrator Management page

Field	Example	Description
Old password	*****	The existing password for the ADMIN user name.
New Password	*****	The new password you wish to switch to.
Confirm new password	*****	The new password has to be re-entered in this field in order to confirm you did not mistype in the *New Password* field.

Note It is good practice to have a strong password that utilizes both numeric and alpha characters. The Cisco Unified Attendant Server allows up to a maximum of 20 characters including the use of Special Characters such as %,$,£,&.

To set the password back to its default value, that is, **CISCO,** click **Reset Password**.

Database Management

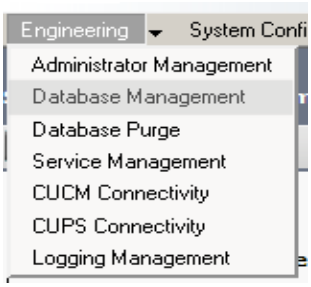
This web page allows configuration for database connectivity details. You can test and repair the databases as well.

The Configuration database will be created at the time of installation. Only the connectivity details can be modified through this page.

To manage database,

Step 1 Go to *Engineering* > *Database Management*.

Figure 5-7 displays the Database Management menu option



Step 2 In the Server field, specify the name of the machine where the SQL Server is installed.

Step 3 Enter *User Name*.

Step 4 Enter *Password*.

Step 5 To save changes, click **Save**. You will be prompted that Cisco Unified Enterprise Attendant Server must be restarted for the changes to take affect. If you select the option, Cisco Unified Enterprise Attendant Admin can restart server automatically.

Step 6 To test the database, click **Test Connection**.

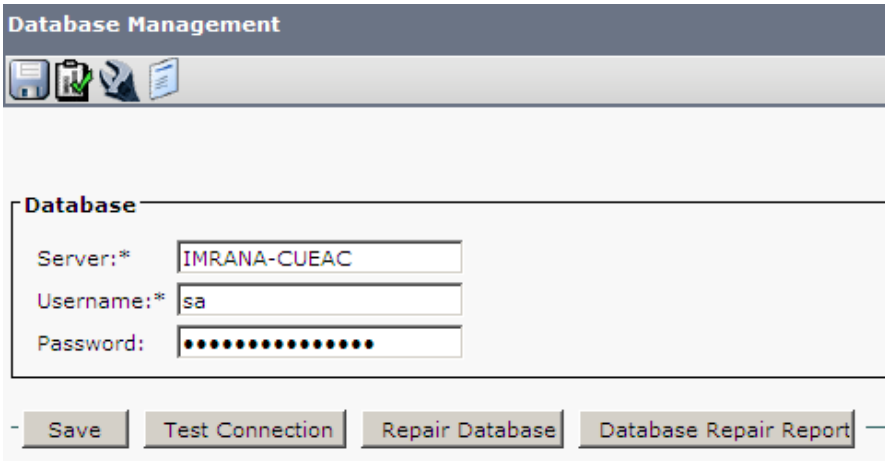
Step 7 To repair database, click **Repair Database**. You will be prompted that Cisco Unified Enterprise Attendant Server must be stopped before repairing the database. If you select the option, Cisco Unified Enterprise Attendant Admin can stop the server and repair the database. The server service will need to be manually restarted.

Step 8 If the database has required to be repaired, there is a facility to run a report by clicking on the **Database Repair Report** button. This will open a window that will display the following information:-

- Database Name
- SQL Server
- Activity Start Date
- Activity End Date
- Status
- Error Code
- Error Description

The following image shows the configurations you can set using the above-mentioned procedure.

Figure 5-8 displays the Database Management page



The following table gives a brief description for the fields mentioned in the form displayed above,

Table 5-5 provides description for the fields mentioned in the Database Management page

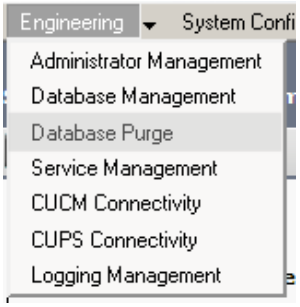
Field	Example	Description
Server	209.165.202.128	In this field you specify the IP Address of the machine where MS SQL Server 2008 is installed.
User name	username1	You must enter the user name used to connect to SQL Server. If MS SQL Server was installed through *Cisco Unified Enterprise Attendant Server Installation Wizard*, the user name would be **sa**.
Password	*****	You must enter the password used to connect to SQL Server. If MS SQL Server was installed through *Cisco Unified Enterprise Attendant Server Installation Wizard*, the password would be **Z1ppyf0rever**.

Note Changes to the database configuration will require a stop and restart of Cisco Unified Enterprise Attendant Server.

Database Purge

The *Database Purge* web page allows you to purge old call logging information and repair indexes within the database.

Figure 5-9 displays the Database Purge menu option



Step 1 Enter *Start Date* either by entering the format *yyyy-mm-dd* (year-month-date) or selecting it from the calendar using the icon.

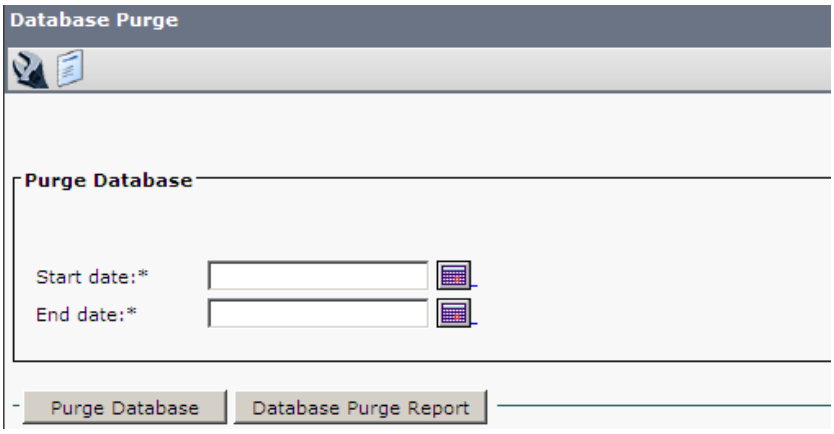
Step 2 Enter *End Date* either by entering the format *yyyy-mm-dd* (year-month-date)or selecting it from the calendar using the icon.

Step 3 Click **Repair and Purge the Database**. You will be prompted that Cisco Unified Enterprise Attendant Server must be stopped before repairing the database. If you select the option, Cisco Unified Enterprise Attendant Admin can stop the server and repair the database. The server service will need to be manually restarted.

Step 4 If the database has required to be Purged, there is a facility to run a report by clicking on the Database repair report. This will open a window that will display the following information:-

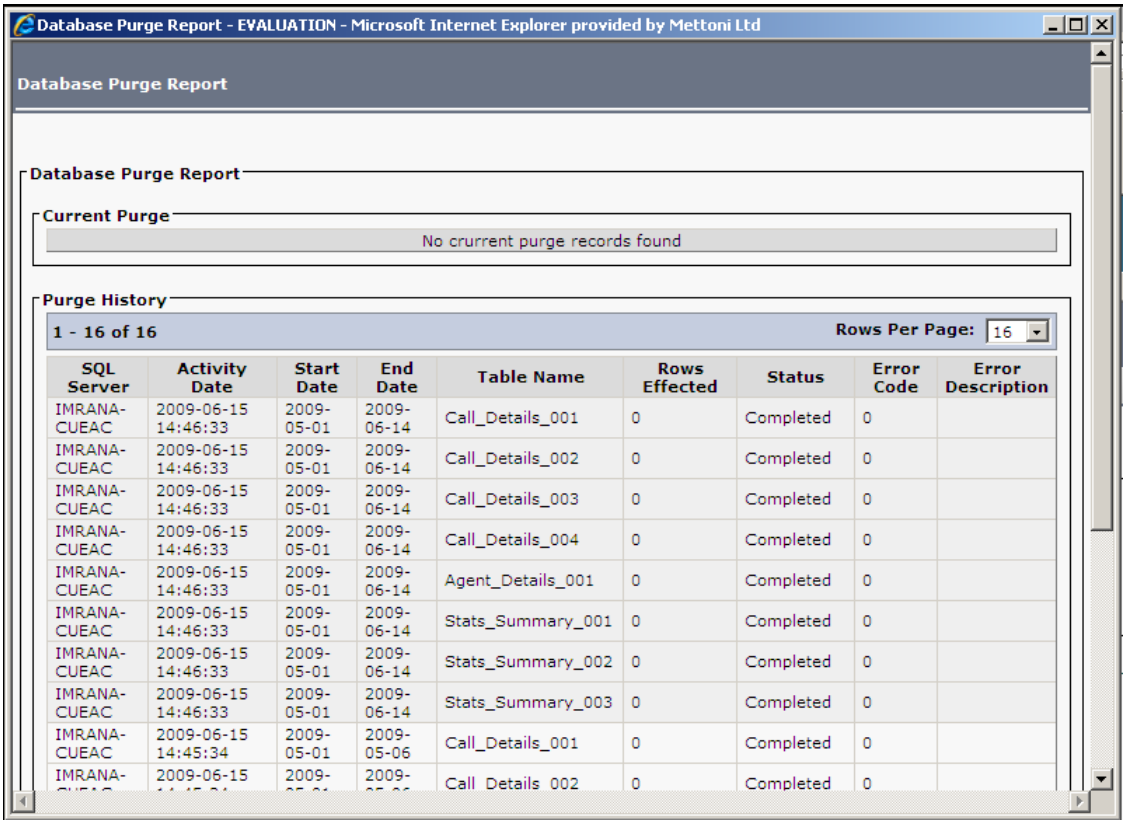
- Database Name
- SQL Server
- Activity Date
- Purge Start Date
- Purge End Date
- Table Name
- Number of Records effected
- Status
- Error Code
- Error Description

Figure 5-10 displays the Database Management page



The figure shows a sample of the Database Purge Report that can be run from this screen.

Figure 5-11 displays the Database Purge Report



SQL Server	Activity Date	Start Date	End Date	Table Name	Rows Effected	Status	Error Code	Error Description
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Call_Details_001	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Call_Details_002	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Call_Details_003	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Call_Details_004	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Agent_Details_001	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Stats_Summary_001	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Stats_Summary_002	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:46:33	2009-05-01	2009-06-14	Stats_Summary_003	0	Completed	0	
IMRANA-CUEAC	2009-06-15 14:45:34	2009-05-01	2009-05-06	Call_Details_001	0	Completed	0	
IMRANA-	2009-06-15	2009-	2009-	Call_Details_002	0	Completed	0	

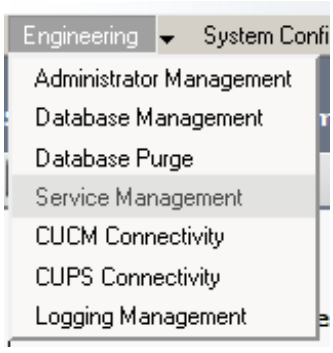
Service Management

The *Service Management* web page allows you to start or stop the following servers,

1. Cisco Unified Attendant Server

2. Cisco Unified Attendant LDAP Plug-in
3. Cisco Unified Attendant CUPS Plug-in
4. Cisco Unified BLF Plug-in

Figure 5-12 displays the menu option for Service Management

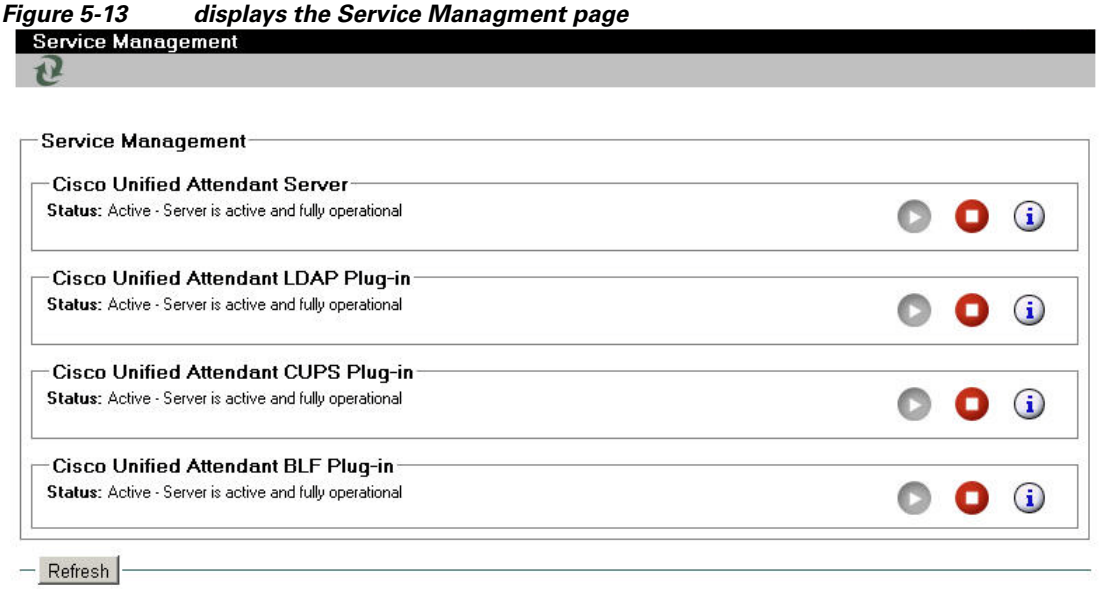


The following controls are available,

Table 5-6 provides the description for server controls

Control	Icon	Description
Start Server		This button allows you to start the server.
Stop Server		This button allows you to stop the server.
Information		This button allows you to view runtime information for the service. The information is displayed in a separate pop-up window.
Refresh		The **Refresh** button and the icon shown on the left allow you to see the current status of the server.

Figure 5-13 displays the Service Managment page



The status window will display the statuses of the following for Cisco Unified Attendant Server,

- CUCM Link
- Configuration Database
- Logging Database
- Event Network

The status window will display the statuses of the following for Cisco Unified LDAP Plug-in,

- Primary Server
- Configuration Database
- Logging Database

The status window will display the statuses of the following for Cisco Unified CUPS Plug-in,

- Primary Server

The status window will display the statuses of the following for Cisco Unified BLF Plug-in,

- CT Link
- DRM
- COMMS

Table 5-7 displays the statuses for the Service Management page,

Status	Description
Connected	The server and databases are connected.
Not Connected	The server and databases are not connected.
Standby	This status can be viewed for Logging Database only. It specifies that the connection between the service and the Logging Database is currently not in use.

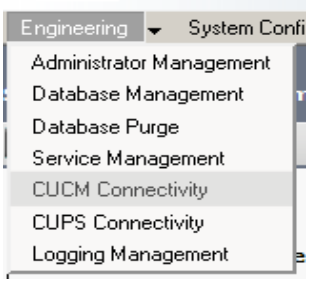
CUCM Connectivity

CUCM Connectivity is essential to allow system devices to be configured automatically on the Cisco Unified Communications Manager. This section allows the connection details to be managed and tested, initially using the details entered during the installation process.

To manage connectivity details,

Step 1 Go to *Engineering* > *CUCM Connectivity.*

Figure 5-14 displays the menu option for CUCM Connectivity



Step 2 Enter *CUCM name*. This is the IP Address of the Cisco Unified Communications Manager Publisher.

Step 3 Enter *CUCM Port* number. This should be left as 443 by default.

Step 4 Enter *User name* and *Password* of the Application User profile that is used to connect to Cisco Unified Communications Manager.

Step 5 To save, click **Save**.

Step 6 To test, click Test Connection.

The following image shows the configurations you can set using the above-mentioned procedure.

Figure 5-15 displays the CUCM Connectivity page

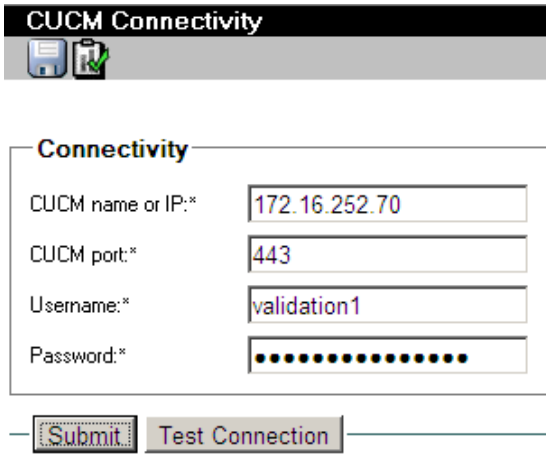


Table 5-8 provides description for the fields on the CUCM Connectivity page

Field	Example	Description
CUCM name or IP	209.165.201.0	In this field you specify the IP Address of the machine where CUCM is installed.
CUCM port	443	In this field you specify the CUCM port you wish to connect to. This is set to **443** by default.
Username	username1	You must enter the Application User id used to connect to CUCM. The Application User is created through CUCM administration. This is has been explained in the appendices at the end of the guide.
Password	*****	You must enter the password used to connect to CUCM.

Warning **The Username and Password provided here are case-sensitive. Please make sure you enter the information in these fields in proper case.**

The information provided in the Username and Password fields must not belong to an application user, for example CCMAdministrator.

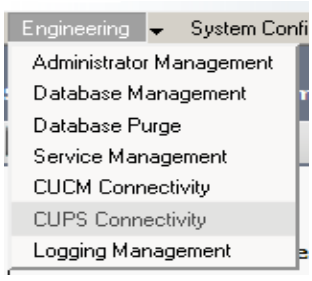
CUPS Connectivity

CUPS Connectivity details are used to configure the Cisco Unified Attendant CUPs Plug-in with the Cisco Unified Presence Server, which is available with CUCM 6.0 upwards.

To manage connectivity details,

Step 1 Go to *Engineering > CUPS Connectivity.*

Figure 5-16 displays the menu option for CUPS Connectivity



Step 2 Enter *CUPS IP or FQDN* (Fully Qualified Domain Name). This is the IP Address of the Cisco Unified Presence server.

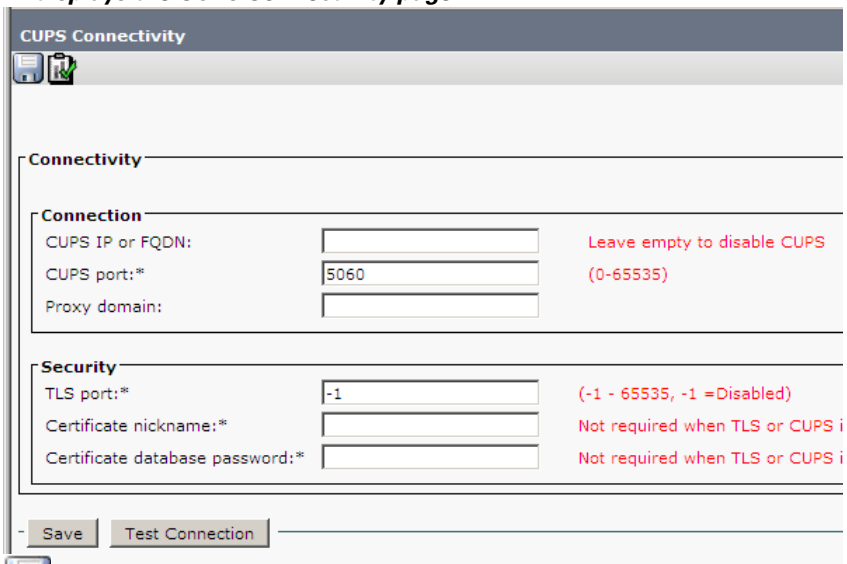
Step 3 Enter *CUPS Port* number.

Step 4 Enter *Realm*. The realm is used to authenicate the SIP communication. If this is left blank then the IP address of the Cisco Unified Presence Server will be used.

Step 5 Enter the *CUPs TLS* (Transport Layer Security) Port. By default this is set to -1 indicating that TLS is switched off. To enable TLS, specify the correct Port number (Normally either 5061 or 5062).

Step 6 Enter *Certificate nickname* and the *Certificate Database password* if TLS has been enabled.

Figure 5-17 displays the CUPs Connectivity page



Step 7 To save, click **Save**.

Step 8 To test, click Test Connection.

Table 5-9 provides description for the fields on the CUCM Connectivity page

Field	Example	Description
CUPS IP or FQDN (Fully Qualified Domain Name)	209.165.201.0	In this field you specify the IP Address of the machine where CUPS is installed.
CUPS port	5060	In this field you specify the CUPS port you wish to connect to. This is set to **5060** by default.(When not using TLS)
Realm		The realm is used to authenicate the SIP communication. If this is left blank then the IP address of the Cisco Unified Presence Server will be used.
TLS Port	-1	Transport Layer Security Port. By default this is set to -1 indicating that TLS is switched off. To enable TLS, specify the correct Port number (Normally either 5061 or 5062).
Certificate nickname	nickname1	Transport Layer Security certificate nickname is used to identify the correct certificate in the certificate database
Cerificate database password	******	Transport Layer Security certificate password will validate the user name above to provide access to the database.

Note **IMPORTANT** - The Cisco Unified Attendant CUPs Plug-in has to be added to the firewall information on the Communications Manager. *See section* "Configuring Access for the Cisco Unified Attendant CUPS Plug-In" on page A - 7

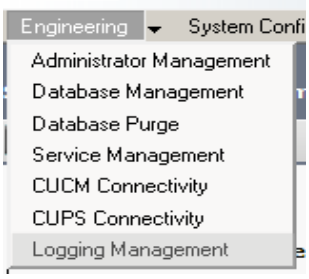
Logging Management

The *Logging Management* page allows real-time logging to be enabled or disabled for Cisco Unified Attendant Server and Cisco Unified Attendant LDAP Plug-in.

To manage logging,

Step 1 Go to *Engineering* > *Logging Management*.

Figure 5-18 displays the menu option for Logging Management



Step 2 Enter Cisco Unified Attendant Server Logging Management details.

Step 3 Enter Cisco Unified Attendant LDAP Plug-in Logging Management details.

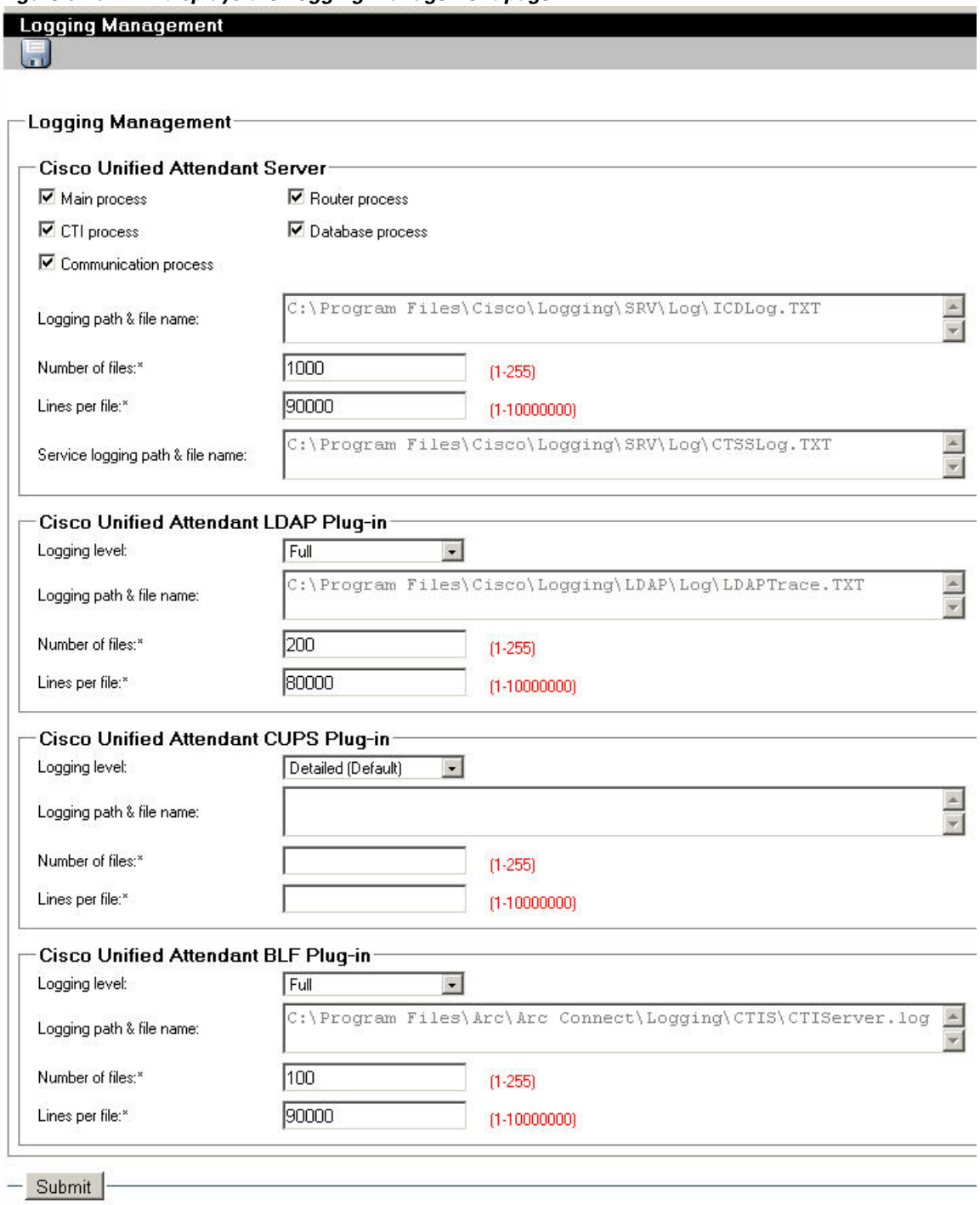
Step 4 Enter Cisco Unified Attendant CUPs Plug-in Logging Management details.

Step 5 Enter Cisco Unified Attendant BLF Plug-in Logging Management details.

Step 6 Click **Save** to save changes.

The following image shows the configurations you can set using the above-mentioned procedure.

Figure 5-19 displays the Logging Management page



The following table gives a brief description for the fields mentioned in the form displayed above,

Table 5-10 ***provides the description for the fields on the Logging Management page***

Field	Example	Description
Logging Management		
Cisco Unified Attendant Server		
Main process		This checkbox is checked to log the main process.
CTI process		This checkbox is checked to log the CTI process.
Communication process		This checkbox is checked to log the communication process.
Router process		This checkbox is checked to log the router process.
Database process		This checkbox is checked to log the database process.
Logging path & file name	C:\Program Files\Cisco\Attendant LDAP Plug-in\Log\log.txt	In this field you specify the location where the log file must be saved. Include the name of the log file in the path so that the file is created by the name specified.
Number of files	200	In this field you specify the number of log files that can be created in the logging folder.
Lines per file	10000	In this field you specify the number of lines each log file can contain.
Service logging path & file name	C:\Program Files\Cisco\Attendant Server\Log\ICD1.TXT	In this field you specify the location and name for the file that stores the logs for the service.
Cisco Unified Attendant LDAP Plug-in		
Logging level	Detailed (default)	This can be set from Detailed, Advanced, Minimum, Full.
Logging path & file name	C:\Program Files\Cisco\Attendant Server\Log\ICD.TXT	In this field you specify the location where the log file must be saved. Include the name of the log file in the path so that the file is created by the name specified.
Number of files	200	In this field you specify the number of log files that can be created in the logging folder.
Lines per file	10000	In this field you specify the number of lines each log file can contain.
Cisco Unified Attendant CUPS Plug-in		
Logging level	Detailed (default)	This can be set from Detailed, Advanced, Minimum, Full.
Logging path & file name	C:\Program Files\Cisco\Attendant Server\Log\CUPS.TXT	In this field you specify the location where the log file must be saved. Include the name of the log file in the path so that the file is created by the name specified.
Number of files	200	In this field you specify the number of log files that can be created in the logging folder.

Table 5-10 provides the description for the fields on the Logging Management page

Field	Example	Description
Lines per file	10000	In this field you specify the number of lines each log file can contain.
Cisco Unified Attendant BLF Plug-in		
Logging level	Detailed (default)	This can be set from Detailed, Advanced, Minimum, Full.
Logging path & file name	C:\Program Files\Cisco\Attendant Server\Log\CUPS.TXT	In this field you specify the location where the log file must be saved. Include the name of the log file in the path so that the file is created by the name specified.
Number of files	200	In this field you specify the number of log files that can be created in the logging folder.
Lines per file	10000	In this field you specify the number of lines each log file can contain.

Cisco Unified Attendant Server Logging

Runtime logging for Cisco Unified Attendant Server maintains logs for each event that is fired by Cisco Unified Attendant Server. The logs can be maintained for the following areas,

1. Main Process
2. Router Process
3. CTI Process
4. Database Process
5. Communication Process

By default Main and Router processes will be activated at installation. You should only need to amend these settings if requested as part os a Support Case investigation.

To manage logging for Cisco Unified Attendant Server,

Step 1 You must select the areas for which the log is to be maintained. In order to keep the log file up to a manageable size, it is recommended that you should keep only the required areas selected.

Step 2 You must specify the *Logging path* and *file name* where the log must be created.

Step 3 Specify the number of log files that must be created in the *Number of files* field.

Step 4 Specify the number of lines each log file can contain in the *Lines per file* field.

Step 5 Enter *Service logging path* and *file name* to maintain log of the services for Cisco Unified Attendant Server.

Cisco Unified Attendant LDAP Plug-in Logging

Cisco Unified Enterprise Attendant Admin has the ability to keep records of all the events and processes through the process of logging. It is structured to enable and support you to check LDAP Plug-in's performance and activity, determine functionality loss and the configuration issues.

To manage logging for Cisco Unified Attendant LDAP Plug-in,

Step 1 Select the *Logging Level* for LDAP Plug-in. Cisco Unified Enterprise Attendant Admin provides the following options:

- Detailed
- Advanced
- Minimum
- Full

Step 2 Specify the *Logging path* and *file name* where the log must be created.

Step 3 Specify the number of log files that must be created in the *Number of files* field.

Step 4 Specify the number of lines each log file can contain in the *Lines per file* field.

Cisco Unified Attendant CUPS Plug-in Logging

Cisco Unified Enterprise Attendant Admin has the ability to keep records of all the events and processes through the process of logging. It is structured to enable and support you to check CUPS Plug-in's performance and activity, determine functionality loss and the configuration issues.

To manage logging for Cisco Unified Attendant CUPS Plug-in,

Step 1 Select the *Logging Level* for CUPS Plug-in. Cisco Unified Enterprise Attendant Admin provides the following options:

- Detailed
- Advanced
- Minimum
- Full

Step 2 Specify the *Logging path* and *file name* where the log must be created.

Step 3 Specify the number of log files that must be created in the *Number of files* field.

Step 4 Specify the number of lines each log file can contain in the *Lines per file* field.

Cisco Unified Attendant BLF Plug-in Logging

Cisco Unified Enterprise Attendant Admin has the ability to keep records of all the events and processes through the process of logging. It is structured to enable and support you to check BLF Plug-in's performance and activity, determine functionality loss and the configuration issues.

To manage logging for Cisco Unified Attendant BLF Plug-in,

Step 1 Select the *Logging Level* for BLF Plug-in. Cisco Unified Enterprise Attendant Admin provides the following options:

- Detailed
- Advanced

- Minimum
- Full

Step 2 Specify the *Logging path* and *file name* where the log must be created.

Step 3 Specify the number of log files that must be created in the *Number of files* field.

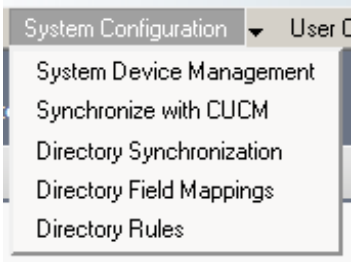
Step 4 Specify the number of lines each log file can contain in the *Lines per file* field.

System Configuration

This section provides facilities to manage the synchronization of devices and directories with Cisco Unified Communications Manager. The following configurations are available under this menu,

1. System Device Management
2. Synchronise with CUCM
3. Directory Synchronization
4. Directory Field Mappings
5. Directory Rules

Figure 5-20 displays the menu System Configuration optiong



System Device Management

This web page allows device ranges to be configured and synchronized with Cisco Unified Communciations Server.

To add devices,

Step 1 Go to *System Configuration* > *System Device Management*.

Step 2 Select a *Template Device*. All device properties (such as device pool, partition, calling search space) of the selected device will be mapped onto new devices being created.When you click on *Find Template Device* you are able to search by a variety of criteria. This criteria is broken into the following entities:-

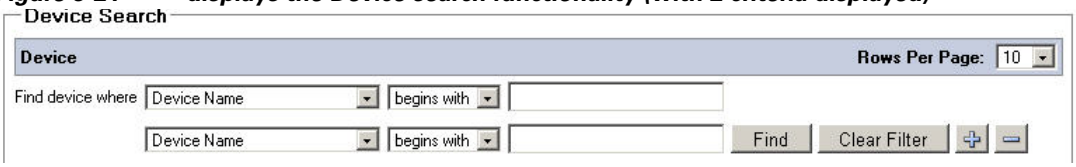
- Device type e.g. Device Name, Description, Directory Number.
- Search critera e.g. Begins with, Contains, Ends with, etc.
- Specific criteria: The variable to search.

- There is also facility by using the to add additional search criterias. This would be used to narrow the search.

Tip When selecting a Template Device, it is important that the template has a unique, unused DN on the UCM. If the same DN is used for multiple devices then this may cause configuration and operational issues with calls routing to the correct devices.

Step 3 Click on *Find* to run the Query.

Figure 5-21 displays the Device search functionality (with 2 criteria displayed)



Step 4 Enter a device range for each of the following:

- CT Gateway Devices (See "CT Gateway Devices" on page 3 - 2)
- Service Devices (See "Service Queues" on page 3 - 2)
- Park Devices (See "Park Devices" on page 3 - 2)

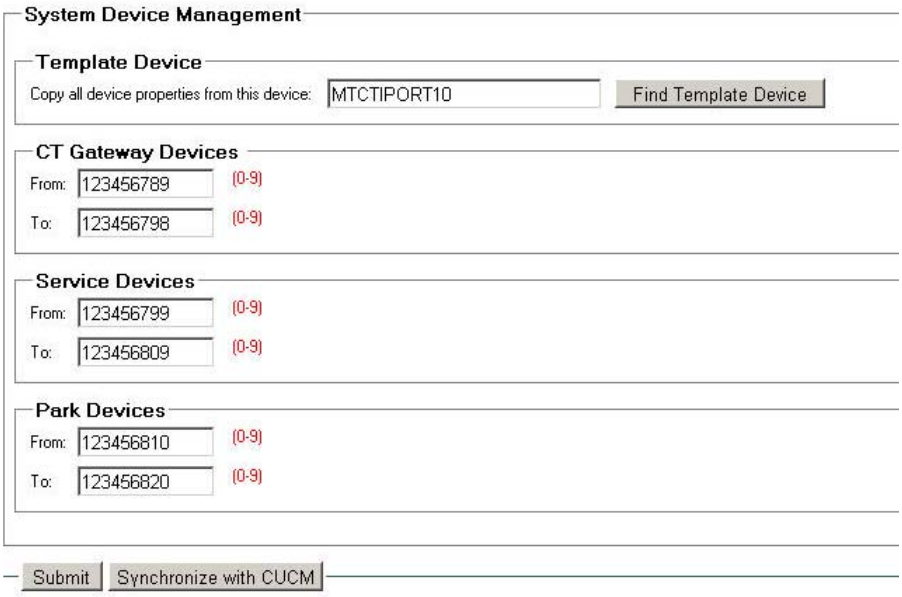
Note By default the maximum internal device digit length is set to 4 digits.
To change this setting. See *User Configuration* > *General Properties* and *Maximum internal device digit length*

Step 5 Click **Save** to save changes.

Step 6 Clicking **Synchronize with CUCM** will redirect to *Synchronizing with CUCM* page within Cisco Unified Attendant Admin application.

The following image shows the configurations you can set using the above-mentioned procedure.

Figure 5-22 displays the System Device Management page



The following table gives a brief description for the fields mentioned in the form displayed above,

Table 5-11 provides description for the fields on the System Device Management page

Field	Example	Description
Template Device		
Copy all device properties from this device		When you click on *Find Template Device* you are able to search by a variety of criteria. This is criteria is broken into the entity • Device type e.g. Device name, Description, Directory Number. • Search critera e.g. Begins with, Contains, Ends with, etc. • Specific Criteria: The variable to search. There is also facility by using the + − to add additional search criterias.(To a maximum of 10).
CT Gateway Devices		
From	6301	Specify the starting number for the range of devices to be configured.
To	6302	Specify the last number in the range of devices to be configured.
Service Devices		
From	6401	Specify the starting number for the range of devices to be configured.
To	6402	Specify the last number in the range of devices to be configured.
Park Devices		

Table 5-11 provides description for the fields on the System Device Management page

Field	Example	Description
From	6501	Specify the starting number for the range of devices to be configured.
To	6502	Specify the last number in the range of devices to be configured.

Synchronizing with CUCM

This web page is used to synchronize device configurations with Cisco Unified Communications Manager via AXL API. It will create the devices that have been configured if they don't already exist and assign them to the Application User profile. The following devices will be displayed on this page,

- Queue Locations
- CT Gateway Devices
- Service Devices
- Park Devices

To synchronize the above-mentioned devices with Cisco Unified Communciation Manager, click **Synchronize with CUCM**. Cisco Unified Enterprise Attendant Admin will automatically synchronize the devices with CUCM for you. You will not have to login to the CUCM administration.

When you are performing a Synchronize with CUCM you will get a dialogue box up to warn that the process will take a few minutes to complete. There is an option to continue with the process by clicking on the **OK** button, or cancelling the process by clicking on **cancel**.

Figure 5-23 Displays the Continue box prior to Synchronize with CUCM process.

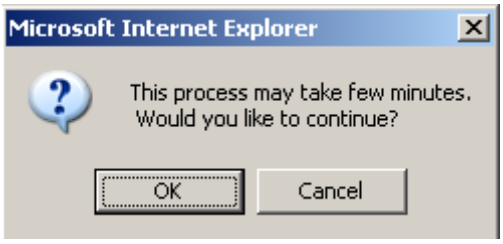
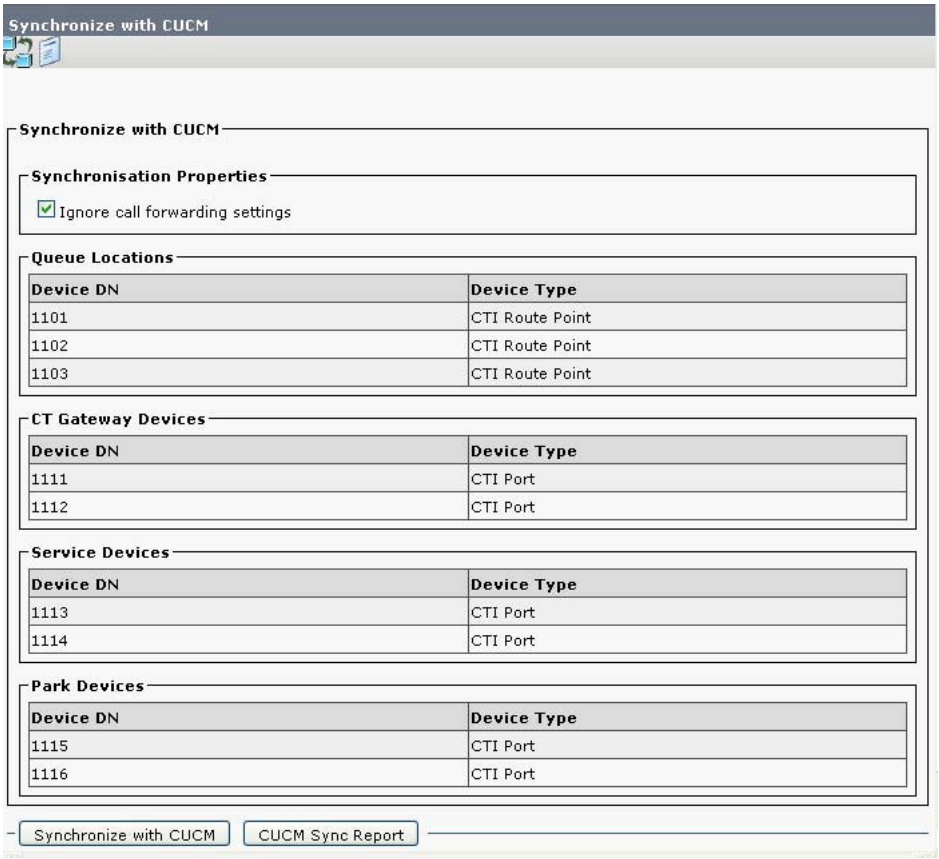


Figure 5-24 displays the devices that will be synchronized with CUCM



Note Figure 5-25 shows an example where an existing Queue Location has already been synchronized.This does not need to be done at this stage, and therefore the screen may appear without Queue Information. Managing the Queues is explained in a section later in this document (Queue Management, page 5-36)

The following table gives a brief description for the fields mentioned in the form displayed above,

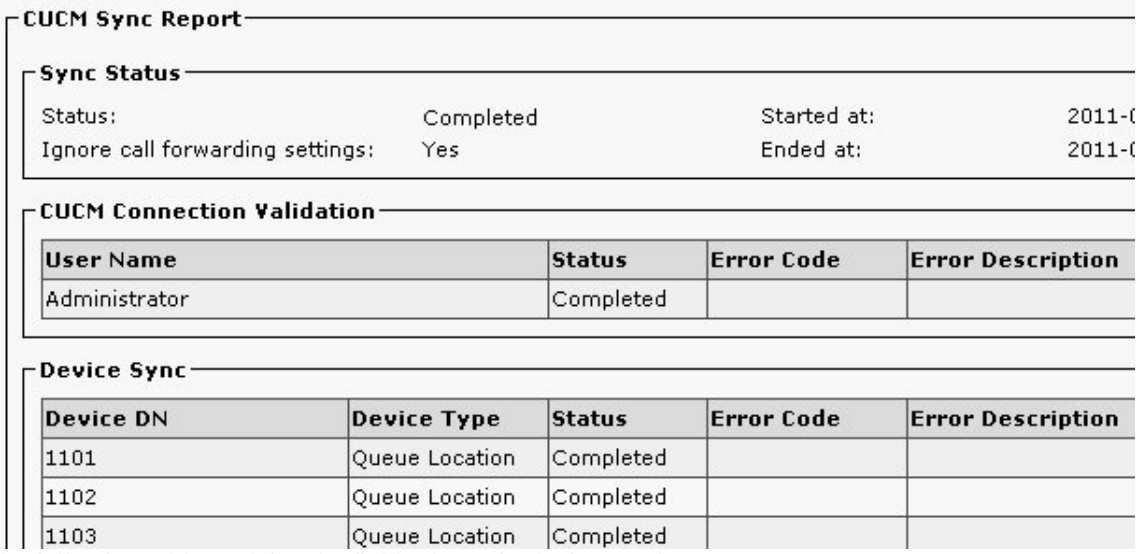
Table 5-12 provides description for the fields shown on the Synchronize with CUCM page

Field	Example	Description
Device DN	2000	This field specifies the directory number of each configured device.
Device Type	CTI Route Point	This field specifies the type of device.

There is facility to ignore any call forwarding settings that have been set against a template device. To do this tick the box next to **Ignore call forwarding settings**.

Once the synchronization has been initialized, you can click on **CUCM Sync Report** to view the status of synchronization. This will confirm that all devices have been created and assigned to the Application User Profile.

Figure 5-25 displays the CUCM Sync Report generated after the CUCM synchronization



The following table explains the fields shown in the image above,

Table 5-13 provides description for the fields mentioned on the CUCM Sync Report

Field	Example	Description
Sync Status		
Status	Completed	This field specfies whether the synchronization was successful or not. The following statuses can be viewed, **In Progress** - This is displayed when the synchronization is taking place. **Completed** - This is displayed when synchronization is completed without any error. **Error** - This is displayed when synchronization process encounters an error.
Ignore call forward settings	Yes	This will reflect if **Igrnore call forward settings** has been selected (Yes) or not (No).
Started At	2007-04-12 16:08:52	This field specifies the date and time when CUCM synchronization started.
Ended At	2007-04-12 16:08:52	This field specifies the date and time when CUCM synchronization ended.
CUCM Connection Validation		
User Name	username1	This specifies the CUCM Application User profile ID.
Status	Completed	This specifies whether the CUCM Connection established or not.
Error Code	9400	This field specifies the code of the error that has been encountered. The error codes have been explained in detail in the next table.

Table 5-13 provides description for the fields mentioned on the CUCM Sync Report

Field	Example	Description
Error Description	HTTP/1.1 503 Service Unavailable	This field gives a brief description of the error that has been encountered.
Device Sync		
Device DN	6101	This field specifies the number of the device being synchronized.
Device Type	Queue Location	This field specifies the type of device being synchronized.
Status	Completed	This field specifies the status of the device synchronization.
Error Code	9550	This field specifies the error code in case an error encountered synchronizing a device.
Error Description	HTTP/1.1 403 Access to the requested resource has been denied	This field specifies the description of the error.

The table below gives a list of error codes and description that may be encountered during CUCM synchronization.

Table 5-14 provides error codes that may be displayed in the CUCM Sync Report

Error Code	Error Description
AXL Errors	
Less than 5000	These are errors that directly correspond to DBL Exception error codes.
5000	Unknown Error—An unknown error occurred while processing the request. This can be due to a problem on the server, but can also be caused by errors in the request.
5002	Unknown Request Error—This error occurs if the user agent Saves a request that is unknown to the API.
5003	Invalid Value Exception—This error occurs if an invalid value is detected in the XML request.
5004	AXL Unavailable Exception—This error occurs if the AXL service is too busy to handle the request at that time. The request should be sent again at a later time.

Table 5-14 provides error codes that may be displayed in the CUCM Sync Report

Error Code	Error Description
5005	Unexpected Node Exception—This error occurs if the server encounters an unexpected element. For example, if the server expects the next node to be <*name*>, but encounters <*protocol*>, then this error is returned. These errors are always caused by malformed requests that do not adhere to the latest AXL Schema.
-239	Duplicate value in a UNIQUE INDEX column - This error occurs if the device being synchronized already exists in CUCM.
9000	Exception in AXL component - This error occurs if the device being synchronized already exists in CUCM.
9200	Device already created - This error occurs if the device being synchronized already exists in CUCM.
9300	Template device not found - This error occurs if the template device that you have selected to copy all device properties from does not exist.
9400	HTTP/1.1 503 Service Unavailable - This error is encountered when the CUCM limit for input through AXL exceeds.
9500	HTTP/1.1 401 Unauthorized - This error occurs due to problems in user authentification.
9550	HTTP/1.1 403 Access to the requested resource has been denied - This error occurs when access to a device is denied.
9600	Communications Manager OS not recognized - This error occurs when access to CUCM is denied.
9650	Communications Manager Version not detected - This error occurs when access to CUCM is denied.
9700	Socket error - This error occurs due to network problems.
9750	Connection refused - This error occurs due to network problems.
9755	Read Timeout - This error occurs due to network problems.
10000	Connection timeout - This error occurs due to network problems.
9900	An unknown error occured - This is an unknown error.

Directory Synchronization

The *Directory Synchronization* web page provides the ability to synchronize the contact details for the Cisco Unified Enterprise Attendant Console database with Cisco Unified Communications Manager via AXL API. The page has been divided into following sections,

- **Directory Import:** In order to enable directory import, you must check the *Enable contact synchronization* checkbox. *Auto Synchronization* and *Schedule Settings* fields will remain disabled if you do not select the *Enable contact synchronization* option.
- **Auto Synchronization:** You can set preferences for automatic synchronization. The following options are available to do so,
  - **On start-up:** If this checkbox is checked then the synchronization is started when Cisco Unified Enterprise Attendant LDAP Server starts.
  - **On reconnect:** If this checkbox is selected then the synchronization will start when Cisco Unified Enterprise Attendant Server reconnects with the LDAP plug-in following a loss of connection.
- **Route Partition:** This option is used to select a specific Route Partition. Select from either CUCM (None), (None) or choose a specific partition if available. This will prioritize which DN to import when identical DN's in different partitions are copied over.
  There are two default settings:-
  - **CUCM (none)** - In the CUCM if a Device has been specified as (None) then selecting CUCM (none) within the Web Admin will pick up only these devices.
  - **(none)** - If (none) is selected in the Web Admin, this will disregard the route partition field as a selection criteria when the directory is synchronized.
- **Schedule Settings:** This section requires information on the scheduling of the synchronization. You must enter the following information,
  - **Type:** This is an option list. The synchronization will take place on the basis of the type selected. It has the following options,
    i. None
    ii. Hourly
    iii. Daily
    iv. Weekly
    v. Monthly
  - **Every [(Number)(Type)]:** The caption for this option changes with the selection of the *Type*. For example, Every 2 **Week(s)** or Every 1 **Day(s)**.
  - **Start date:** This field is used to specify a date to start the synchronization.
  - **Start time:** This field is used to specify the time to start the synchronization.

To configure directory synchronization for Cisco Unified Enterprise Attendant Console,

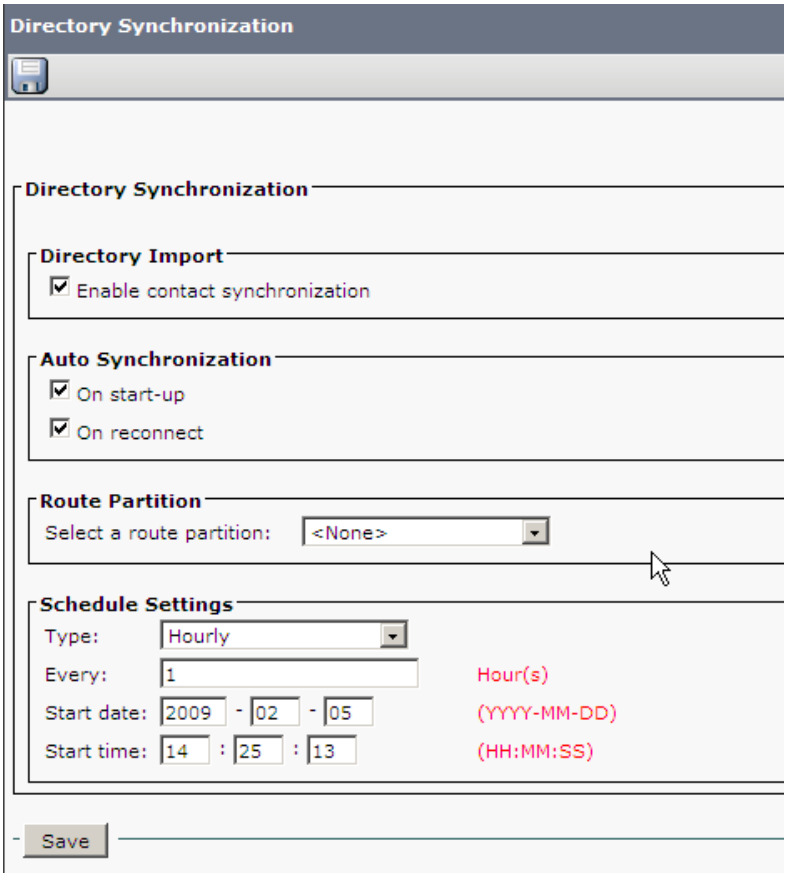
Step 1 Go to *System Configuration* > *Directory Synchronization*.

Step 2 Enter specifications for the above-mentioned sections.

Step 3 Once you have configured directory synchronization, click **Save** would save the changes.

The following image shows the configurations you can set using the above-mentioned procedure.

Figure 5-26 displays the settings for Directory Synchronization



Directory Field Mapping

This web page is used to manage information coming from the Cisco Communications Manager database to the Cisco Unified Enterprise Attendant Server. The table is broken into a selection column, a Source Field (CUCM), Destination Field (Attendant Server) and a default value if the source file is empty.

Figure 5-27 displays the Directory Field Mapping

Directory Field Mappings

Field Mappings

		Source Fields	Destination Fields	Default Value
☐	Select	department	Department	QA Test
☐	Select	firstname	First Name	Frank
☐	Select	lastname	Last Name	Bruno
☐	Select	mailid	Email	eevbota
☐	Select	middlename	Middle Name	James
☐	Select	telephonenumber	Extension	
☐	Select	userid	User Profile	HA!

Add New | Select All | Clear All | Delete Selected

To Add a New Field for Mapping

Step 1 Go to *System Configuration* > *Directory Field Mapping*.

Step 2 Click on *Add New.*

Step 3 On the Field MappingInformation, select a *Source field* from the dropdown selection.

Step 4 Select a *Destination field* from the drop down selection.

Step 5 Enter a default value which will be entered if the original Source field is empty.

Step 6 Click Save to save the changes.

The following image shows the Field Mapping Information screen when a new field is added via the *Add New* button.

Figure 5-28 displays the Field Mapping Information

Directory Field Mappings

Field Mapping Information

Source fields: department

Destination fields: Department

Default value:

Submit

Directory Rules

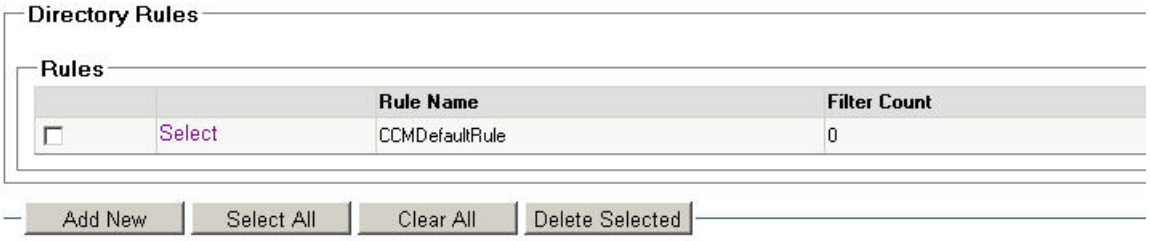
This web page is used to manage rules that are used to filter the LDAP information coming from the Cisco Communications Manager database to the Cisco Unified Enterprise Attendant Server.

Tip Multiple rules can be created, each with a seperate filter then the import will use each one seperately, using an 'OR' i.e. Rule 1 is lastname = T* and Rule 2 is Department = Product. The result will be an import that includes all people with a lastname beginning with T and all people that are in the product team.

If you create multiple filters within a single rule then an 'AND' is used. i.e. lastname = T* Department = Product, will result in all people in the Product team that have a last name starting with T

The table is broken into a selection column, a Rule Name and a Filter Counter.

Figure 5-29 displays the Directory Rules



To Add a Directory Rule

Step 1 Go to *System Configuration* > *Directory Rules*.

Step 2 Click on *Add New.*

Step 3 On the RuleFilter Information, select a *Source field* from the dropdown selection.

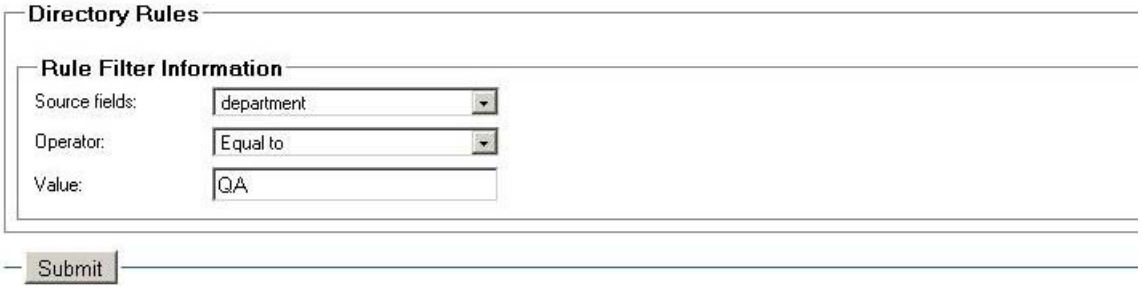
Step 4 Select an *Operator* from the drop down selection. The selection includes Equal (=), Approx_Equal (like), Less_Equal (<=), Greater_Equal (>=).

Step 5 Enter a default value which will be entered if the original Source field is empty.

Step 6 Click *Save* to save the changes.

The following image shows the Rule Filter Information screen when a field is addded.

Figure 5-30 displays the Directory Rules - Rule Filter Information



User Configuration

The *User Configuration* section provides administrators with facilities to manage Cisco Unified Enterprise Attendant Console configuration. These include,

- General Properties
- Queue Management
- Operator Management

General Properties

This web page manages the global configuration for Cisco Unified Enterprise Attendant Console. It has been divided into four sections,

1. **Internal/External Access :** These settings allow Cisco Unified Enterprise Attendant Console to distinguish between internal and external calls. They also ensure that the correct digit is used that allows you to access an external line. The fields required here are**,**
   - **Minimum internal device digit length:** This text box requires you to enter the minimum number of digits being used for an internal device.
   - **Maximum internal device digit length:** This text box requires you to enter the maximum number of digits being used for an internal device.

Note The default setting for this is 4 digits. If your Internal Extension Numbers exceed this it will require changing to accommodate this. This can be set to manage an internal device with a number of up to 24 digits.

   - **External access number:** This field specifies the access number when making a call to an external number.
   - **External international access number:** This is the number that is to be dialled when making a call to an international external number.
   - **External area code:** This field represents the Country Code for where the CUCM is located. When a call is dialled out by the system and the number string is determined to be in a standard international format i.e +44 (0) 208 8241000, the Area code set here will determine if the call is dialled as an international call or a domestic call. In this example an Area Code of 44 would result in a domestic call being dialled.
2. **Default FAC and CMC Settings :** If Forced Authorization (FAC) and/or Client Matter Codes (CMC) are configured in CUCM then these may be needed for any Attendant calls or transfers to be made. The codes entered here are generic and will be used in certain situations that require the system to place these calls or transfers. An example would be a blind transfer where the final outbound call is made from a Service Queue CTI port. If a call or transfer is made which results in the call being made from the operator's handset externally, then the operator will be presented with a CFAC or CMC dialog box, requiring them to manually enter the code from their application.
3. **Recall Timers :** This area is used for setting the time duration for the recall activity of the calls. You can update three types of timers for the calls. These are as follows,
   - **Hold recall:** This is the maximum time limit a call can be put on hold by an operator.

- **Transfer recall:** When an operator transfers a call, and if the call is not received within the time period specified in the *Transfer recall* field, it will come back to the same operator who had transferred the call.
- **Park recall:** When an operator parks a call, and if the call is not received within the time period specified in the *Park recall* field, it will come back to the same operator who had parked the call.
- **Camp On recall**: When an operator transfers a call to an extension that is busy. the Operator can put that call on Camp On. The Call will wait for that extension to be free for the time as set in 'Camp on Recall' Timer. After that time call returns back to the Operator.

4. **Call Arrival Mode**: This check box enables the Hold Queued Calls mode. This is used to trigger the Music on Hold functionality that is configured within the CUCM.

Note The call will hit the gateway but instead of the caller receiving a ringing tone because the call is queued, the call be classified as “on hold” and will receive the MoH that is configured for this gateway device.

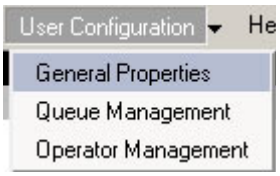
5. **Working Days:** This section allows you to set specific days and hours when the Attendant Console queues will be active. You must specify the following fields,
   - The checkboxes provided allow you to select the days the queues are active.
   - You must also enter the *Working hours from time* and *Working hours to time* in order to specify the time period that the queues will be active during these working days.

Tip Working Days is a global setting, and may not be suitable in a situation where Queues are specifc to offices that are in different time zones. This scenario could be managed by using *No Operator Overflow* which can be found in *User Configuration* > *Queue Management.* This would provide the facility to push calls to a specific extension if No Operators are logged into the queue. This does not apply to a queue where an operator is unavailble, i.e. busy with a call.

To configure General Properties,

Step 1 Go to *User Configuration* > *General Properties*.

Figure 5-31 displays menu option for General Properties

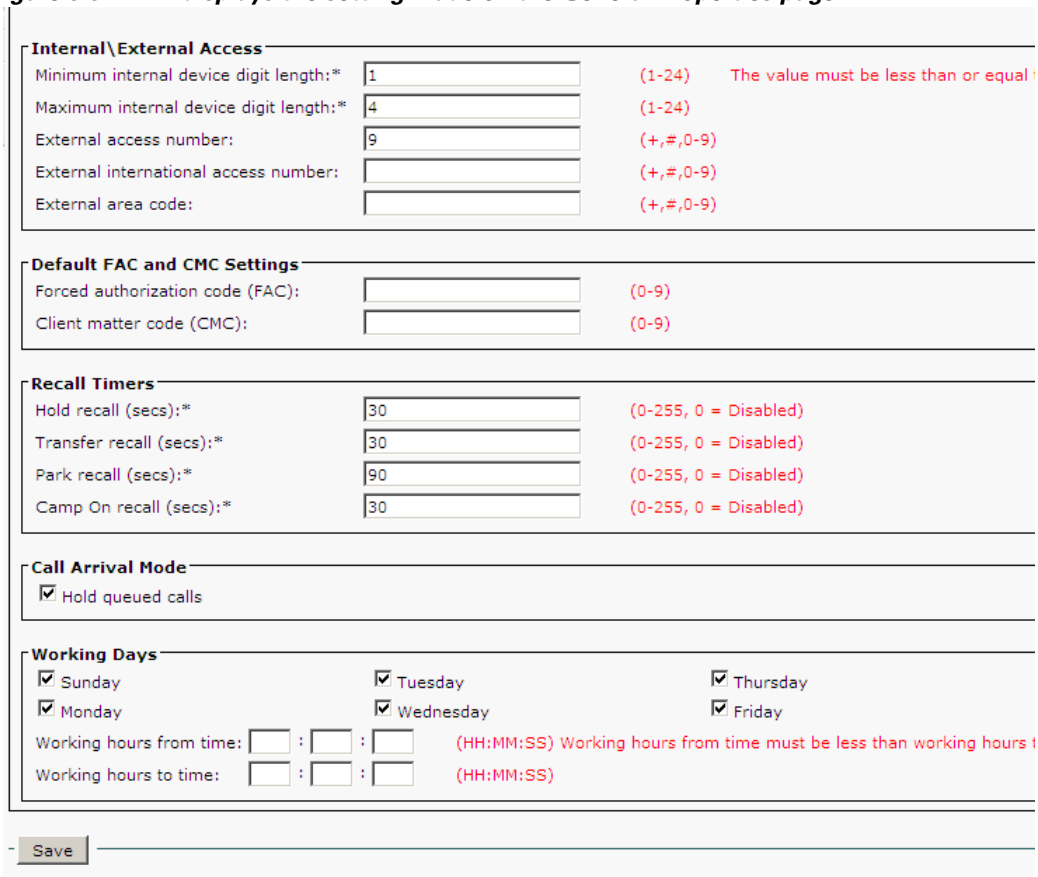


Step 2 Enter specifications for the above-mentioned sections.

Step 3 Once you have configured the general properties, click **Save** to save the changes.

The following image shows the *General Properties* page used to configure Cisco Unified Enterprise Attendant Console.

Figure 5-32 displays the setting made on the General Properties page



Queue Management

The *Queue Management* web page allows you to manage the configuration for existing queues. This page provides for the ability to add, modify or delete Queues.

To find a Queue,

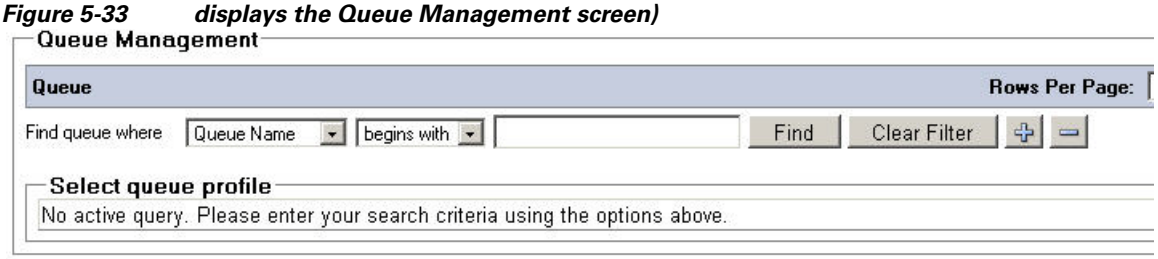
Step 1 Go to *User Configuration* > *Queue Management*.

Step 2 To find a queue using the filter options. Select either Name or DDI, then enter search criteria option and then the specific criteria. This criteria is broken into the following entities

- Queue type: Name and DDI number.
- Search critera e.g. Begins with, Contains, Ends with, etc.
- Specific criteria: a variable to search.
- There is also facility by using the to add additional search criterias. This would be used to narrow the search.

Step 3 Click on *Find* to run the Query.

Figure 5-33 displays the Queue Management screen)



The configuration is divided into four sections,

1. **General:** This section allows you to configure the general attributes of a queue. The following fields can be edited in this section,
   - **Name:** This field specifies the name of the queue.
   - **DDI:** This is the number that is dialled internally to reach the respective queue session. External calls must be routed to this DN to reach the queue.
   - **Priority:** You can assign a priority number to a queue that determines which queue must be given priority when calls are being routed.
   - **Salutation**: A specific salutation or greeting can be entered here.
   - **Forced Delivery:** Ticking this box will enable Forced Delivery. This will make an enquiry call from the CTI Port to the Handset of the attendant deemed to be the next to take a call.

     The distribution of the call is based on the longest waiting time for each attendant in the respective Queue in which the call in question resides. If Attendants are in multiple queues, the calculation is based on calls they have taken within ANY queue in which they are active.
2. **Emergency :** The *Emergency number* field allows you to specify a number in case the calls need to be forwarded to another number in the event of sudden need.
3. **Overflow:** In case the number of calls waiting exceeds the number of calls that are allowed to wait in a queue, an overflow occurs. This section allows you to manage such overflow by configuring the following fields,
   - **Overflow number:** In case of an overflow the exceeding number of calls will be transferred to the number specified in this field.
   - **Maximum calls:** This field allows you to set the total number of calls that can wait in a Queue at any given time.
   - **Wait time Overflow:** A maximum wait time can be configured here. This is set as hours:Minutes:Seconds to a maximum of 23:59:59. The overflow can be disabled by setting time to 00:00:00.
   - **No operator overflow:** If there is no operator logged in to this selected queue, an incoming call will be immediately routed to the *Overflownumber* if this checkbox is selected.

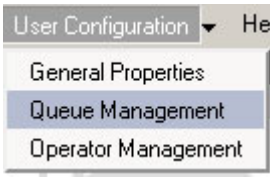
Note If the overflow destination is a Queue DDI for a Queue that is not yet configured any calls that overflow will be shown in the reports against both queues. This can be resolved by restarting the CT server. The recommended practice is to configure the queues before setting them as an overflow destination.

4. **Night Service:** This section allows you to specify a *Night service number.* The calls made outside of the days and time specified for working day, are routed to this number.

To manage queues,

Step 1 Go to *User Configuration* > *Queue Management*.

Figure 5-34 displays the menu option for Queue Management



Step 2 Select the queue profile that needs to be modified. Once the queue is selected, the form will be automatically loaded with the queue configuration.

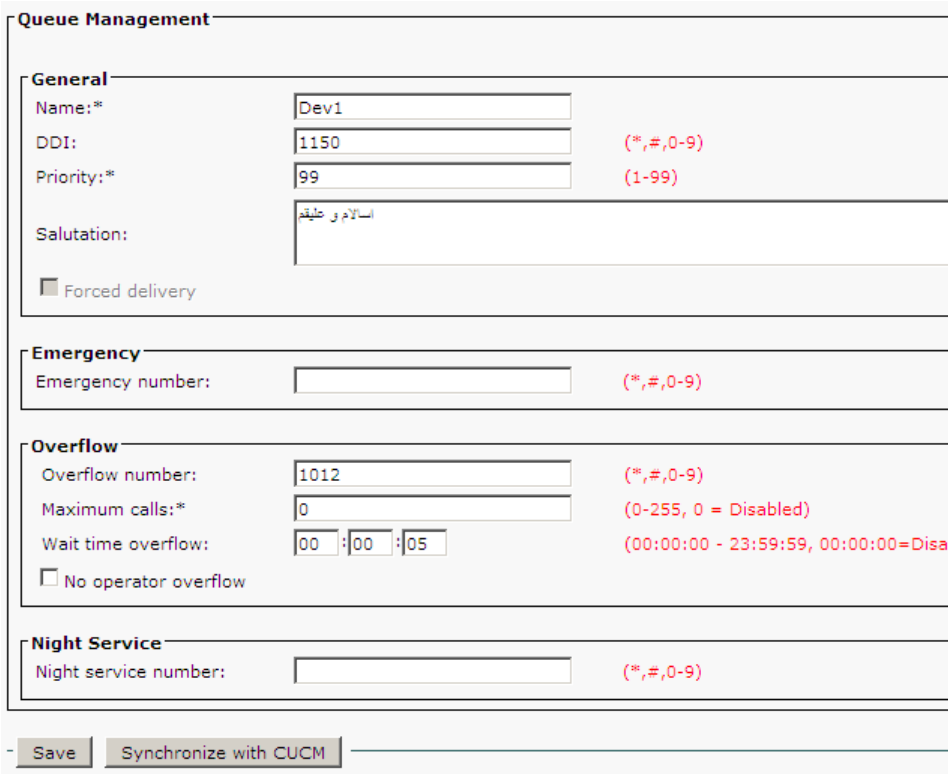
Step 3 Edit the specifications for the above-mentioned sections.

Step 4 Once you have modified the configuration, click **Save** to save the changes.

Step 5 Click **Synchronize with CUCM** will redirect to *Synchronizing with CUCM* page.

The following image shows the *Queue Management* page used to configure Cisco Unified Enterprise Attendant Console.

Figure 5-35 displays the Queue Management page for Cisco Unified Enterprise Attendant Console



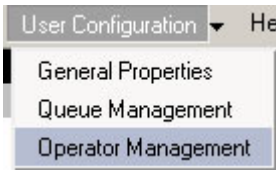
Operator Management

The *Operator Management* web page allows you to manage the configuration for the operator profile. This includes associating Queues to the operator profile. This page provides for the ability to add, modify or delete operator profiles.

To manage operators,

Step 1 Select *User Configuration* > *Operator Management*.

Figure 5-36 displays the menu option for Operator Management



Step 2 Select the operator profile that needs to be modified. To use the *find* option enter the following criteria,

- Login Name.
- Search critera e.g. Begins with, Contains, Ends with, etc.
- Specific criteria: The variable to search.
- There is also facility by using the + − to add additional search criterias. This would be used to narrow the search.

Step 3 Click on *Find* to run the Query.

Step 4 Once an operator profile is selected, the form will be automatically loaded with the operators profile information.

Step 5 Edit *Login name*.

Step 6 Change *Password*.

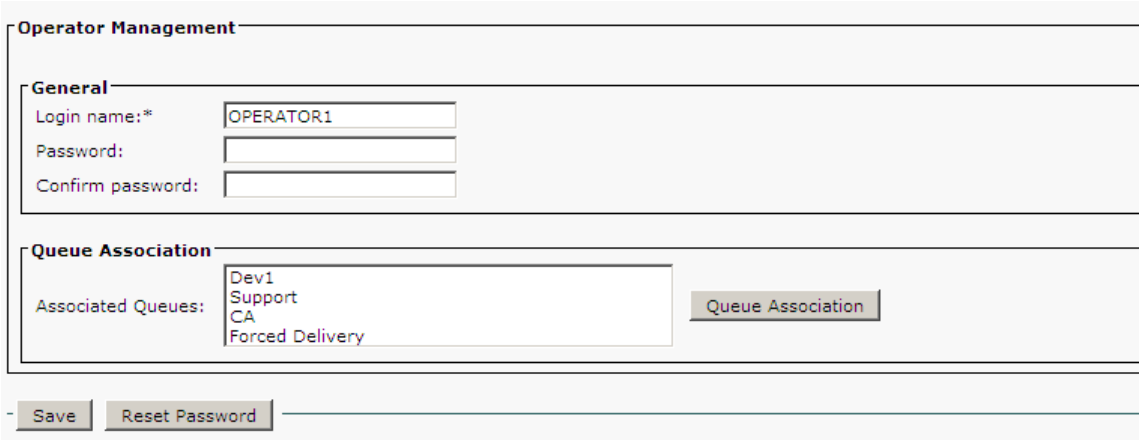
Step 7 Re-enter password to confirm in the *Confirm password* field.

Step 8 Click **Save** to save changes.

Step 9 Click **Reset password** to reset the user password to be the same as the operator's login name.

The following image shows the *Operator Management* page used to configure Cisco Unified Enterprise Attendant Console.

Figure 5-37 displays Operator Management page



To Associate Queues to an operators profile,

Step 1 Select *User Configuration > Operator Management*.

Step 2 Select the operator profile that needs to be modified. To use the *find* option enter the following criteria,

- Login Name.
- Search critera e.g. Begins with, Contains, Ends with, etc.
- Specific criteria: The variable to search.
- There is also facility by using the to add additional search criterias. This would be used to narrow the search.

Step 3 Click on *Find* to run the Query.

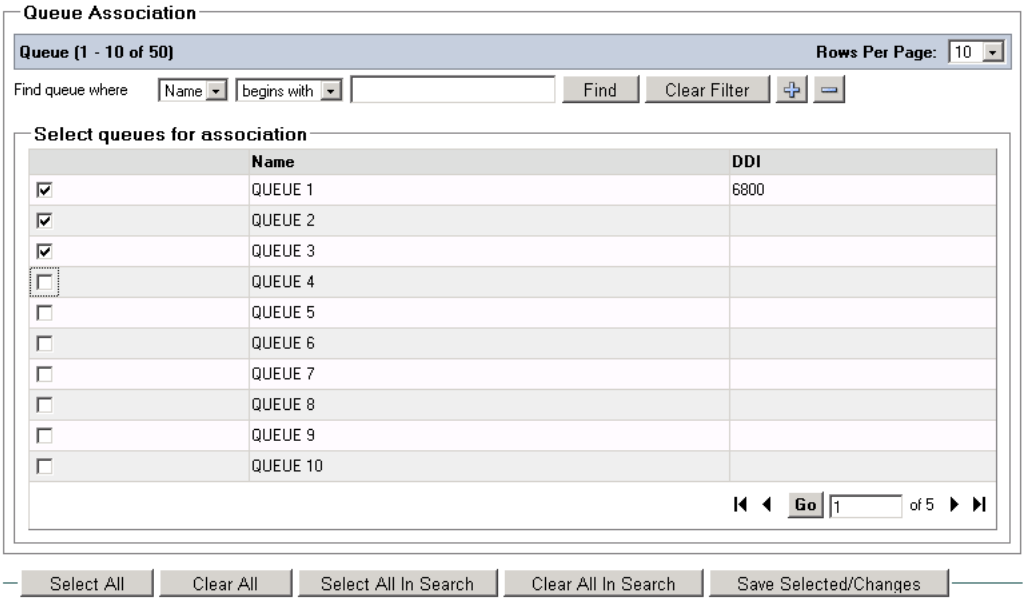
Step 4 Once an operator profile is selected, the form will be automatically loaded with the operators profile information.

If any Queues have been associated, they will be listed in the Associated Queues dialogue box.

Step 5 To Add to that list, or create an association, click on *Queue Association*.

A new screen will appear where you can select any Queues that need to be associated.

Figure 5-38 displays Queue Association page



There is an option to search for a specific queue if it is not displayed by using either:-

- Queue Name.
- Search critera e.g. Begins with, Contains, Ends with, etc.
- Specific criteria: The variable to search.
- There is also facility by using the to add additional search criterias. This would be used to narrow the search.

Step 6 Click on *Find* to run the Query.

Step 7 Tick the respective Queues that are required to be associated then click on *Save Selected/Changes* to return the operator profile. Click on *Save* to complete the process.

CHAPTER 6

Cisco Unified Reporting

This section will guide you through the configuration for Cisco Unified Reporting.

Cisco Unified Reporting is accessed via the Cisco Unified Enterprise Attendant Admin.

In order to get started, an initial URL will be used to access Cisco Unified Enterprise Attendant Admin web session. This URL will be in the following format:

http://<<*ip address of Cisco Unified Enterprise Attendant Server*>>/webadmin/login.aspx

The URL, as provided by the network administrator will be entered in the address bar of the web browser, Figure 6-1 shows an example of the URL that would be used.

Figure 6-1 Displays an example of the URL Entered in the Internet Explorer Address Bar

You must login to Cisco Unified Enterprise Attendant Admin.

Table 6-1 shows a list of the icons that are used while configuring the Cisco Unified Enterprise Attendant Console,

Table 6-1 Provides the description for the icons used in the user guide

Icon	Description
	Save
	Reset Password
	Test Connection
	Repair Database
	Database Repair Report

Table 6-1 Provides the description for the icons used in the user guide

Icon	Description
	Calendar: this will present a calendar page to select a date from.
	Start Server
	Stop Server
	Information Icon: Used to view runtime information for a service.
	Refresh
	Synchronize with CUCM

Administrator Login

Cisco Unified Enterprise Attendant Admin requires authentication for users, and is accessible only to Administrators for making new configurations for Cisco Unified Enterprise Attendant Console or updating them. Most of the settings configured using Cisco Unified Enterprise Attendant Admin will be made in real-time, however, some changes may require Cisco Unified Attendant Server to be restarted. The default user name is **ADMIN** and the default password is **CISCO**.

To log on to Cisco Unified Enterprise Attendant Admin,

Step 1 Enter the URL specified by your network administrator to access Cisco Unified Enterprise Attendant Admin.

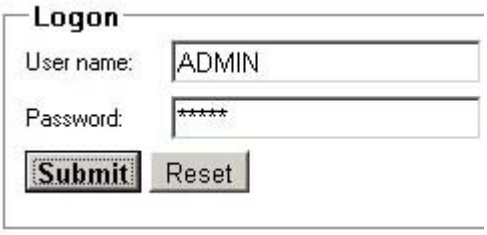
Step 2 The **Logon** page will open.

Step 3 Enter *User name*.

Step 4 Enter *Password*.

Step 5 Click **Save**.

Figure 6-2 Displays the login page for the application



The following table gives a brief description for the fields mentioned in the form displayed above,

Table 6-2 provides the description for the fields of the login page

Field	Example	Description
User name	ADMIN	This field specifies the user name to log in with. The user name is ADMIN by default.
Password	*****	The password used by the Administrator to log in.

To clear the contents of the User name and Password fields, click **Reset**.

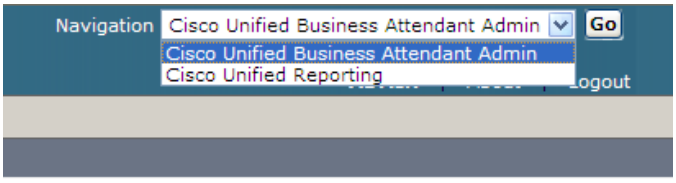
Home Page

Following a successful log in, you will be shown the home page that displays the main menus for configuring the application. There ae two main areas that can be accessed from this page:-

- Cisco Unified Enterprise Attendant Admin. See "Cisco Unified Business/Department Attendant Admin" on page 5 - 1 for details.
- Cisco Unified Reporting

This is done by making the selection in the **Navigation** box on the top of the screen and then clicking on **Go**.

Figure 6-3 Displays the navigation option to select either Attendant Admin or Reporting



The rest of this chapter focuses on the ***Cisco Unified Reporting***.

Table 6-3 provides the details for different types of configurations available

Configuration Menu	Description
System Reports	This section provides the administrator with facilities to report on information coming through the Cisco Unified Enterprise Attendant environment.
Help	Provides help information and also includes a section for licensing the applications.

As well as the System Reports option the Home Page also displays version numbers and the registration status.

Figure 6-4 displays the Cisco Unified Enterprise Attendent Console home page.

These System reports are explained in detail in the following sections.

System Reports

There are four System Reports available:

- Incoming Calls by Date and Time
- Operator Calls by Time
- Operator Calls by Queue
- Overflowed Calls by Date

Setting Report Parameters

When a System Report is selected, the Report Parameters section of the screen will change to reflect settings that can be made to customize the report to suit the required information. There are three types of ways of entering the parameters:-

- Date Selection
- Time Selection
- Queue Type (this selection method is also used for Operators)

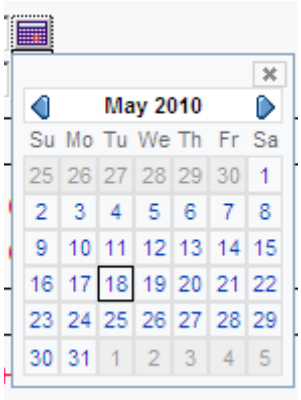
These are described in the next subsections.

Date Selection

Date Selection is available within all of the reports. Click on the Menu Icon and select the date. The date then shows in a grey square. Today's date is automatically selected and shown with a black outline. The report can be limited to one Day by selecting the same Date for From and To selection.

Some reports only report for a single day, and in this case will only use the From date selection window.

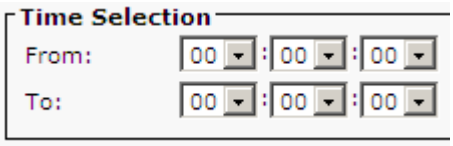
Figure 6-5 displays the method for selecting a date



Time Selection

Use the arrows to change the time. By default, the time setting is for one 24 Hour day i.e. from 12:00:00 AM To 11:59:59 PM.

Figure 6-6 displays the method for selecting times

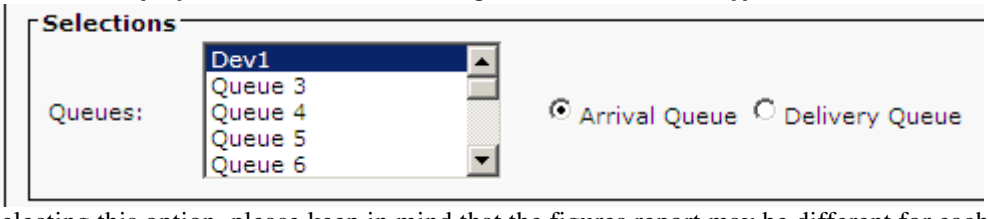


The time selected refers to the actual Start time of the call i.e the time the call hits the CUxAC system. For example if the Start time is set at 09:00:00, a call that arrives at 08:59:59 will NOT be included, but a call starting at 09:00:00 WILL be included. The End time also refers to the Starting time of the call and includes all calls up to and including the time set, for example if the End Time is set to 17:00:00 then a call arriving in the Arc system at 17:00:00 will be included, but a call arriving at 17:00:01 will not be.

Queue Type

Select whether the report will be based on figures for the Arrival Queue or the Delivery Queue.

Figure 6-7 displays the method for selecting Queues and Queue Types



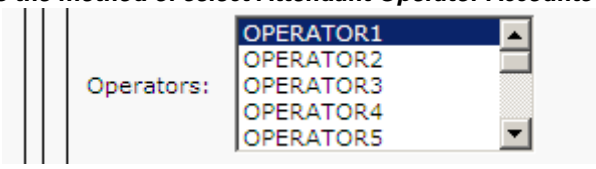
While selecting this option, please keep in mind that the figures report may be different for each of the Queue Types. Arrival Queue is where the call first reached after filtering, whereas Delivery Queue is the queue from where the call was delivered to the Attendant Console. Depending on configuration calls may be overflowing from one queue to another queue before reaching the console attendant.

Then select the Queue name by choosing it from the scroll list. Multiple Queues can be selected by pressing down the Ctrl button and selecting the Queue names.

Attendant Operators Accounts

Attendant Operator Accounts are selected by choosing them from the scroll list. Multiple Operator Accounts can be selected by pressing down the Ctrl button and selecting the Attendant Operator Accounts names.

Figure 6-8 displays the method of select Attendant Operator Accounts



When the parameters of the report have been set, click on **Generate Report** to process the request.

System Report - Incoming Calls by Date and Time

An overview summary report for the incoming calls in the Queues, for a specific date and time. A single line of information is provided for a particular date and time duration.

Table 6-4 Description: Incoming Calls by Date and Time

Field Names	Description
Total Calls	Total number of call entered in Attendant Console. During the Date range selected for the Report.
Answered Calls	Total number of calls answered in the Attendant Console.
Abandoned Calls	Total number of calls abandoned in the Attendant Console.
Overflowed Calls	Total number of calls overflowed to a device or External number in the Attendant Console.
% Answered	The percentage of calls that were answered.
% Abandoned	The percentage of calls that were Abandoned.
% Overflowed	The percentage of calls that were Overflowed.
Average Answered Wait	Average Wait time for Answered Call in Attendant Console. This is the average time a caller has waited before the call is answered.
Average Answered Talk Time	Average Talk time for Answered Call in Attendant Console.
Average Abandoned Wait	Average Wait time for Abandoned Call in the Attendant Console. This is the average time a caller has waited before the call is Abandoned.
Answer Time Profile	These are the five stats maintained for all the answered call in term of wait.
	..10: % Calls answered in less than 10 seconds.

Field Names	Description
	..20: % Calls answered between 10 to 19 seconds.
	..30: % Calls answered between 20 to 29 seconds.
	..40: % Calls answered between 30 to 39 seconds.
	..40+: % Calls answered after 40 seconds of wait.
Longest Wait	Among all the answered calls, the longest wait a caller has to bear before the call was answered.

The following selections are available for this report:

Date: From and To Date of the report.

Time Selection: From: Start Time; To: End Time.

Abandoned Call Timer

Queue(s): is selectable before running the report.

Arrival or Delivery Queue: type is selectable before running the report.

System Report - Operator Calls by Time

This is a summary report of Incoming and Outbound Calls for attendant operators in Attendant Console by time, covering a single date. A single line of information is provided for each hour with a single page per operator. Totals are given for each Attendant operator.

Table 6-5 Description: Operator Calls by Time

Field names	Description
Operator	Name of Attendant Operator
Total Calls	Total number of inbound calls attended by the Attendant Operator.
Console	Total number of Console Queue calls attended by the Attendant Operator. Includes :- Incoming Queue calls Retrieved calls from F5 Calls retrieved from Park initiated by double clicking the Park DN on screen
Others	Total number of calls other than the Console attended by the Attendant Operator. This would normally be only calls direct to the operator's handset i.e the same DN they use for answering their console calls.
Inbound Total talk time	Total Talk time for the Inbound QUEUE calls only.
Inbound Average talk time	Average Talk time for the Inbound QUEUE calls only.

Field names	Description
Inbound Longest talk time	Longest Talk time for the Inbound QUEUE calls.
Total Outbound Calls	Total number of Outbound calls made by the Attendant Operator. Includes normal outbound calls Consult transfer enquiry calls Conference enquiry calls Park calls retrieved by dialling the Park DN ABANDONED calls
Outbound Total talk time	Total Talk time for the Outbound answered calls.
Outbound Average talk time	Average Talk time for the Outbound answered calls.
Outbound Longest talk time	Longest Talk time for the Outbound answered calls.

The following selections are available for this report:-

Time Selection : Start Time and End Time

Date Selection: From: Start Date:

Operator(s): is selected before running the report.

System Report - Operator Calls by Queue

This is a summary report of queued calls handled by attendant operators covering a specified date range. The information allows a simple view of which queues are being handled by which attendant operators on each date. The information is presented by date, with each date showing a line of information per operator.

Table 6-6 Description: Operator Calls by Queue

Field Names	Description
Operator	Logged in attendant operator's name.
Queue	The Queue assigned to that selected attendant operator.
No. of calls	Total number of Queue Calls answered within that queue.
Total Talk	The total talk time by an operator for inbound calls from that queue.
Average Talk	Average Talk time for Answered Call from that queue.
Longest Talk	Longest Talk time for Answered Call in Attendant Console from that queue.

The following selections are available for this report:

Date Selection: From: Start Date: To: End Date.

Queue(s): Selected before running the report.

Operator(s): Selected before running the report.

System Report - Overflowed Calls By Date

The report currently runs only against Arrival Queues. These are the first Attendant Console Queue that the call hits, and can therefore be deemed as the main target destination for that call. Calls are either answered within this queue or can be overflowed to another destination, based on a variety of criteria, for example Out of Hours, No Operators, Maximum Wait Time etc. A list of queues can be selected for reporting on from all the queues, but only queues that are listed as Arrival Queues are reported on. This is determined by the data, and the call flow of each call. For example if calls are only ever routed into Queue B via an overflow, then the Queue will NOT be shown in the report even if selected, however if some calls are made directly into Queue B, then it will be shown. The stats shown for each queue however will ONLY relate to calls where that queue is the Arrival Queue. So for example if 1 call is made directly, and one is overflowed into that queue, then only 1 call will show up (the direct call).

Figure 6-9 Description: Overflowed Calls By Date

Field Names	Description
Queue	The name of the Queue for which the report is generated.
Total Queue Calls	The total number of incoming calls in a Queue.
Total Overflow In	The total number of calls overflowed in a respective Queue.
Overflow In	The number of calls overflowed in the selected Queue from other call Queues during business hours.
Night Service In	The number of calls overflowed in the Queue during the break hours.
Overflow out Time Limit	The number of calls, which were overflowed out to the other selected Queues. Reason being that the time for a call waiting to be answered exceeded the limit.
Overflow out No Operators	The number of calls that overflowed to other destination due to no attendant operators being logged into the queue.
Emergency	The number of calls that overflowed to other destination due to queue been put under emergency.
Overflow out Destination Time Limit	The destination to which the calls were overflowed during the Time limit.
Overflow out Destination No Operators	The destination to which the calls were overflowed when there were no attendant 0perators available in the default Queue.

Field Names	Description
Emergency	The destination to which the calls were overflowed when queues are put under emergency mode.
% In	The calculated percentage of the Overflowed In calls.
% Out	The calculated percentage of the Overflowed Out calls.

The following selections are available for this report:

Date Selection: From: Start Date: To: End Date.

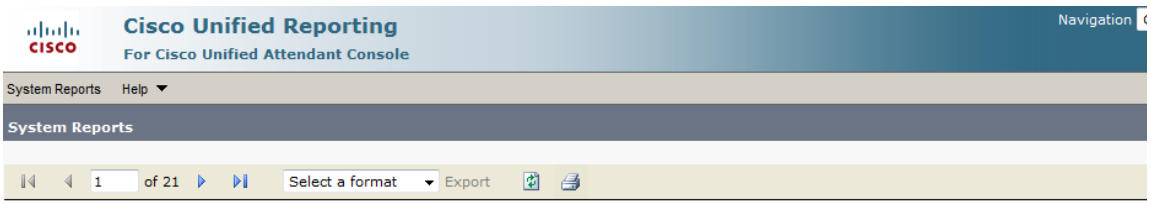
Time Selection: From: Start Time: To: End Time.

Queue(s) is selectable before running the report.

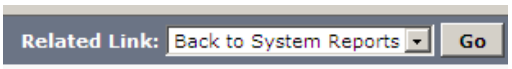
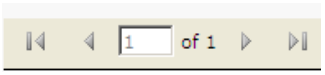
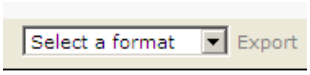
Working with System Reports

When a report has been generated it will appear in a Systems Report window.

Figure 6-10 displays the menu bar in the Systems Report window.



The following table shows the functionality that is available from this menu.

Menu Option	Function
	**Related Link** provides for the option to revert back to the System Reports selection screen. Choose this and click on **Go** to navigate.
	This provides an option to navigate to a specific page in a report, this can be done by either using the icons Start Page, Back One Page, Forward One Page, or Go to Last Page. You can also enter in a number to go to a specific page.
	A copy of the report can be exported by choosing from the drop down selection. The choices are either Excel (.XLS) or Acrobat (.PDF) format.

Menu Option	Function
	Refresh the Report screen.
	The print icon will send a copy of the System report to a printer. A printer has to be configured on the Server for this to work.

CHAPTER 7

Uninstall Attendant Admin

This section describes in detail how to uninstall the following:

- Cisco Unified Attendant Server
- SQL Server 2008
- BDE
- .Net Framework

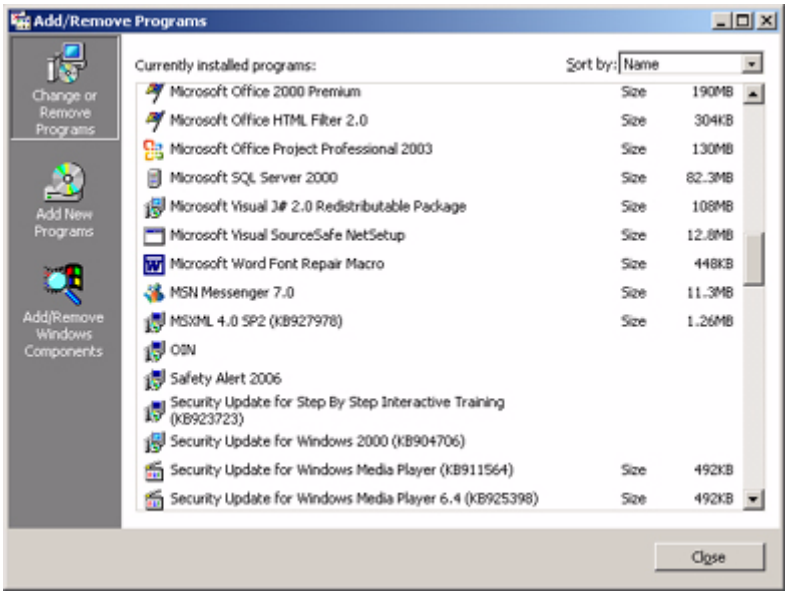
Uninstalling Cisco Unified Enterprise Attendant Server

Perform the following steps to uninstall the application:

Procedure

Step 1 Go to **Start > Settings > Control Panel > Add/Remove Programs.** Shown in Figure 7-1.

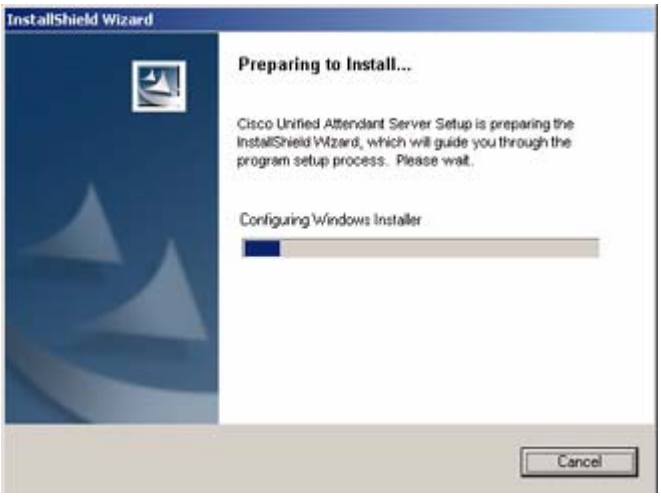
Figure 7-1 Displays the Add/Remove Programs Window



Step 2 Select Cisco Unified Enterprise Attendant Server from the list of Programs. Click **Remove**.

Step 3 The next window that is displayed will show the status of the wizard while the files are being prepared to uninstall the application (Figure 7-2).

Figure 7-2 Displays the Preparing to Install Screen

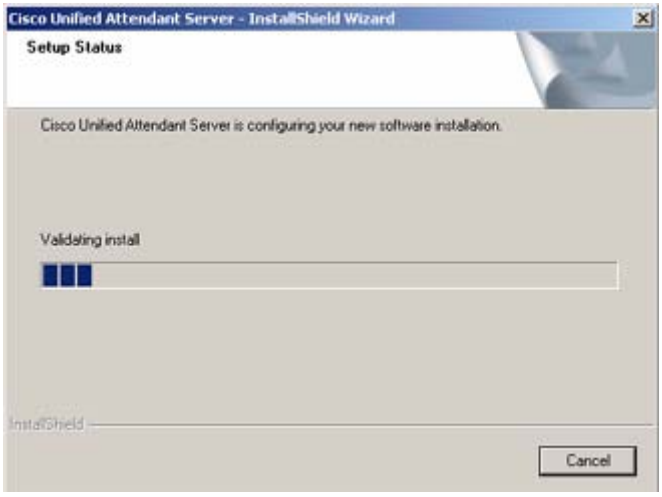


Step 4 The following message box will appear confirming whether you want to remove Cisco Unified Enterprise Attendant Server from your machine or not (Figure 7-3). Click **OK** to continue.

Figure 7-3 Displays the Message Box that asks you if you Want to Remove the Application from the System

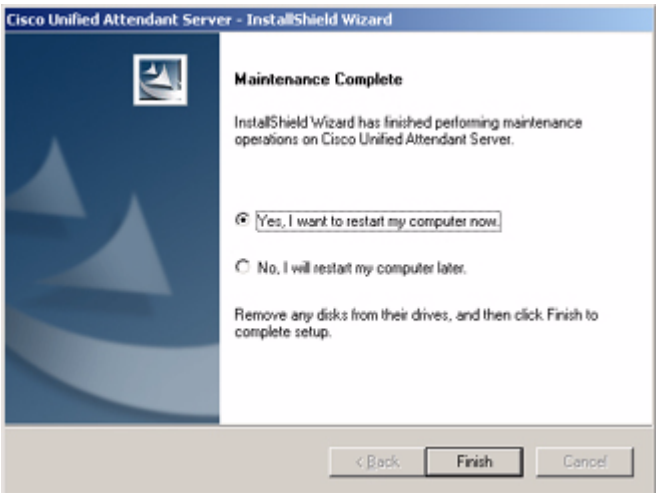
Step 5 The next window displays the progress of the un-installation (Figure 7-4).

Figure 7-4 Displays the Un-Installation Progress of the Application



Step 6 Once the files have been uninstalled successfully, the next window will ask whether you wish to restart the computer now or later (Figure 7-5). It is recommended that you restart the machine. Click **Finish**.

Figure 7-5 Displays the Options for Restarting the Machine



Uninstalling MS SQL Server

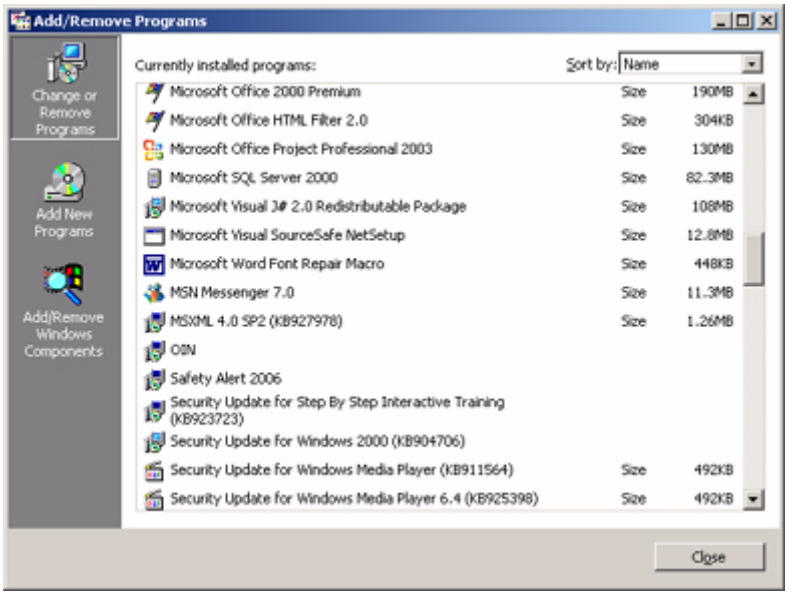
Once you have uninstalled the application, you are required to remove all the third-party components installed with the application. Therefore we uninstall MS SQL Server as well.

To uninstall the SQL Server, perform the following steps:

Procedure

Step 1 Go to **Start > Settings > Control Panel > Add/Remove Programs** (Figure 7-6).

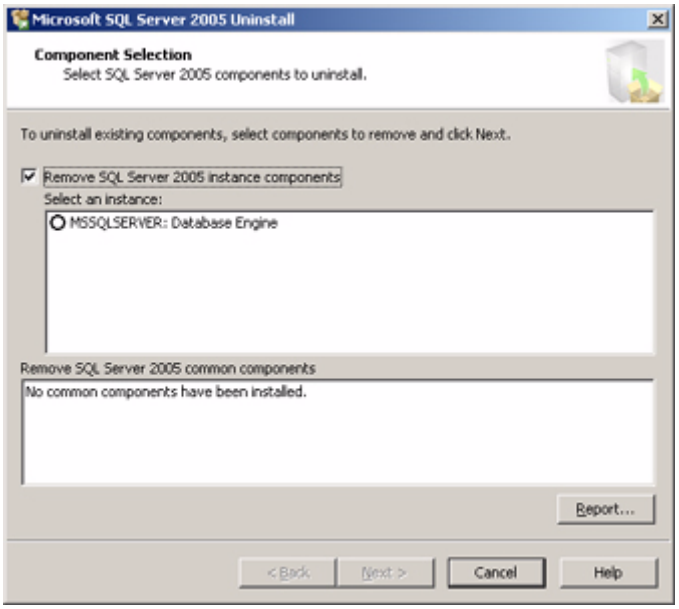
Figure 7-6 Displays the Add/Remove Programs Window



Step 2 Select Microsoft SQL Server from the list of Programs. Click **Remove**.

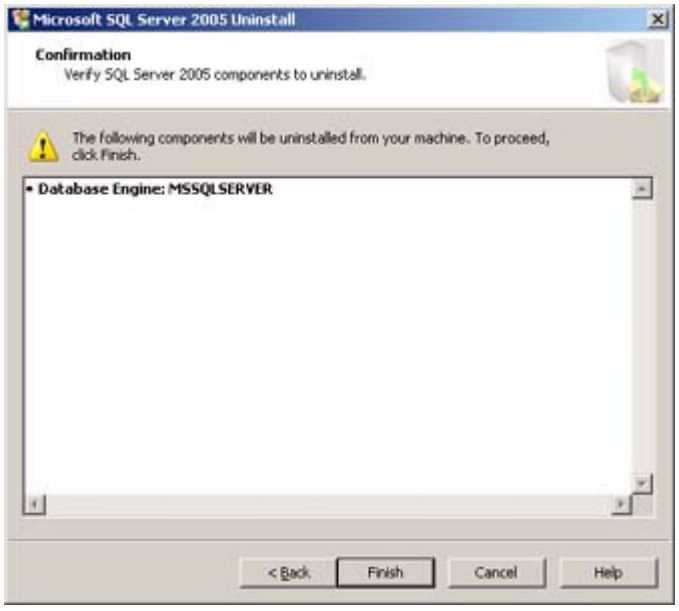
Step 3 The next window will display the list of server instances. Select the instance that you wish to be removed (Figure 7-7).

Figure 7-7 Displays the Server Instance to be Removed



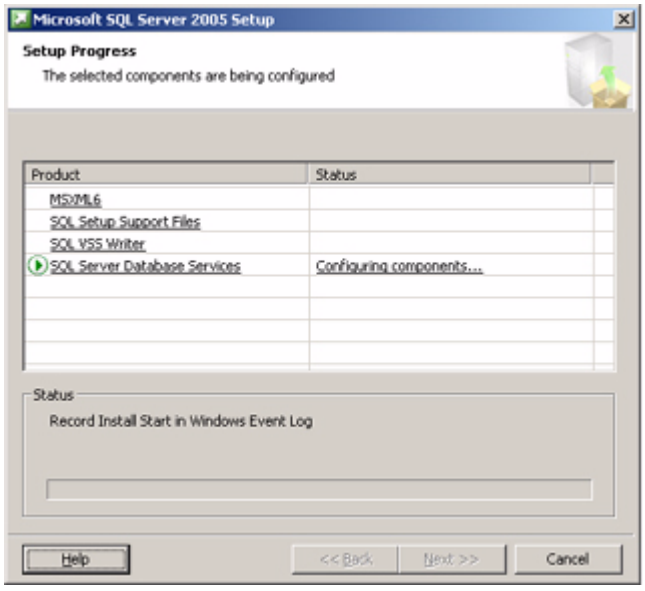
Step 4 The next window will display a summary of the components that will be removed (Figure 7-8). Click the **Finish** button to proceed. Click **Back** in case you wish to change any of the information.

Figure 7-8 Displays the Summary Screen for the Components that need to be Uninstalled



Step 5 In the next window, the status will be displayed for the components removal (Figure 7-9). Click **Finish** once all the components have been removed.

Figure 7-9 displays the setup progress



Step 6 Once you have uninstalled MS SQL Server, you must delete the following location and the databases within:

C:\DBdata\

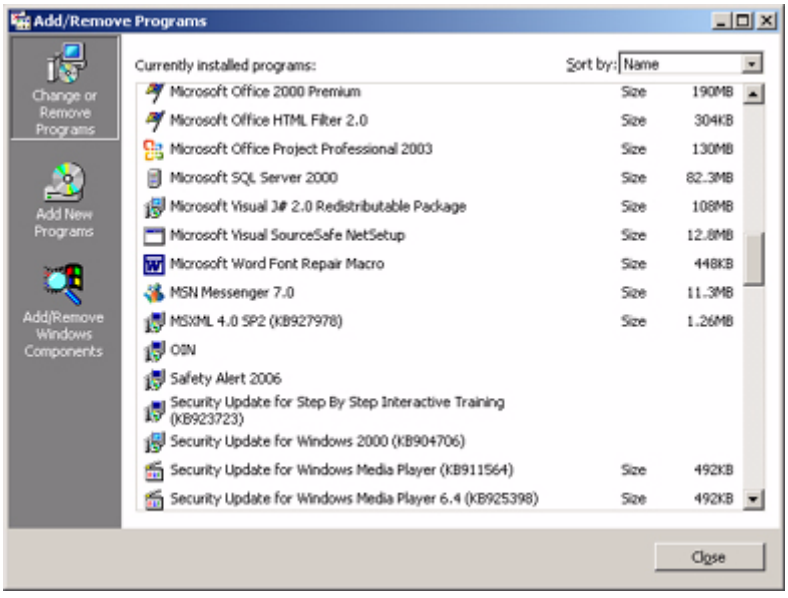
Uninstalling BDE Utility

Perform the following steps to uninstall BDE Utility:

Procedure

Step 1 Go to **Start > Settings > Control Panel > Add/Remove Programs**. This is shown in Figure 7-10.

Figure 7-10 Displays the Add/Remove Programs Window



Step 2 Select BDE Utility from the list of Programs. Click **Remove**.

Step 3 The next window that is displayed will show the status of the wizard while the files are being prepared to uninstall BDE (Figure 7-11).

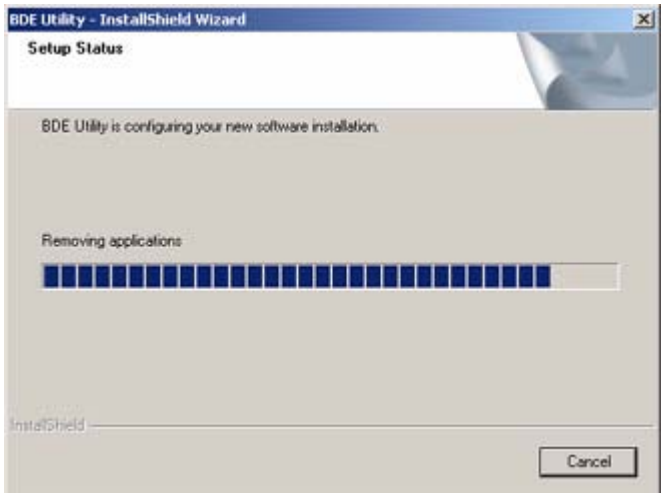
Figure 7-11 Displays the Preparing to Install Screen

Step 4 The next message box will confirm whether you wish to remove BDE or not (Figure 7-12). Click **OK** to continue.

Figure 7-12 Displays the Message Box to Confirm Whether all Features of the BDE Utility need to be Removed or Not

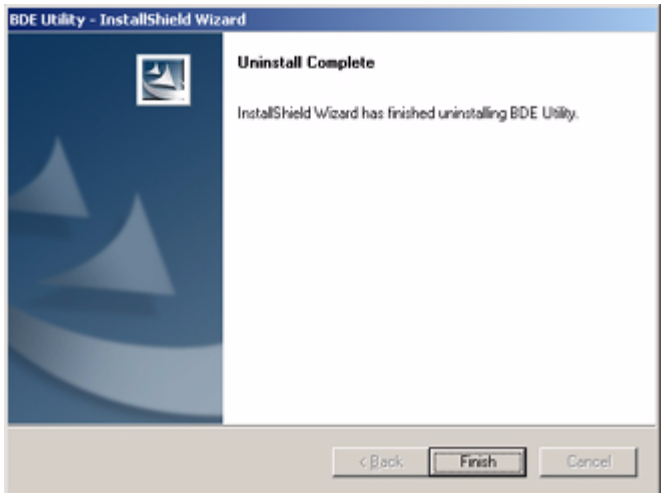
Step 5 The next window will display the setup status and the progress for the features removed (Figure 7-13).

Figure 7-13 Displays the Setup Status for the Uninstallation of the Application



Step 6 Once the BDE Utility has been removed the following screen will appear. (Figure 7-14).

Figure 7-14 Displays the Screen that Shows that the Removal of BDE Utility is Complete



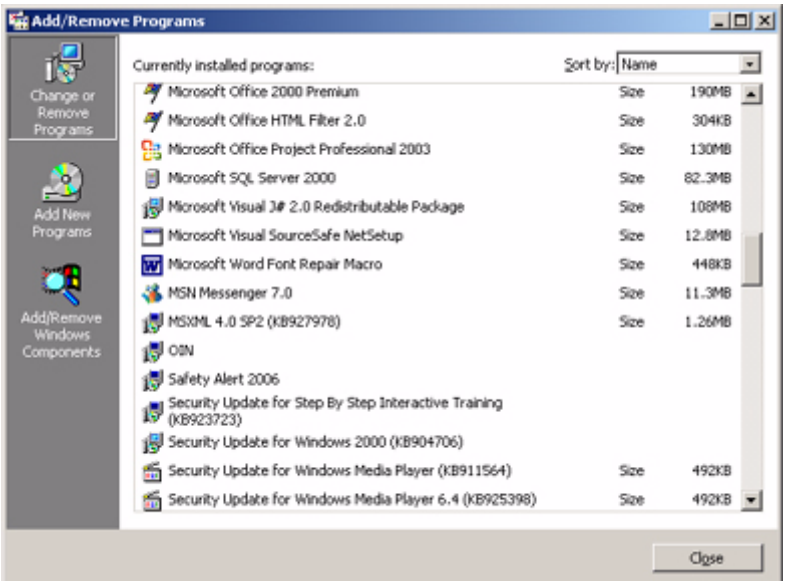
Uninstalling .NET Framework

Perform the following steps to uninstall .NET Framework:

Procedure

Step 1 Go to **Start > Settings > Control Panel > Add/Remove Programs.** This is shown in Figure 7-15

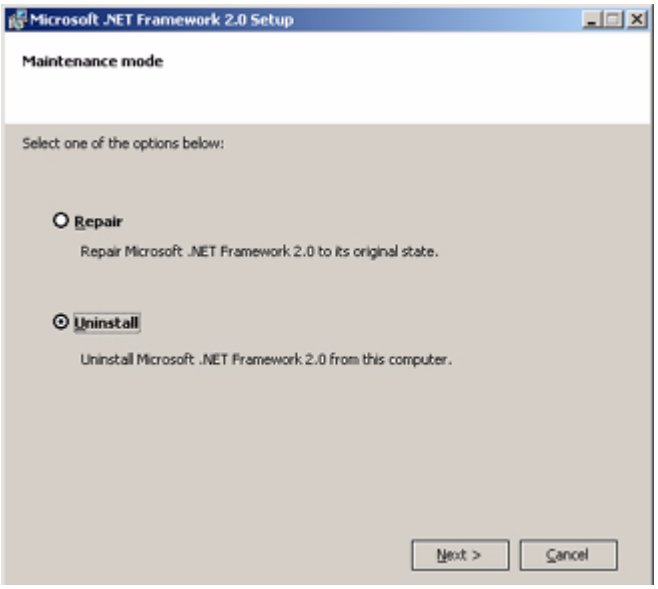
Figure 7-15 Displays the Add/Remove Programs Window



Step 2 Select Microsoft .NET Framework 3.5 from the list of Programs. Click **Remove**.

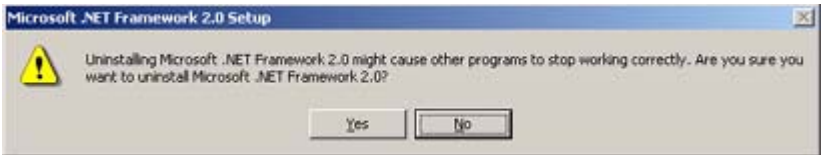
Step 3 The next window provides you with the option to either repair the installed files or uninstall .NET Framework (Figure 7-16).

Figure 7-16 Displays the Option to either Repair or Uninstall .NET Framework



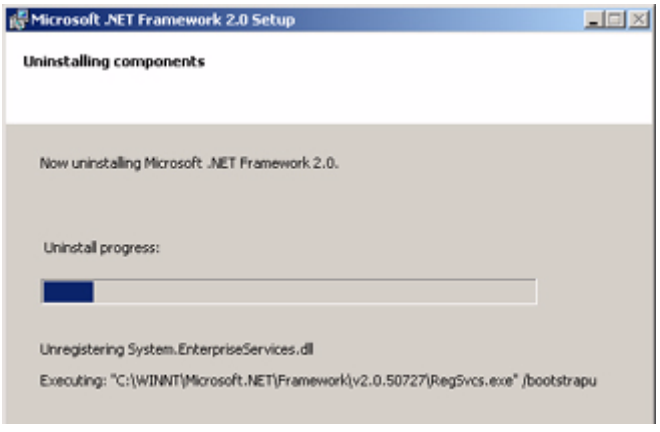
Step 4 The next message box will appear confirming if you would like to remove .NET Framework (Figure 7-17). Click **OK**.

Figure 7-17 Displays the Message Box to Confirm whether you Wish to Remove .NET Framework or Not



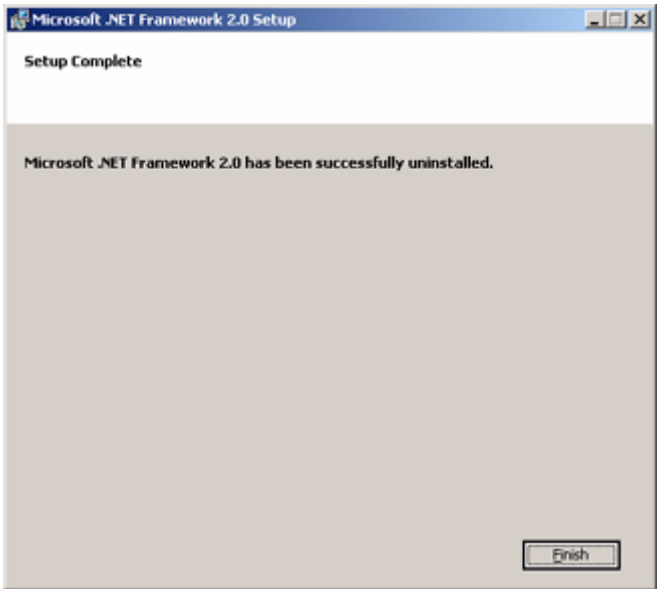
Step 5 The next window will display the setup progress of the components being removed (Figure 7-18).

Figure 7-18 Displays the Setup Progress for the Uninstallation of .NET Framework



Step 6 The next window will display that the components have been uninstalled successfully (Figure 7-19). Click **Finish**.

Figure 7-19 Displays the Message that the .NET Framework Components have been Removed Successfully



Uninstalling the Cisco TSP

If there is a requirement to uninstall the Cisco TSP then it is should be done using the instructions found in a file called ***ciscotsp.txt***. This file is created when the TSP is installed, and the default location is ***C:\Program Files\Cisco***

APPENDIX **A**

Creating the Attendant Application User Account for Cisco Unified Communications Manager 7.x

Note Earlier versions of Cisco Unified Enterprise Attendant Server used End User accounts. If upgrading from a previous version of the software it is important to confirm that the connection account is an Application Account.

An **Application User** account is required within Cisco Unified Communications Manager to allow Cisco Unified Enterprise Attendant applications to communicate with Cisco Unified Communications Manager via TSP. This user is created in order to:

- Access AXL API
- All CTI related functionalities

The application user profile that is created here is later used to connect to Cisco Unified Communications Manager through Cisco Unified Enterprise Attendant Admin. This application user profile provides you enough roles and privileges to modify or synchronize information. These roles have been explained in the following sections.

Creation of a user involves the following steps:

1. Set up an **Application User**
2. Creating a User Group with the correct **roles** associated
3. Associating the **Application User** with the **User Group**.

These steps have been explained in detail in the following sections.

Note If using Active Directory to Synchronize with the Cisco Unified Communications Manager, the Application User profile must exist in AD.

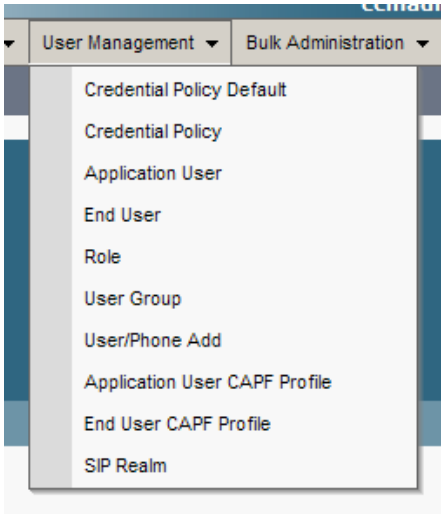
Setting Up an Application User

To set up a new Application User, perform the following steps:

Procedure

Step 1 From Cisco Unified Communications Manager Administration, Choose **User Management > Application User** (Figure A-1).

Figure A-1 Displays User Management Menu Option for Application User Configuration

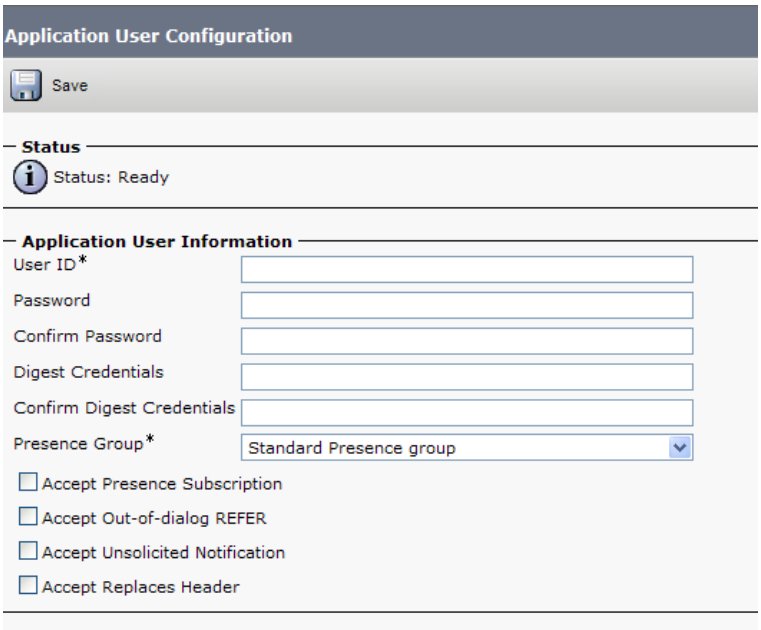


Step 2 Click the button to **Add New**, or click on the '**Add New**' button.

Step 3 Enter information in the following fields (Figure A-2). The fields marked with * are mandatory.

- User ID*
- Password
- Confirm Password
- Presence Group*

Figure A-2 Displays the Application User Configuration Page



Step 4 Click **Save** to save the settings for newly created user.

Creating a User Group

Once the Application User is created, in order to associate it with a group, a new group must also be configured. The User Group will then have Roles assigned to it which govern what can be done using this profile.

To create a new User Group, perform the following steps:

Procedure

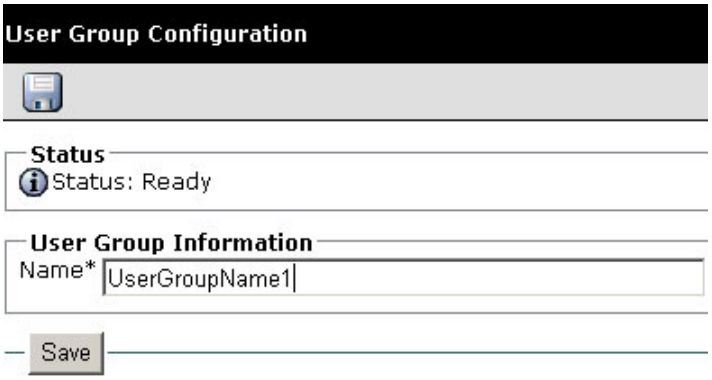
Step 1 Choose **User Management > User Groups.** (Figure A-3)

Figure A-3 Displays the Menu Option for User Group

Step 2 Click the button to **Add New**, or click on the '**Add New**' button.

Step 3 Enter **Name** for the new User Group (Figure A-4).

Figure A-4 Displays the User Group Configuration Page



Step 4 Click **Save** to save the settings for newly created User Group.

Assigning Roles and User to the User Group

To assign roles to the newly created User Group, perform the following steps:

Procedure

Step 1 Choose **Back To Find/List > Go or User Management > User Groups**.

Step 2 On **Find and List User Groups** page, search for the user group you created (Figure A-5).

Figure A-5 Displays the Field you may use to Search a User Group

Step 3 In the **Search Results**, click on the **Roles** link for the user group.

Step 4 Click **Assign Role to Group** to find and list roles for assignment.

Step 5 Select the roles that need to be assigned to this group. The following checkboxes must be selected,

- **Standard CTI Allow Call Park Monitoring**
- **Standard CTI Allow Calling Number Modification**
- **Standard CTI Allow Control of All Devices**
- **Standard CTI Allow Reception of SRTP Key Material**
- **Standard CTI Enabled**
- **Standard AXL API Access**

Note **Standard CTI Secure Connection** should ONLY be enabled if required, as it may affect the operation of the server that is not using CTI secure connections.

Note **Standard CTI Allow Control of Phones supporting Rollover Mode** and **Standard CTI Allow Control of Phones supporting Connected Xfer and conf** have to be enabled for use with environments using phone models 69xx, 7931, 7965, 89xx and 99xx. This is only available from Cisco Unified Communications Manager 7.1.2 onwards.

Note Select **Standard AXL API Access** to use the scalable BLF functionality.

Step 6 Click **Add Selected** to assign roles.

Step 7 Click **Save**.

To add the Application User to the User Group, perform the following steps:

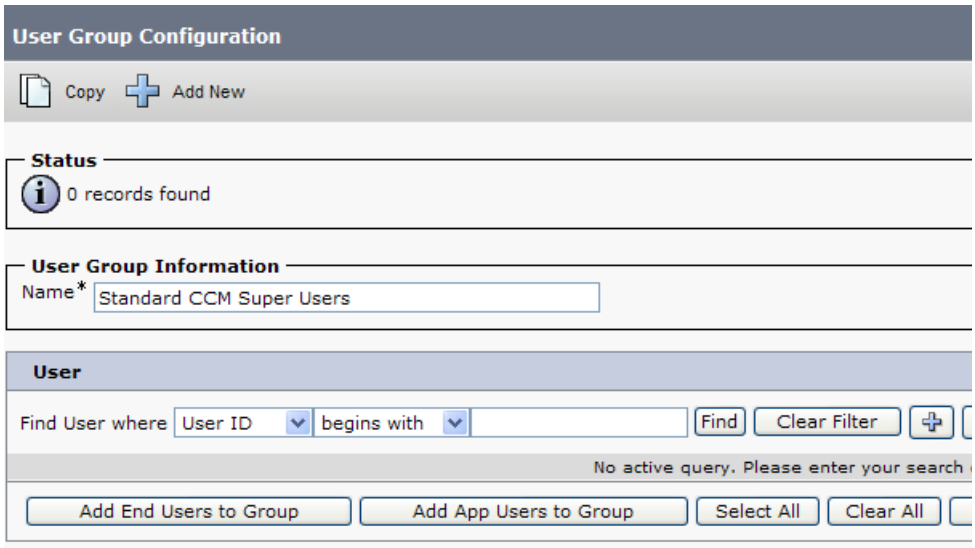
Procedure

Step 1 Choose **User Management > User Groups**.

Step 2 Click the newly created User Group.

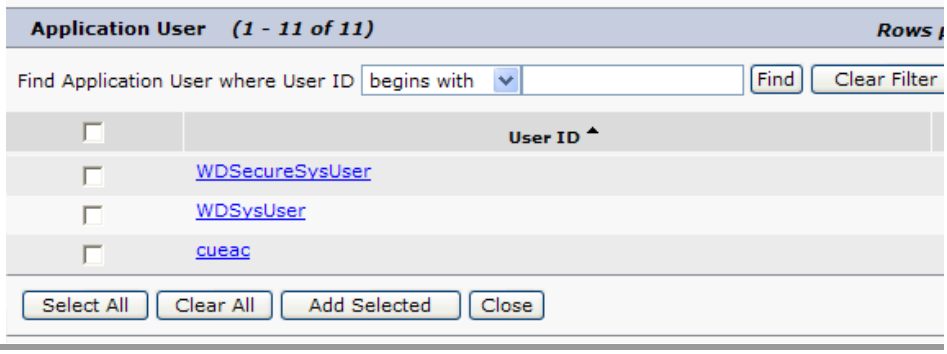
Step 3 Click **Add App Users to Group** to find and list the users (Figure A-6).

Figure A-6 Displays the User Group Configuration Page



Step 4 Select the newly created Application User from the list and click **Add Selected** to successfully add the Application User to the group (Figure A-7).

Figure A-7 Displays the Search Field you may use to Search for a User ID



Adding the Application User to CCM Super Users group

The standard CCM Super Users user group represents a named user group that always has full access permission to all named roles. You cannot delete this user group. You can only make additions and deletions of users to this group.

After you have added the Application User to the newly created group, you must also add this Application User to the Standard CCM Super User group.

To add the Application User to Standard CCM Super User, perform the following steps:

Procedure

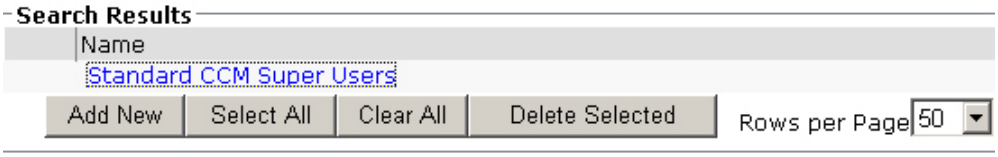
Step 1 Choose **User Management > User Groups**.

Step 2 Find **Standard CCM Super User** using the search field (Figure A-8).

Figure A-8 Displays the Search Option you may use to Find and List User Group

Step 3 In the Search Results, Click **Standard CCM Super Users** (Figure A-9) **.**

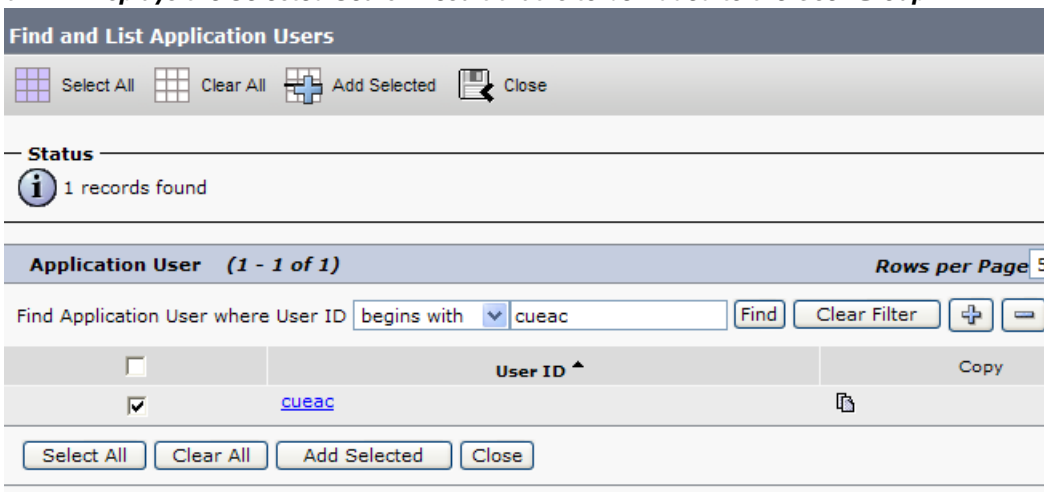
Figure A-9 Displays the Search Result for the User Group



Step 4 Click **Add App Users to the Group** to find and list the users.

Step 5 Select the newly created Application User from the list and click **Add Selected** to successfully add the user to this group (Figure A-10).

Figure A-10 Displays the Selected Search Result that is to be Added to the User Group



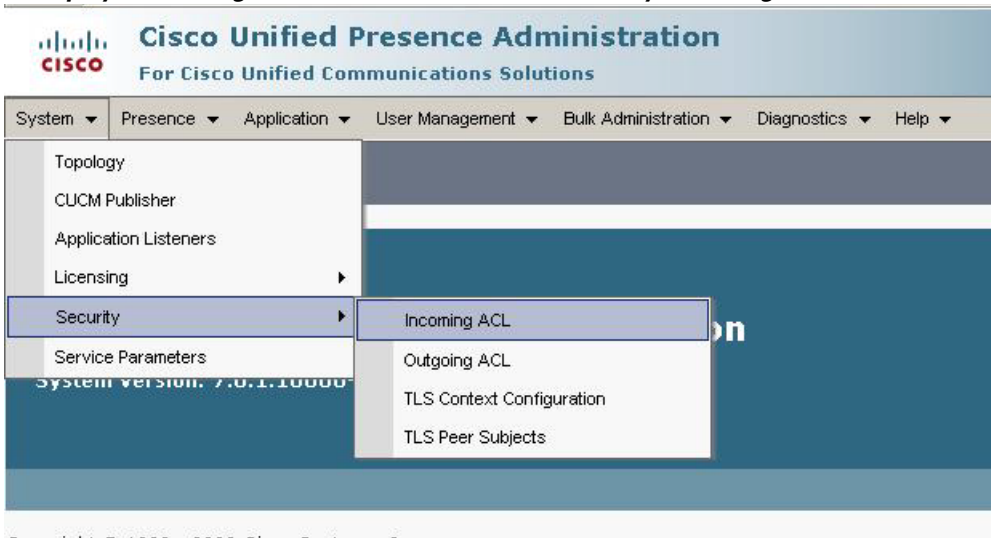
Configuring Access for the Cisco Unified Attendant CUPS Plug-In

It is important that the Cisco Unified Enterprise Attendant Server Address is added to the firewall information on the CUPs Server, perform the following steps:

Procedure

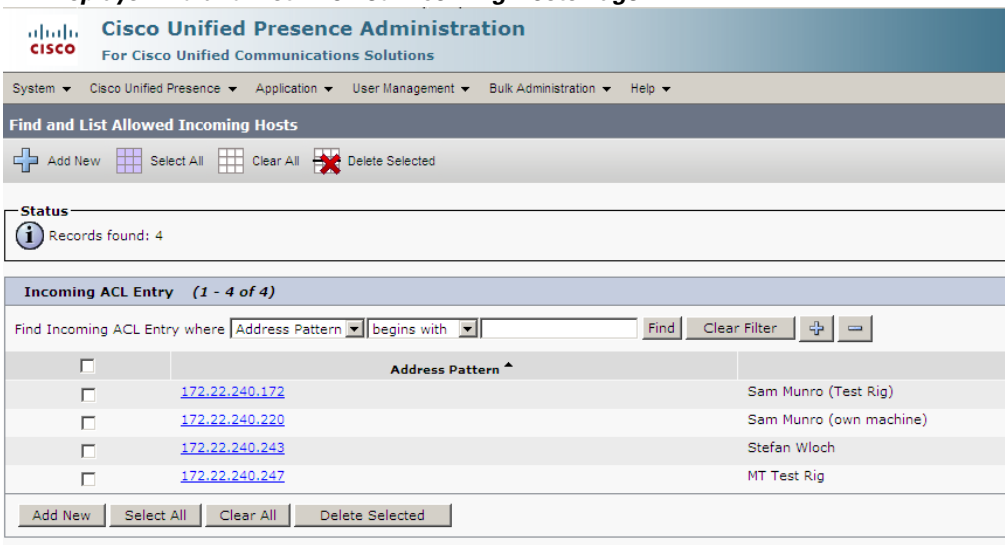
Step 1 To do this go to Cisco Unified Presence menu, and select **System > Security** and **Incoming ACL** (Access Control List) (Figure A-11)

Figure A-11 Displays Accessing the Cisco Unified Presence Security, Incoming ACL Menu.



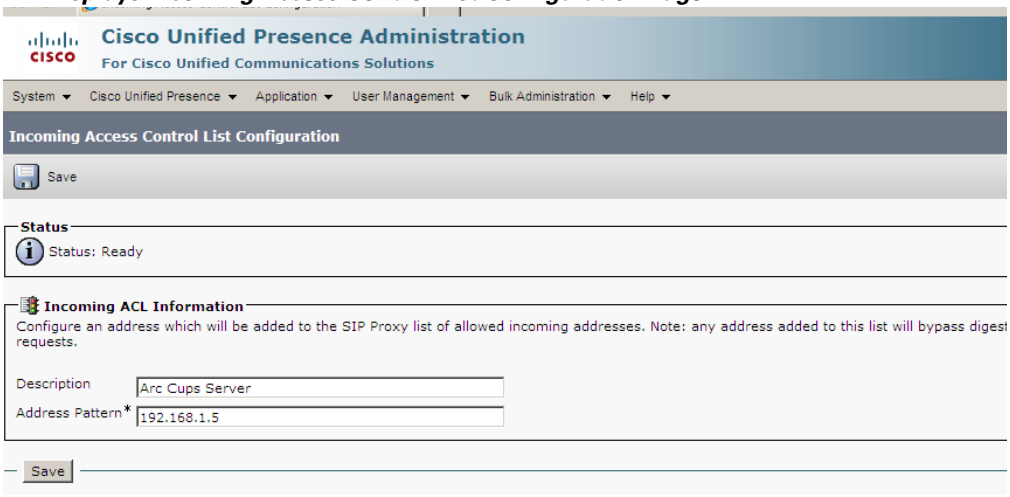
The page **Find and List Allowed Incoming Hosts** will be displayed (Figure A-12).

Figure A-12 Displays Find and List Allowed Incoming Hosts Page



Step 2 Click on **Add New** and enter the **Description** and **Address Pattern** (Figure A-13).

Figure A-13 Displays Incoming Access Control List Configuration Page



Step 3 Click on **Save**.

Step 4 Confirm the address and description have been added.

APPENDIX **B**

TAPI Configuration for CUCM 7.x

Note If you upgrade your Cisco Unified Communication Manager, you will have to uninstall the previous TSP, and install the TSP that is current to the new version of Cisco Unified Communication Manager. Both of these processes are covered in this Appendix.

You must install Cisco Telephony Service Provider (TSP) on the machine that will run the Cisco Unified Enterprise Attendant Server. This allows the Server to communicate with Cisco Unified Communications Manager CTI Manager service to allow call control on all devices associated to the Application User profile created for the Server.

Installing the TAPI TSP

To install the Cisco TSP you must follow the steps mentioned below.

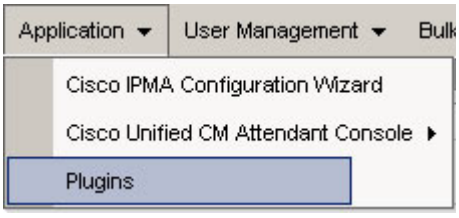
The installation of the Cisco Unified Enterprise Attendant Console will download the TSP installation file to the Desktop of the server machine.

To manually download the Cisco TSP, perform the following steps:

Procedure

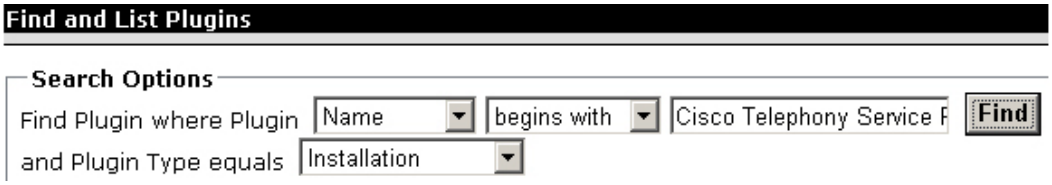
Step 1 On the Server machine browse to Cisco Unified Communications Manager Administration. Select **Application > Plugins**. (Figure B-1)

Figure B-1 Displays the Menu Option for Plugins



Step 2 Find Cisco Telephony Service Provider using the search field (Figure B-2).

Figure B-2 Displays the Search Option to Find and List the Required Plugin



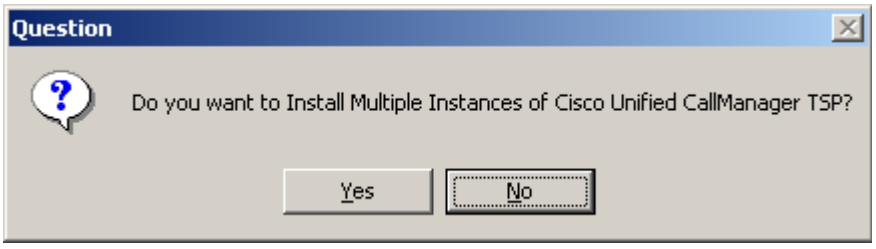
Step 3 In the Search Results, click Download on the Cisco Telephony Service Provider line.

Step 4 Save **CiscoTSP.exe** on your desktop.

Step 5 Double Click the **CiscoTSP.exe** icon on the desktop and follow the on screen instructions to complete the install.

Step 6 During the installation, you will be asked if you want to install multiple instances of TSP (Figure B-3). Click **No**.

Figure B-3 Displays the Message Box Confirming whether Multiple Instances for TSP are to be Installed or Not



Step 7 After a successful installation the setup will prompt you to restart the system. You must restart the machine for the changes to take effect

Configuring the TAPI TSP

To configure TSP, perform the following steps:

Procedure

Step 1 Go to **Start > Settings > Control Panel > Phone and Modem Options**.

Step 2 Select **Advanced** tab.

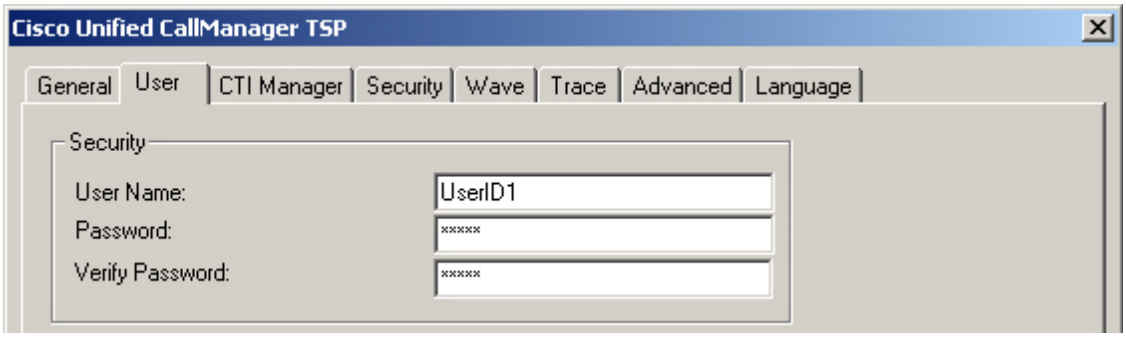
Step 3 Select **CiscoTSP001.tsp**

Step 4 Click **Configure**, and select the **User** tab (Figure B-4).

Step 5 Enter the Application User ID of the user that was created for the Communications Manager earlier in the **User Name** field.

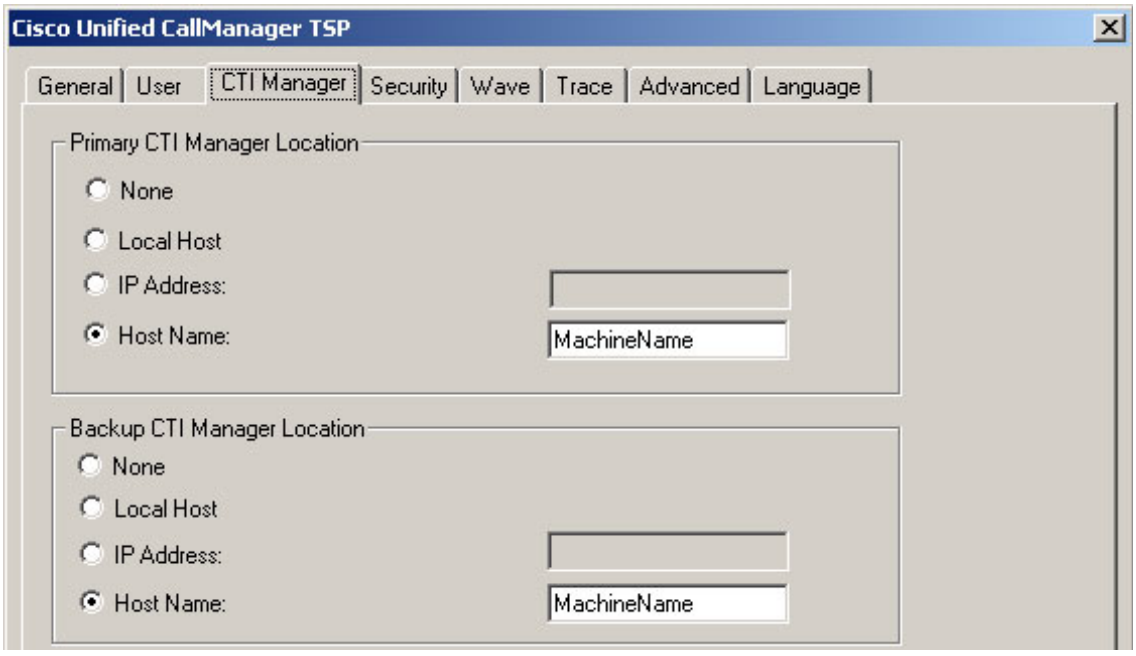
Step 6 Enter the password of the user in the **Password** field, and verify the **Password**.

Figure B-4 Displays the Application User ID Information to be Entered in the Fields



Step 7 Select the **CTI Manager** tab (Figure B-5),

Figure B-5 Displays the CTI Manager Information to be Entered for the TAPI Configuration



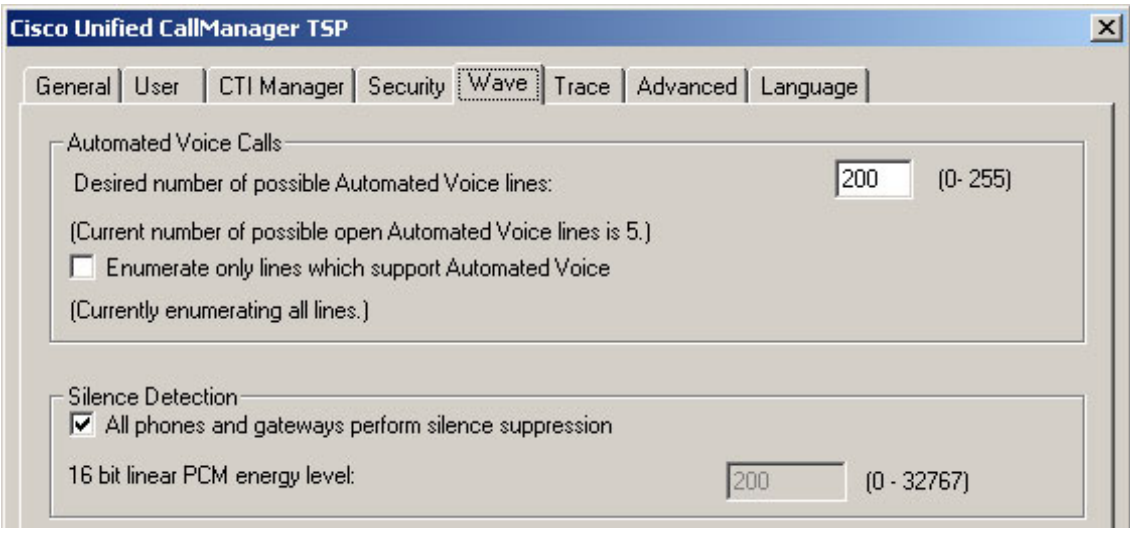
Step 8 Enter the **Name** or **IP Address** of the CTI Manager that you require to obtain your TAPI information from. A second CTI Manager can be used for resilience if required and available.

Note CTI Manager is a service that runs on each of the CUCM Nodes within a cluster. It is recommended that the primary CTI Manager points to the publisher CUCM and the backup on one of those subscriptions.

Step 9 Select the **Wave** tab (Figure B-6).

Step 10 Enter the number of desired **Voice Lines**. You must enter a value that will allow all of your CTI Ports being monitored by this TSP in this field. You may want to add a higher figure at this point for future expansion of ports.

Figure B-6 Displays the Wave Configuration for TAPI



Note By default Voice lines is set to 5. If when your installation is complete, your devices are not monitored, this should be the first place to check that the number set is sufficient to cover the CTI Ports required.

Note You will also need to uninstall and reinstall the Cisco TAPI Wave driver every time you change the Voice Lines figure.

Step 11 Click **OK**.

Step 12 Select **Advanced** tab.

Step 13 In the Provider Open Completed Timeout (secs) field enter 300.

Step 14 Click **OK**. Reboot the machine.

Note After completing the TSP configuration you will need to install the **Cisco TAPI Wave** driver.

Installing the Cisco TAPI Wave Driver

The following instructions are also in the Cisco TSP readme file located in **C:\Program Files\Cisco\ciscotsp.txt** and relate to installation on a Windows 2003 Server.

Step 1 From Control Panel execute the **Add Hardware** utility. Click the **Next** button.

Step 2 Select **Yes, I have already connected the hardware** Radio button. Click **Next**.

Step 3 Select **Add a new Hardware device** from the list. Click the **Next** button.

Step 4 Select **Install the hardware that I manually select from a list** radio button. Click the **Next** button.

Step 5 Select **Sound, video and game controller** when prompted for hardware type. Click the **Next** button.

Step 6 Click the **Have Disk** button when prompted to **Select a Device Driver**. Click the **Browse** button on the **Install from Disk** window. Browse to **C:\Program Files\Cisco\Wave Drivers** and select the file **OEMSETUP**.

Step 7 Click **Open** to install the Cisco Wave Driver and select **OK**.

Step 8 Highlight the **Cisco TAPI Wave Driver** in Select a Device Driver window and select **Next**. Select **Next** in **Start Hardware Installation** window.

Step 9 If Prompted for **Digital signature Not Found** click on **Continue Anyway** button.

When prompted for **Install from disk 1** for file **avaudio32.dll**, choose **Browse** button and select path **C:\Program Files\Cisco\Wave Drivers** and click **Open** to install the **avaudio32.dll**.

Step 10 You will be prompted to reboot the server. Do so.

Step 11 TAPI has now been successfully installed.

Uninstalling the Cisco TSP

If there is a requirement to uninstall the Cisco TSP then it is should be done using the instructions found in a file called ***ciscotsp.txt***. This file is created when the TSP is installed, and the default location is ***C:\Program Files\Cisco***

APPENDIX **C**

Creating the Attendant Application User for Cisco Unified Communications Manager 8.x

Note Earlier versions of Cisco Unified Enterprise Attendant Server used End User accounts. If upgrading from a previous version of the software it is important to confirm that the connection account is an Application Account.

An **Application User** is required within Cisco Unified Communications Manager to allow Cisco Unified Enterprise Attendant applications to communicate with Cisco Unified Communications Manager via TSP. This user is created in order to:

- Access AXL API
- All CTI related functionality

The application user profile that is created here is later used to connect to Cisco Unified Communications Manager through Cisco Unified Enterprise Attendant Admin. This application user profile provides you enough roles and privileges to modify or synchronize information. These roles have been explained in the following sections.

Creation of a user involves the following steps:

1. Setting up an **Application User**
2. Creating a User Group with the correct **roles** associated
3. Associating the **Application User** with the **User Group**.

These steps have been explained in detail in the following sections.

Note If using Active Directory to Synchronize with the Cisco Unified Communications Manager, the Application User profile must exist in AD.

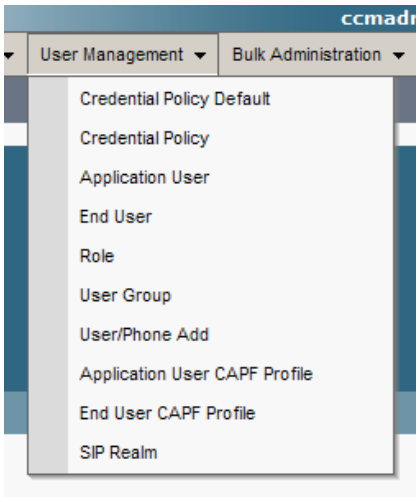
Setting Up an Application User

To set up a new Application User, perform the following steps:

Procedure

Step 1 From Cisco Unified Communications Manager Administration, Choose **User Management > Application User** (Figure C-1).

Figure C-1 Displays User Management Menu Option for Application User Configuration

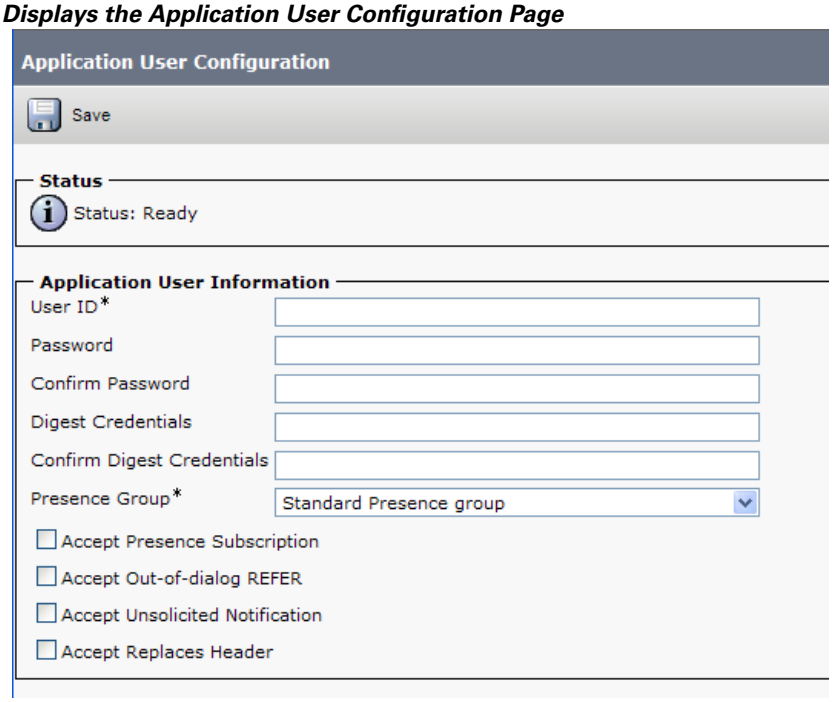


Step 2 Click the button to **Add New**, or click on the '**Add New**' button.

Step 3 Enter information in the following fields (Figure C-2). The fields marked with * are mandatory.

- User ID*
- Password
- Confirm Password
- Presence Group*

Figure C-2 Displays the Application User Configuration Page



Step 4 Click **Save** to save the settings for newly created user.

Creating a User Group

Once the Appication User is created, in order to associate it with a group, a new group must also be configured. The User Group will then have Roles assigned to it which govern what can be done using this profile.

To create a new User Group, perform the following steps:

Procedure

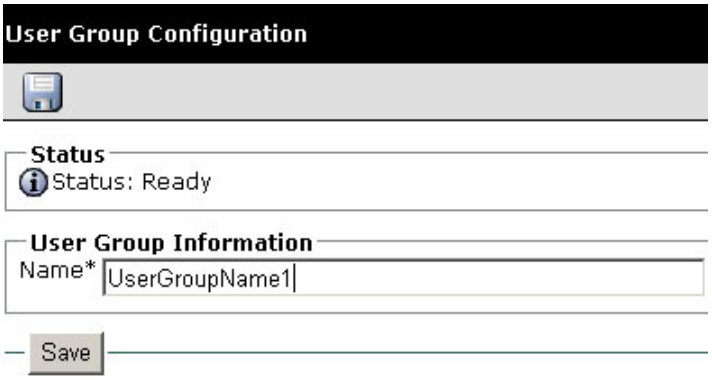
Step 1 Choose **User Management > User Groups.** (Figure C-3)

Figure C-3 Displays the Menu Option for User Group

Step 2 Click the button to **Add New**, or click on the '**Add New**'button.

Step 3 Enter **Name** for the new User Group (Figure C-4).

Figure C-4 Displays the User Group Configuration Page



Step 4 Click **Save** to save the settings for newly created User Group.

Assigning Roles and User to the User Group

To assign roles to the newly created User Group, perform the following steps:

Procedure

Step 1 Choose **Back To Find/List > Go or User Management > User Groups**.

Step 2 On **Find and List User Groups** page, search for the user group you created (Figure C-5).

Figure C-5 Displays the Field you may use to Search a User Group

Step 3 In the **Search Results**, click on the **Roles** link for the user group.

Step 4 Click **Assign Role to Group** to find and list roles for assignment.

Step 5 Select the roles that need to be assigned to this group. The following checkboxes must be selected,

- **Standard CTI Allow Call Park Monitoring**
- **Standard CTI Allow Calling Number Modification**
- **Standard CTI Allow Control of All Devices**
- **Standard CTI Allow Reception of SRTP Key Material**
- **Standard CTI Enabled**
- **Standard AXL API Access**

Note **Standard CTI Secure Connection** should ONLY be enabled if required, as it may affect the operation of the server that is not using CTI secure connections.

Note **Standard CTI Allow Control of Phones supporting Rollover Mode** and **Standard CTI Allow Control of Phones supporting Connected Xfer and conf** have to be enabled for use with environments using phone models 69xx, 7931, 7965, 89xx and 99xx. This is only available from Cisco Unified Communications Manager 7.1.2 onwards.

Note Select **Standard AXL API Access** to use the scalable BLF functionality.

Step 6 Click **Add Selected** to assign roles.

Step 7 Click **Save**.

To add the Application User to the User Group, perform the following steps:

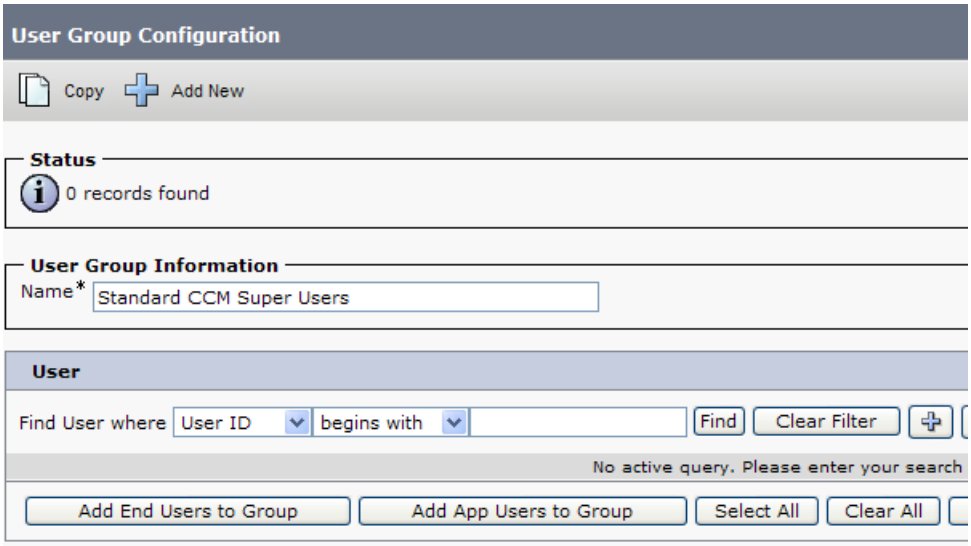
Procedure

Step 1 Choose **User Management > User Groups**.

Step 2 Click the newly created User Group.

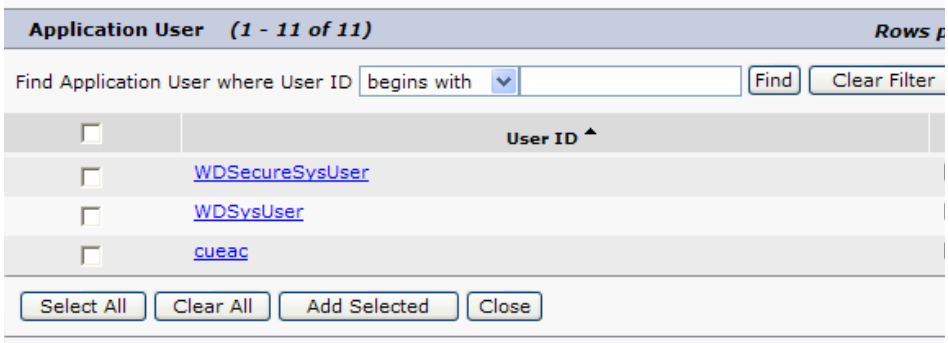
Step 3 Click **Add Application Users to Group** to find and list the users (Figure C-6).

Figure C-6 Displays the User Group Configuration Page



Step 4 Select the newly created Application User from the list and click **Add Selected** to successfully add the user to the group (Figure C-7).

Figure C-7 Displays the Search Field you may use to Search for a User ID



Adding the Application User to CCM Super Users group

The standard CCM Super Users user group represents a named user group that always has full access permission to all named roles. You cannot delete this user group. You can only make additions and deletions of users to this group.

After you have added the user to the newly created group, you must also add this user to the Standard CCM Super User group.

To add the user to Standard CCM Super User, perform the following steps:

Procedure

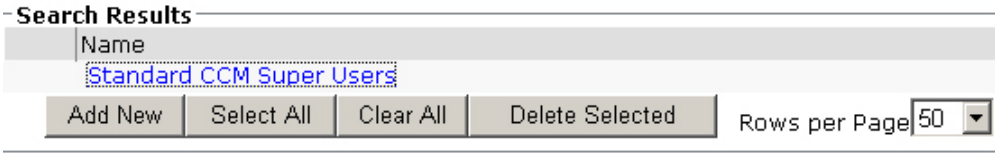
Step 1 Choose **User Management > User Groups**.

Step 2 Find **Standard CCM Super User** using the search field (Figure C-8).

Figure C-8 Displays the Search Option you may use to Find and List User Group

Step 3 In the Search Results, Click **Standard CCM Super Users** (Figure C-9) **.**

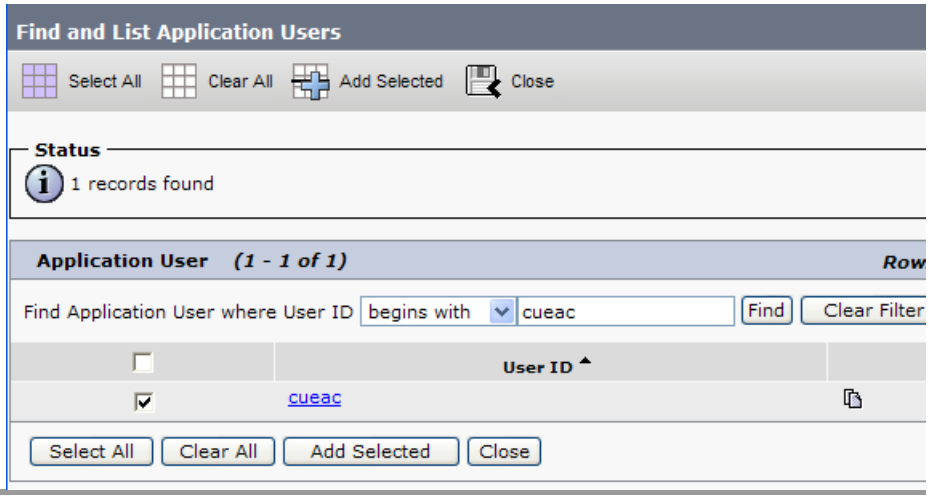
Figure C-9 Displays the Search Result for the User Group



Step 4 Click **Add App Users to Group** to find and list the users.

Step 5 Select the newly created Application User from the list and click **Add Selected** to successfully add the user to this group (Figure C-10).

Figure C-10 Displays the Selected Search Result that is to be Added to the User Group



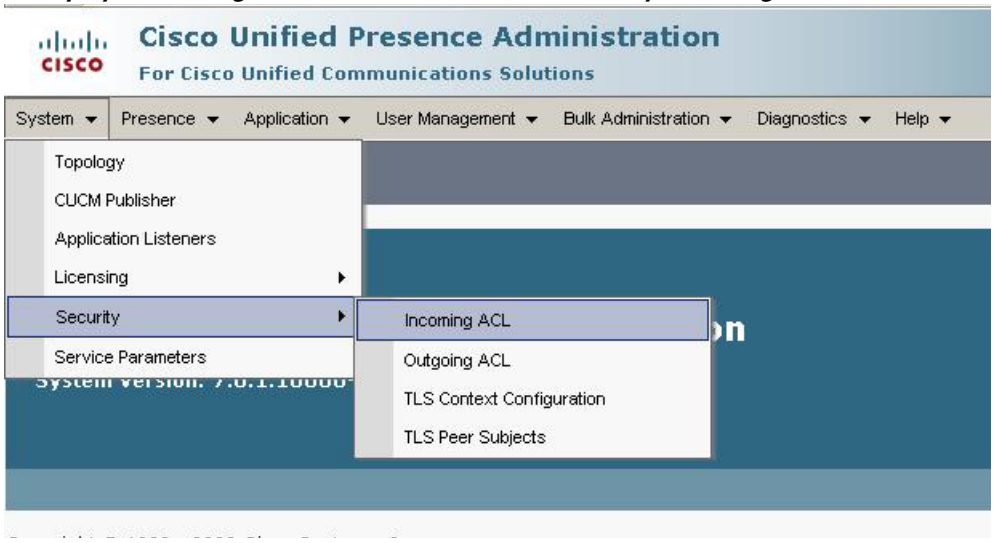
Configuring Access for the Cisco Unified Attendant CUPS Plug-In

It is important that the Cisco Unified Enterprise Attendant Server Address is added to the firewall information on the CUPs Server, perform the following steps:

Procedure

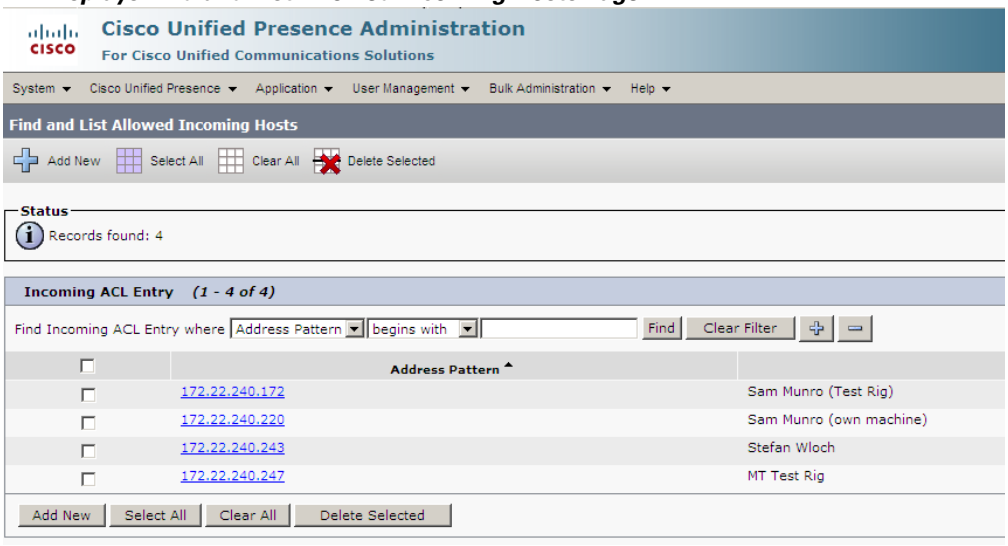
Step 1 To do this go to Cisco Unified Presence menu, and select **System > Security** and **Incoming ACL** (Access Control List) (Figure C-11)

Figure C-11 Displays Accessing the Cisco Unified Presence Security, Incoming ACL Menu.



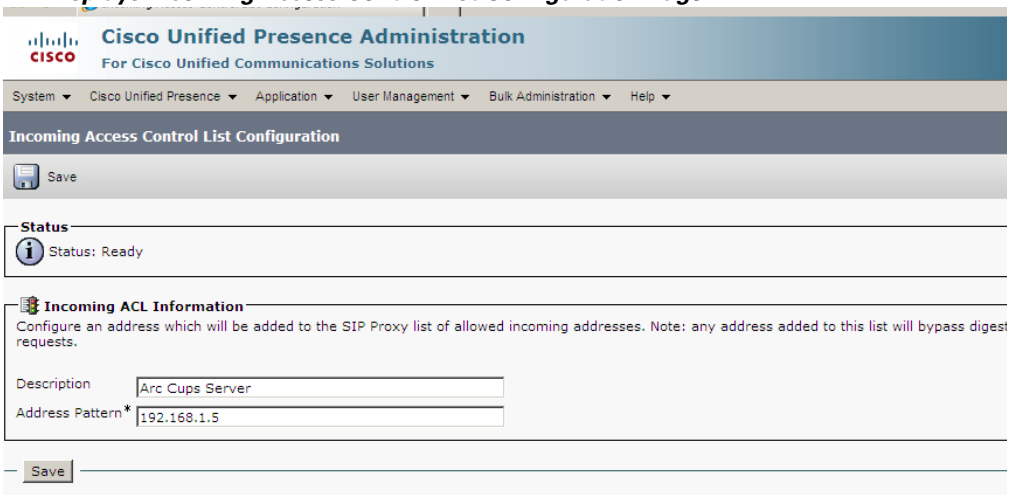
The page **Find and List Allowed Incoming Hosts** will be displayed (Figure C-12).

Figure C-12 Displays Find and List Allowed Incoming Hosts Page



Step 2 Click on **Add New** and enter the **Description** and **Address Pattern** (Figure C-13).

Figure C-13 Displays Incoming Access Control List Configuration Page



Step 3 Click on **Save**.

Step 4 Confirm the address and description have been added.

APPENDIX **D**

TAPI Configuration for CUCM 8.x

Note If you upgrade your Cisco Unified Communication Manager, you will have to uninstall the previous TSP, and install the TSP that is current to the new version of Cisco Unified Communication Manager. Both of these processes are covered in this Appendix.

The Cisco Telephony Service Provider (TSP) is installed and configured automatically on the machine that will run the Cisco Unified Enterprise Attendant Server during the installation process when connected to Cisco Unified Communications Manager 8.0. This allows the Server to communicate with Cisco Unified Communications Manager CTI Manager service to allow call control on all devices associated to the Application User profile created for the Server.

There may be occasions when there is a requirement to install and configure the TAPI TSP manually, and the following section will outline this process.

Manually Installing the TAPI TSP

Note This process is only required if you need to manually install the Cisco TAPI TSP, normally this process is automated and happens during the installation of the Cisco Unified Enterprise Attendant Server.

To install the Cisco TSP you must follow the steps mentioned below.

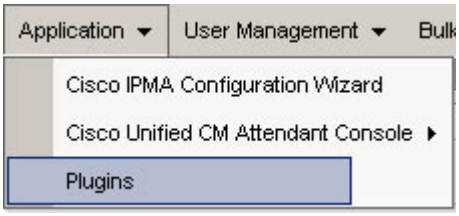
The installation of the Cisco Unified Enterprise Attendant Console will download the TSP installation file to the Desktop of the server machine.

To manually download the Cisco TSP, perform the following steps:

Procedure

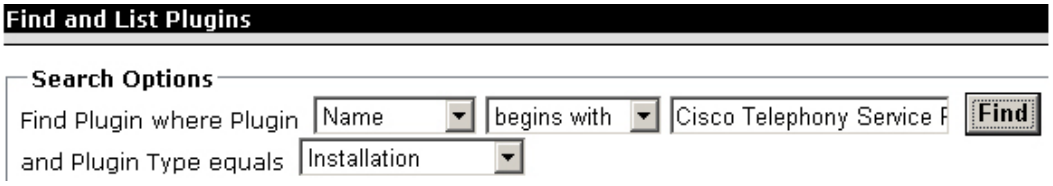
Step 1 On the Server machine browse to Cisco Unified Communications Manager Administration. Select **Application > Plugins**. (Figure D-1)

Figure D-1 Displays the Menu Option for Plugins



Step 2 Find Cisco Telephony Service Provider using the search field (Figure D-2).

Figure D-2 Displays the Search Option to Find and List the Required Plugin



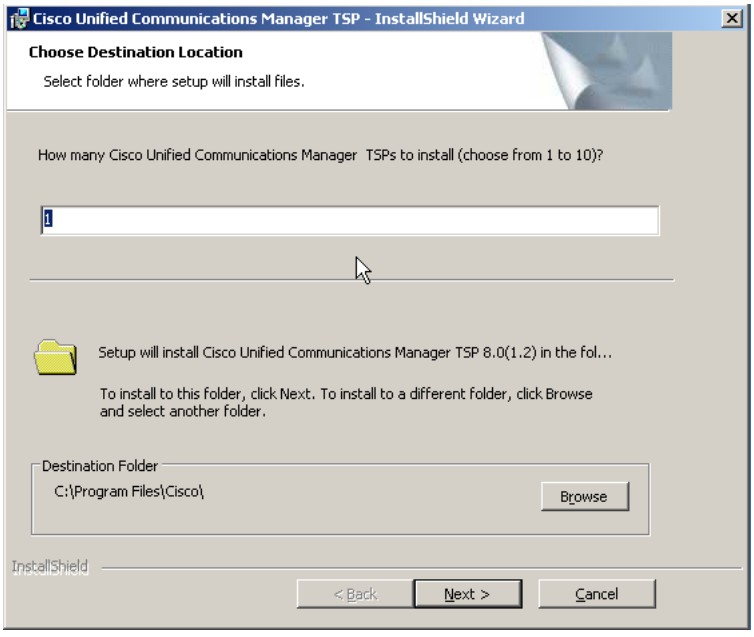
Step 3 In the Search Results, click Download on the Cisco Telephony Service Provider line.

Step 4 Save **CiscoTSP.exe** on your desktop.

Step 5 Double Click the **CiscoTSP.exe** icon on the desktop and follow the on screen instructions to complete the install.

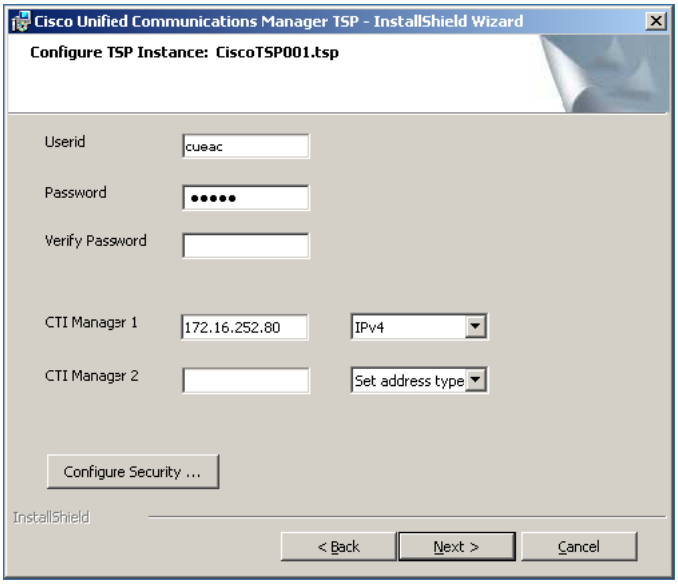
Step 6 During the installation, you will be asked if you want to install multiple instances of TSP (Figure D-3). Click **No**. You can also select the Destination Folder to install the TSP.

Figure D-3 Displays the Message Box Confirming whether Multiple Instances for TSP are to be Installed or Not



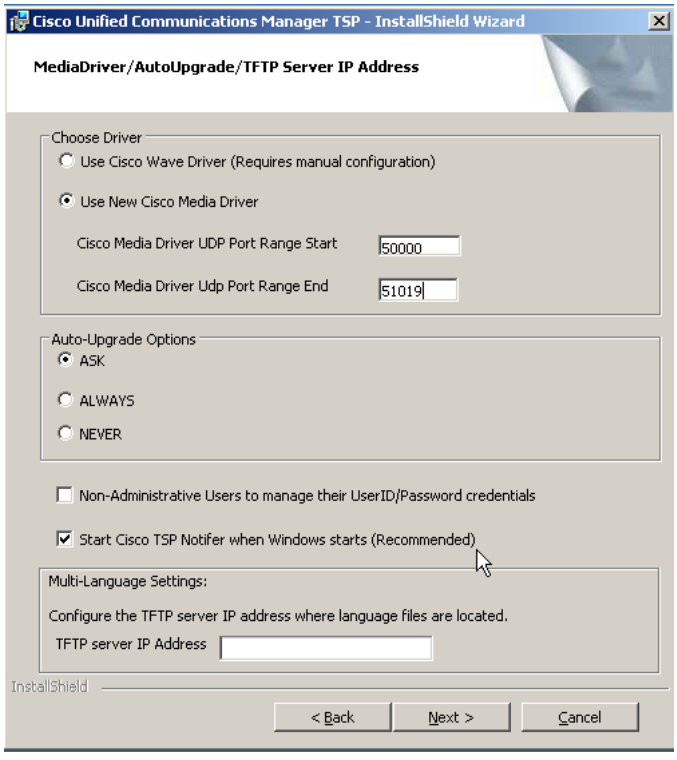
Step 7 Enter the Application User ID of the user that was created for the Communications Manager and Password (including verifying the Password) required. Enter the IP Address of the CTI Manager.Click on **Next.**

Figure D-4 Displays the User ID, Password and CTI Manager Location



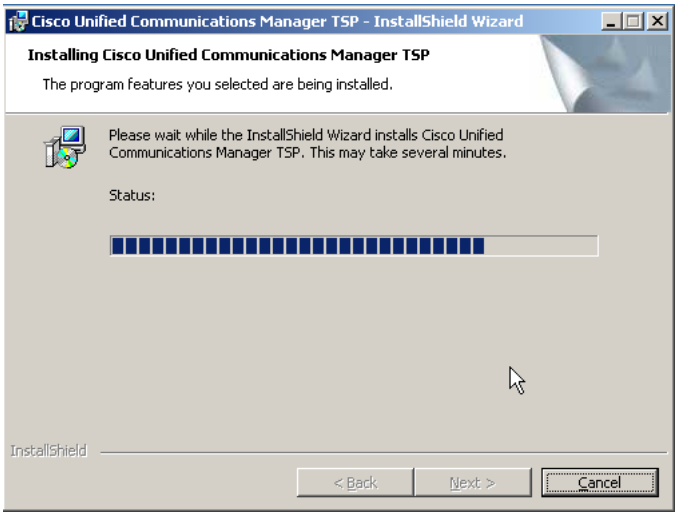
Step 8 Select **Use New Cisco Media Driver** and enter the ports ***50000*** to ***51019***. Click on **Next.**

Figure D-5 Displays the Cisco Media Driver Port Range



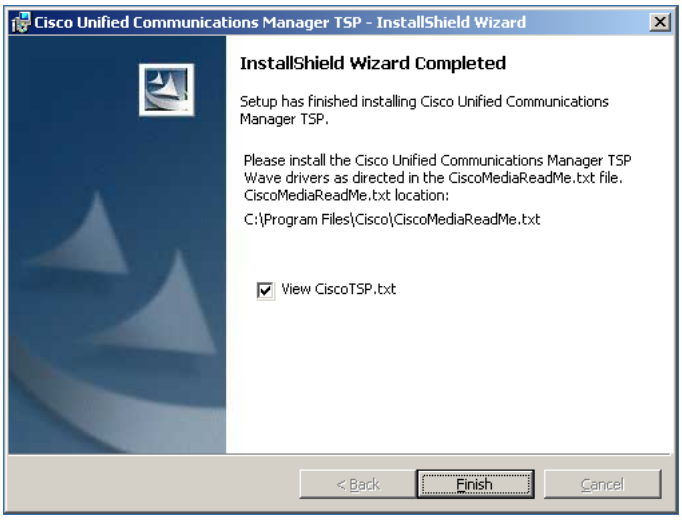
Step 9 A window will display the progress of the installation.

Figure D-6 A Window Displays the Progress of the Installation



Step 10 The Installation is complete, click on **Finish** to complete.

Figure D-7 Confirmation that the Installation is complete



Step 11 After a successful installation the setup will prompt you to restart the system. You must restart the machine for the changes to take effect

Manually Configuring the TAPI TSP

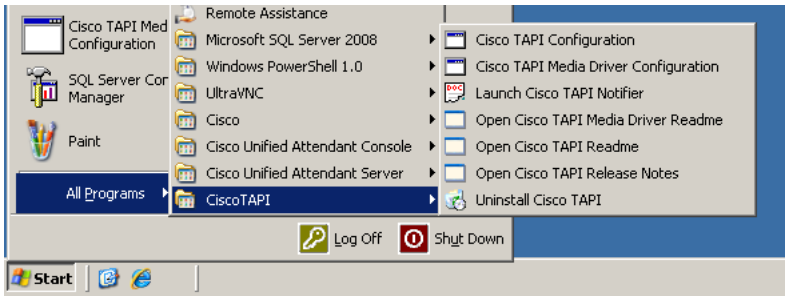
Note This process is only required if you need to manually configure the Cisco TAPI TSP, normally this process is automated and happens during the installation of the Cisco Unified Enterprise Attendant Server.

To configure TSP, perform the following steps:

Procedure

Step 1 Access to configuring the TSP has been simplified with CUCM 8.0. Go to **Start > All Programs > Cisco TSP > Cisco TAPI Configuration**

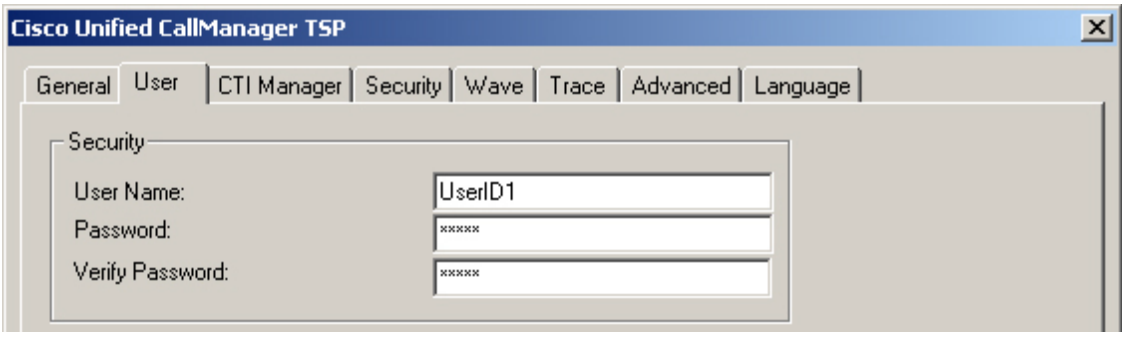
Figure D-8 Accessing Cisco TAPI Configuration via the Start > All Programs menu.



Alternatively you can configue it by going through **Start > Settings > Control Panel > Phone and Modem Options.** Select **Advanced** tab, Select **CiscoTSP001.tsp** and click **Configure**, and select the **User** tab (Figure D-9).

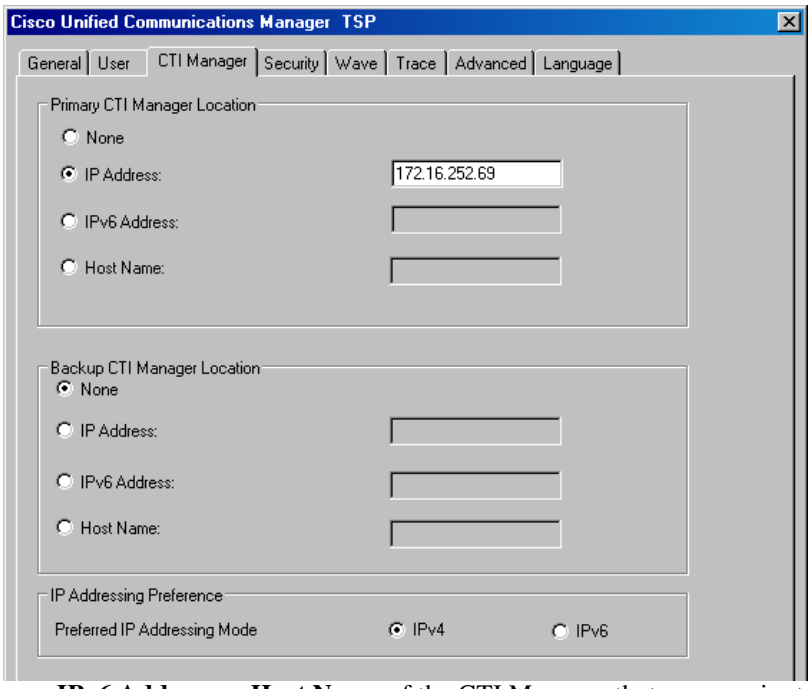
Step 2 Enter the Application User ID of the user that was created for the Communications Manager earlier in the **User Name** field. Enter the password of the user in the **Password** field, and verify the **Password**.

Figure D-9 Displays the Application User ID Information to be Entered in the Fields



Step 3 Select the **CTI Manager** tab (Figure D-10),

Figure D-10 Displays the CTI Manager Information to be Entered for the TAPI Configuration



Step 4 Enter the **IP Address, IPv6 Address** or **Host Name** of the CTI Manager that you require to obtain your TAPI information from. A Backup CTI Manager can be used for resilience if required and available.

Note CTI Manager is a service that runs on each of the CUCM Nodes within a cluster. It is recommended that the primary CTI Manager points to the publisher CUCM and the backup on one of those subscriptions.

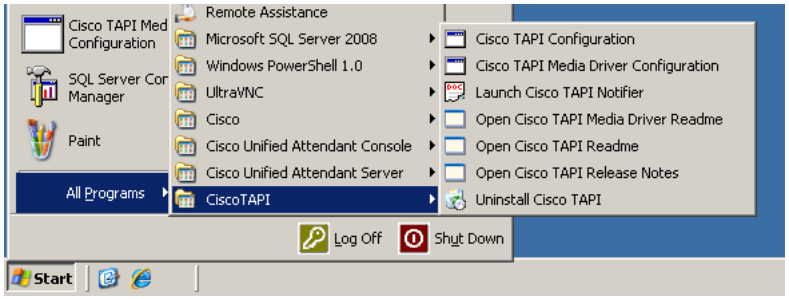
Manually Configuring TAPI Media Driver

Note This process is only required if you need to manually configure the Cisco TAPI Media Driver, normally this process is automated and happens during the installation of the Cisco Unified Enterprise Attendant Server.

Procedure

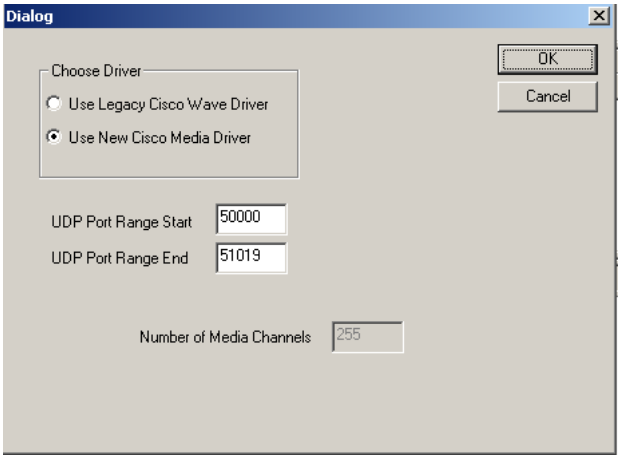
Step 1 Access to configuring the TSP Media Driver has been simplified with CUCM 8.0. Go to **Start > All Programs > Cisco TSP > Cisco TAPI Media Driver Configuration**

Figure D-11 Accessing Cisco TAPI Configuration via the Start > All Programs menu.



Step 2 On the Driver screen, select **Use New Cisco Media Driver** and enter the ports ***50000*** to ***51019***. Click on **OK** to complete the configuration.(Figure D-12). Reboot the machine to complete the configuration.

Figure D-12 Displays the Wave Configuration for TAPI



Uninstalling the Cisco TSP

If there is a requirement to uninstall the Cisco TSP then it is should be done using the instructions found in a file called ***ciscotsp.txt***. This file is created when the TSP is installed, and the default location is ***C:\Program Files\Cisco***

APPENDIX **E**

Downloading, Updating and Registering Software

The following Appendix outlines the process of downloading, updating and licensing the Cisco Unified Enterprise Attendant Applications. This is done via the Solutions + website.

Updating From an Earlier Version of Cisco Unified Enterprise Attendant Applications

The Cisco Unified Enterprise Attendant Console Applications are designed in such a way that to upgrade from an earlier version of the software, you simply run the installation processes as outlined in Chapter 4 of this manual.

As with any software upgrade, it is worth taking a backup prior to the install, incase there is a failure of any sort. In the case of the Cisco Unified Enterprise Attendant Console Applications it is recommended that you back up the Cisco Folder, backup of DBs and within the Registry the backup of Arc Solutions folder.

Note During the upgrade/installation process (Step 11) there is an option to retain the existing configuration, or create a brand new one.

Accessing the Solutions + Website

To download or register a version of the Cisco Unified Enterprise Administration Console you will need to have a valid account on the Solutions + Website.

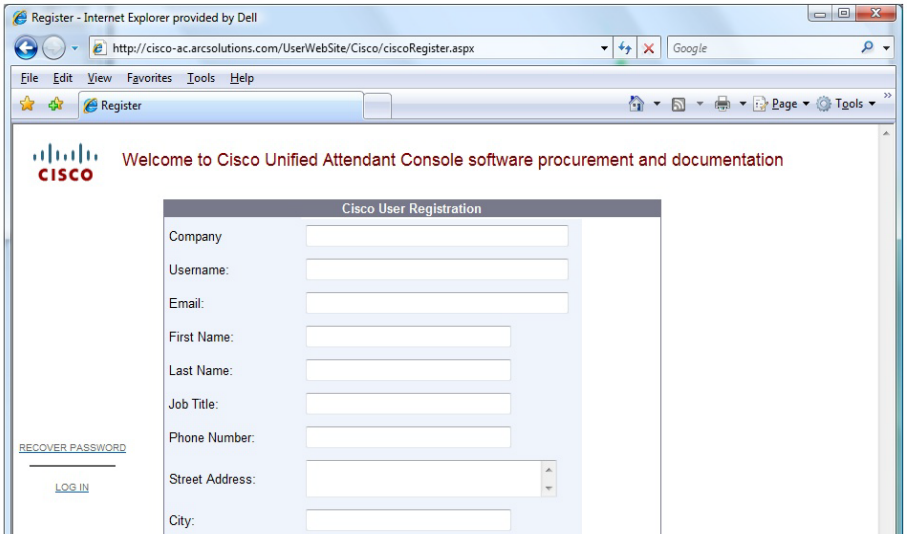
Go the website http://www.cisco.com/go/ac, and perform the following steps:

Procedure

Note The User Name and Password are NOT your CCO (Cisco Connection Online) ID and Password!

Step 1 Enter your **User Name** and **Password** to **Log In** to the web site (Figure E-1).

Figure E-1 Solutions + Log In Screen

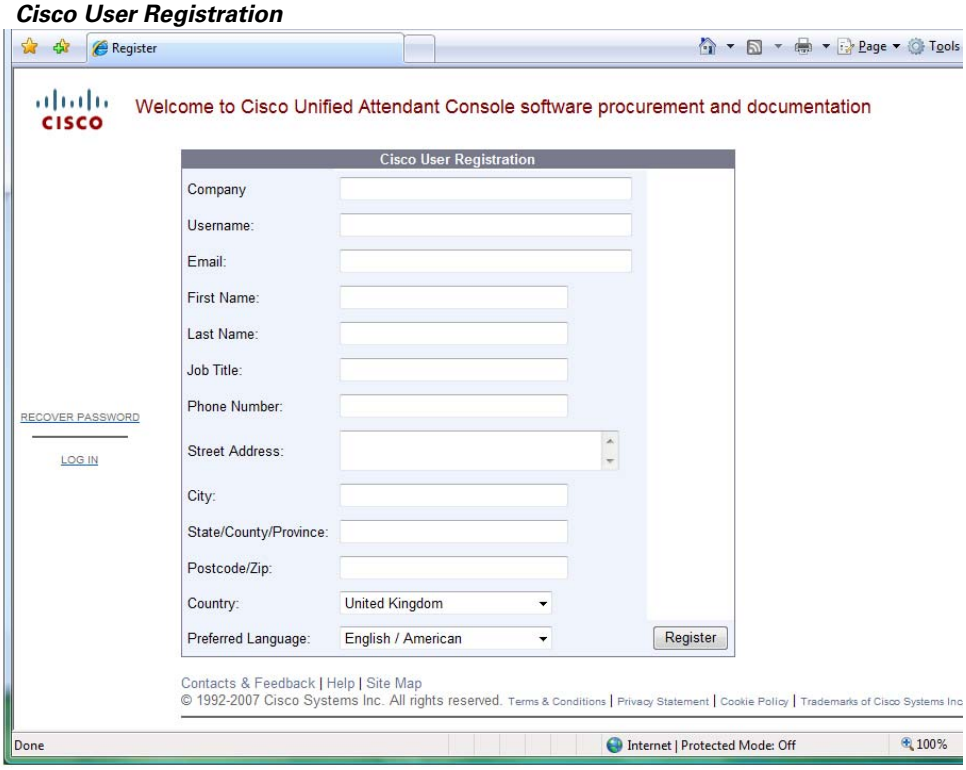


Creating an Account

To create an account you will have to click on the link to **Register your details**. This will take you through a series of questions.

When these questions have been answered, click on **Register** to complete. (Figure E-2)

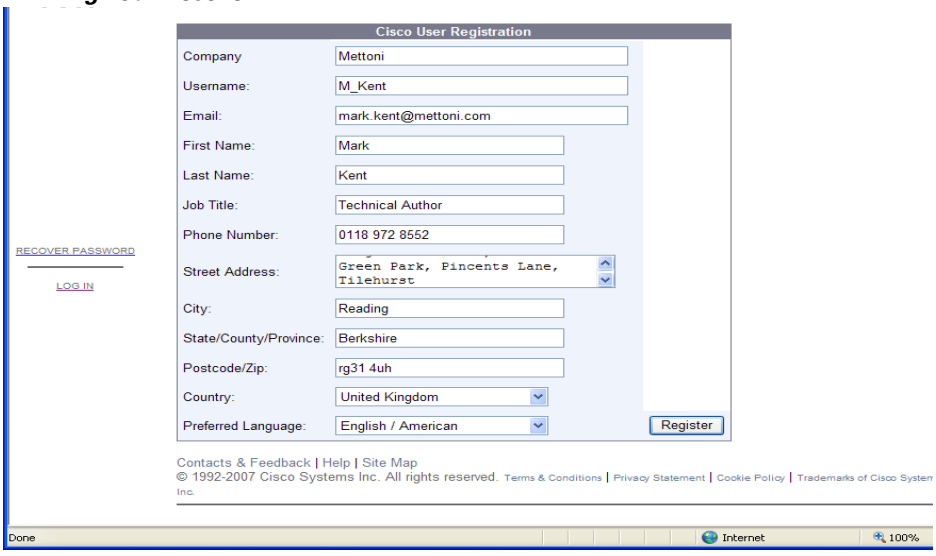
Figure E-2 *Cisco User Registration*



After you have clicked on **Register** you will be prompted to confirm your **Reseller** from a drop down selection. Alternatively if your Reseller is not in the drop down selection you can **Add New Reseller**.

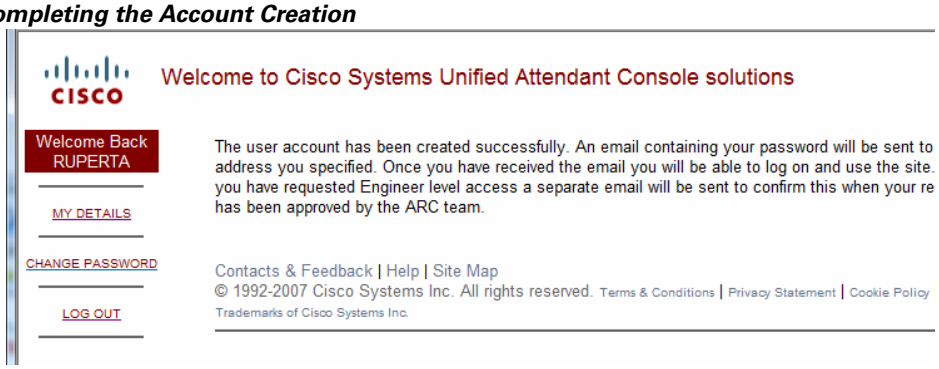
Click on **Save** to complete the registration of this account(Figure E-3).

Figure E-3 *Confirming Your Reseller*



A confirmation screen will appear and you will then be sent an email containing your password which will enable you to access the website (Figure E-4).

Figure E-4 Completing the Account Creation

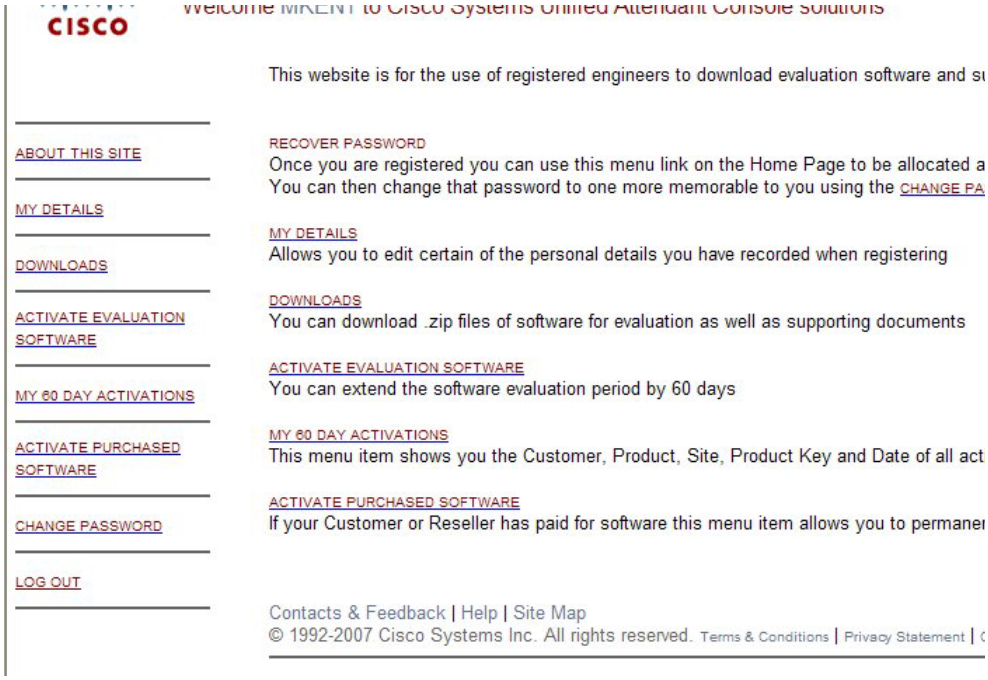


Logging into the Site

When you log into the account, the initial Welcome screen provides the following options (Figure E-5):

- **About this Site** — Is a link back to this Welcome page when you are in other screens.
- **My Details** — Selecting this will display a page with the information that was requested when you registered the account.
- **Downloads** — Selecting this will display a page with the facility to download the software and other supporting documentation if required.
- **Activate Evaluation Software** — After the inital 5 days the software requires registration. This Evaluation license lasts for 60 days.
- **My 60 Day Evaluations** — Displays all information related to activated software including Customer Name, Product, Site, Product Key and Date.
- **Activate Purchased Software** — Selecting this will provide a screen where you are required to enter the registration details to confirm the purchase and activate the full product license.

Figure E-5 *Welcome Screen*



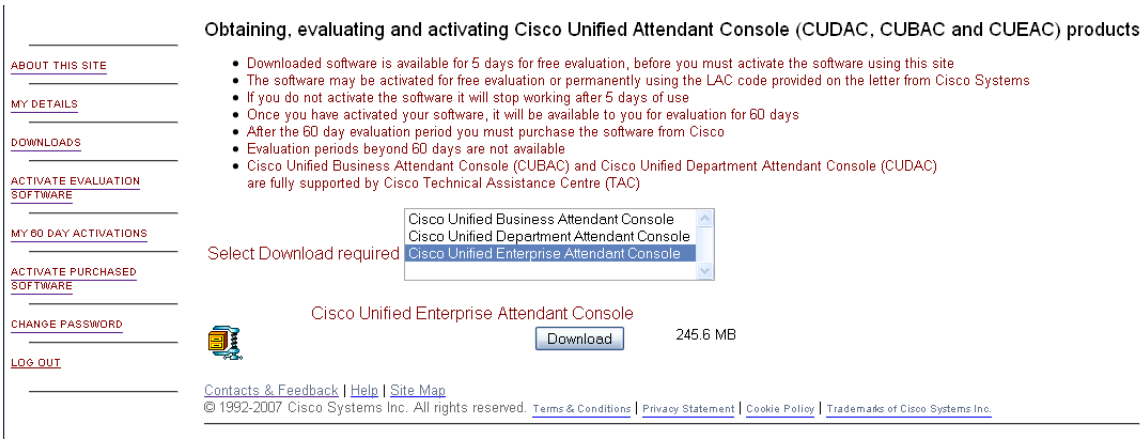
My Details

My details screen provides a summary of the information that was entered when the account was registered. There is facility to **Edit** the **User Details**, but the **User Name** and **Email Address** is read only.

Downloads

Selecting **Downloads** from the right hand menu will present you with information regarding the available downloads, and any criteria or constraints that may impact on the use of the software (Figure E-6).

Figure E-6 Download Screen

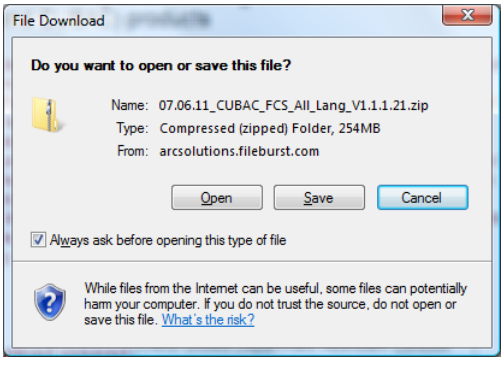


When the software required is selected the screen will display the file format and the size of the download.

Click on **Download** to continue.

You will be prompted to **Open** or **Save** the Download (Figure E-7). Saving the file to a local area is recommended

Figure E-7 File Download prompt to either Open or Save



Note The download for Cisco Unified Enterprise Attendant Console is around 500mb. The contents include SQL database, explorer, installs, languages and the software.

When the software has been downloaded, continue with the installation process described in Section 4 Installation Checklist and Procedure for Cisco Unified Enterprise Attendant Admin of this manual.

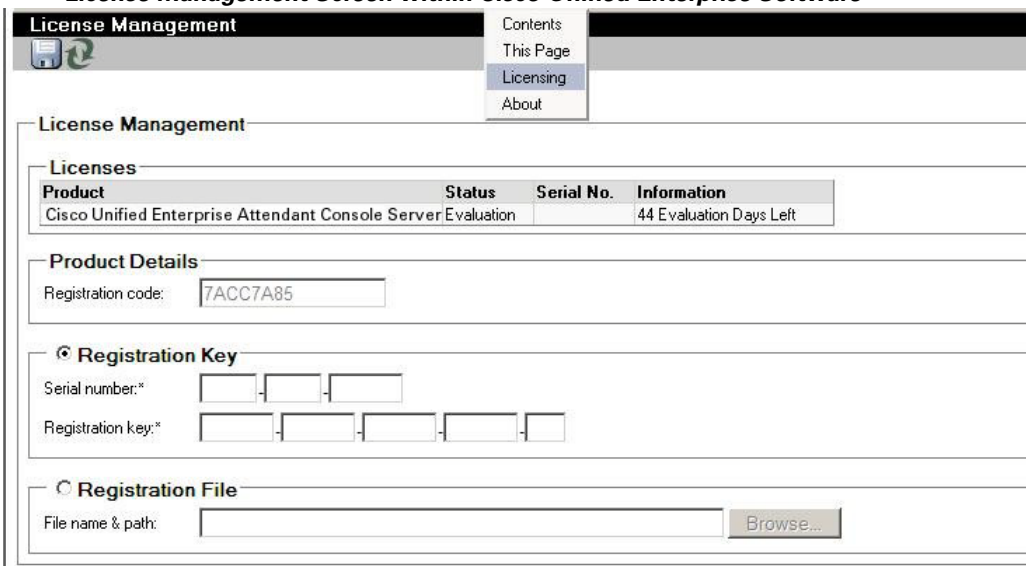
To Activate the 60 Day Evaluation Software

Initially the download can be used for 5 days. After that period the software must be registered with Cisco to extend it to a 60 day evaluation copy.

You will require:

- To enter the **Reseller, Customer** and **Site** Details. This is done via a drill down method across three screens.
- Registration code from an installed Cisco Unified Enterprise Attendant Console software. This information is obtained from the **Help** menu within Cisco Unified Enterprise Attendant Console Web Admin. Figure E-8 shows the License Management screen.

Figure E-8 License Management Screen within Cisco Unified Enterprise Software



Log into the account, and select **Activate Evaluation Software**. You will be prompted to select your **Reseller** (Figure E-9).

Note If your Reseller is not available there is facility to **Add a Reseller**.

Figure E-9 60 Day Software Activation - Selecting a Reseller

When you have completed the **Reseller, Customer** and **Site Details** you will be prompted to enter the **Product Key** from installed Cisco Unified Enterprise Attendant Console software. This information is obtained from the **Help> Licensing** menu within the Cisco Unified Enterprise Attendant Console Web Admin.

Note Within the Cisco Unified Enterprise Attendant Console Web Admin the Product Key is refered to as Registration Code within the **Help>Licensing** menu.

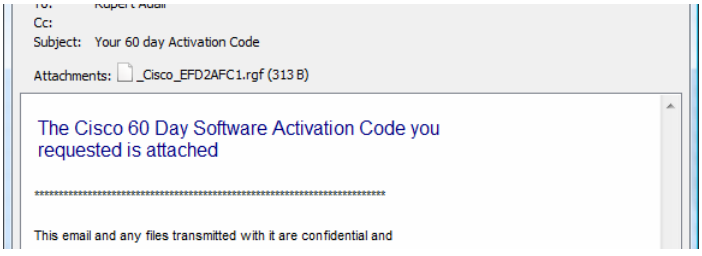
Figure E-10 60 Day Software Activation - Software Activation (Product Key)

Select the **Product** that you have installed (Figure E-10).

When you click **Next**, an Activation Code will be emailed out to the registered email address, and a confirmation screen will confirm this. Figure E-11shows the Activation Confirmation screen and Figure E-12 shows an example of the email that is sent.

Figure E-11 60 Day Software Activation - Confirmation Screen

Figure E-12 The Confirmation Email with the Activation Code



Save the Activation code to a location where it can be browsed to from the Cisco Unified Enterprise Attendant Console Web Admin server.

Return to the Cisco Unified Enterprise Attendant Console Web Admin Server and bring up the License Management screen (**Help > Licensing**) (Figure E-13).

Figure E-13 License Management Screen

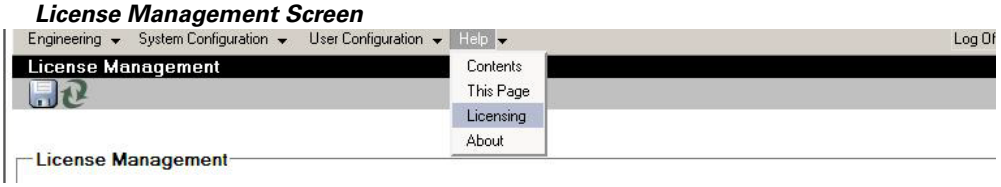
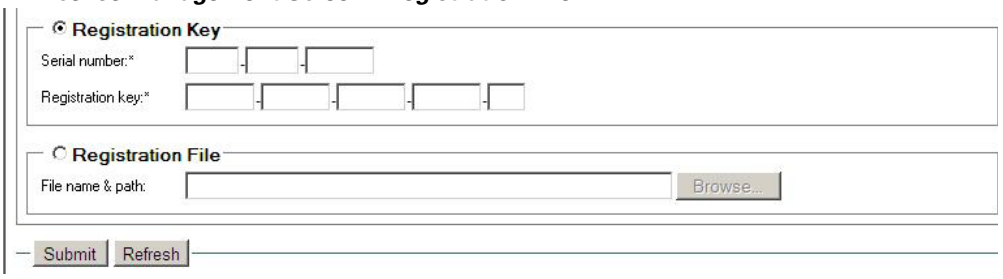


Figure E-14 License Management Screen - Registration File



Use **Browse** to locate the Registration File (Figure E-14). When the file has been found, Click on **Save** to complete the process

Note After Applying the License the services should be stopped and restarted.

Note The Registration Key section is not usually required. Its inclusion on this page is to cater for existing customers that do not have physical access to the server and are required to enter the registration numbers manually.

This is done by opening the Registration file with Notepad and entering the two respective codes into the **Serial Number** and **Registration Key**.

Activate Purchased Software

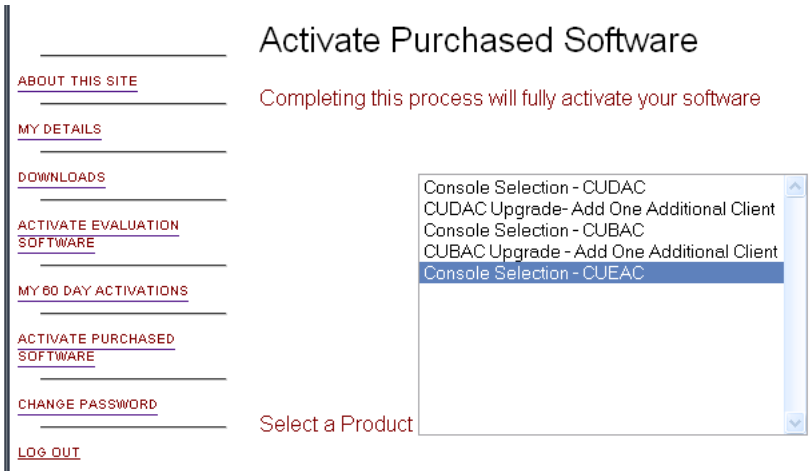
The Activation of the purchased software is done in a similar way to the 60 evaluation except there are several considerations to be made:

- This activation is permanent and you can not revert back to a trial version.
- It can be completed at any point within either the 5 day free evaluation, or the 60 day activated evaluation period.
- Requires 27 digit LAC (entitlement code) provided by Cisco on purchase of software.

Note ONE LAC per system, regardless of number of client licenses ordered

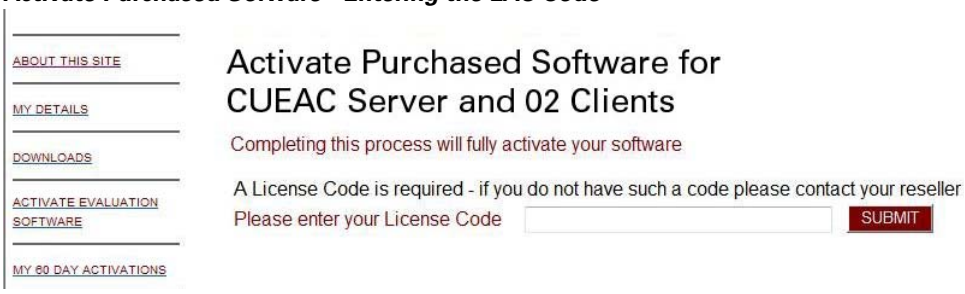
Log into the account, and select **Activate Purchased Software**. You will be prompted to select your **Reseller, Customer** and **Site Details** you will be prompted to select the version of software (Figure E-15)and LAC number that you are activating (Figure E-16).

Figure E-15 Activate Purchased Software



The License Code (LAC) is obtained from the reseller when the product is purchased.

Figure E-16 Activate Purchased Sofware - Entering the LAC Code



When you click **Submit,** another screen will appear and you will be prompted to enter the **Product Key** (**Figure E-18**). This information is obtained from the **Help>Licensing** menu within the Cisco Unified Enterprise Attendant Console Web Admin (Figure E-17).

Note Within the Cisco Unified Enterprise Attendant Console Web Admin the Product Key is refered to as Registration Code within the **Help>Licensing** menu.

Figure E-17 License Management Screen within Cisco Unified Enterprise Attendant Console Software

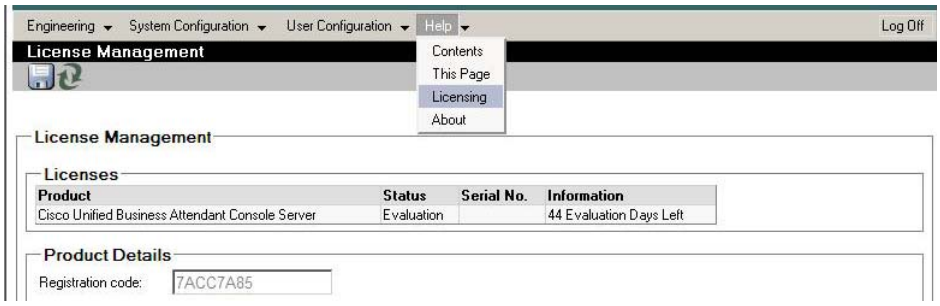
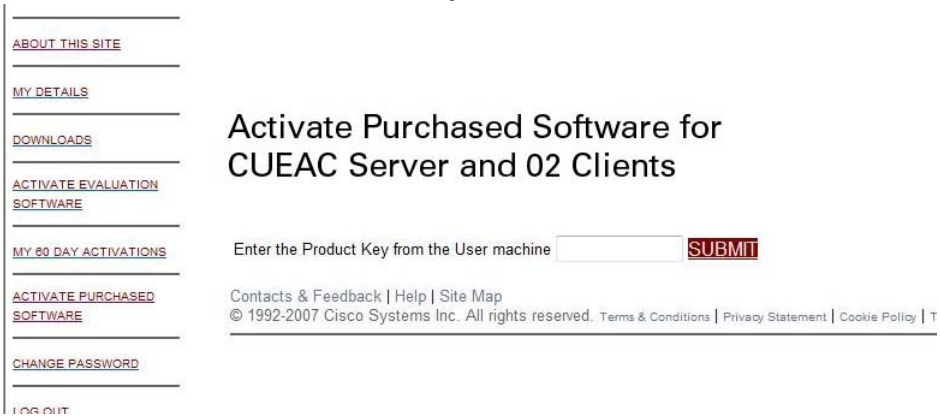


Figure E-18 Activate Purchased Software - Product Key



When you click **Submit**. The Activation Code will be emailed out to the registered email address, and a confirmation screen will confirm this. Figure E-19shows the Activation Confirmation screen and Figure E-20 shows an example of the email that is sent.

Figure E-19 Software Activation - Confirmation Screen

Figure E-20 The Confirmation Email with the Activation Code

Save the Activation code to a location where it can be browsed to from the Cisco Unified Enterprise Attendant Console Web Admin server.

Return to the Cisco Unified Enterprise Attendant Console Web Admin Server and bring up the License Management screen (**Help > Licensing**) (Figure E-21).

Figure E-21 License Management Screen

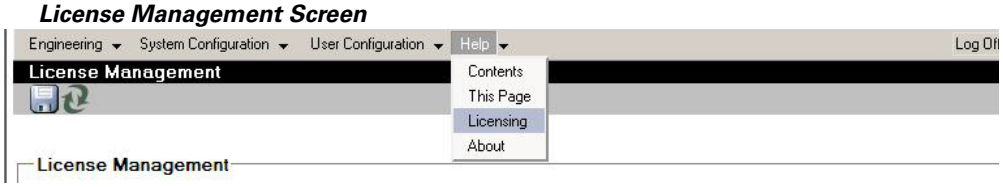
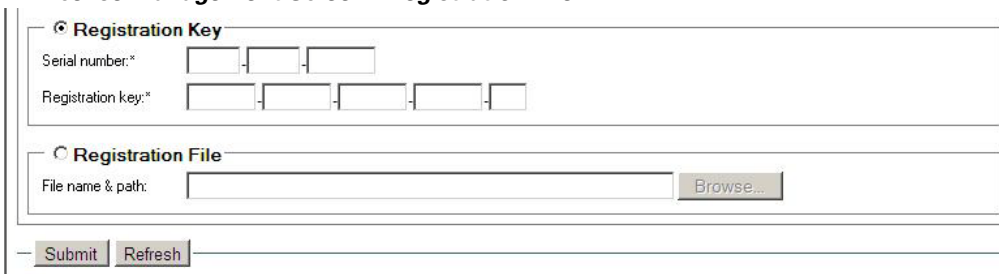


Figure E-22 License Management Screen - Registration File



Use **Browse** to locate the Registration File. When the file has been found, Click on **Save** to complete the process.

Note After Applying the License the services must be stopped and restarted.

Note The **Registration Key** section is not usually required. Its inclusion on this page is to cater for existing customers that do not have physical access to the server and are required to enter the registration numbers manually.

This is done by opening the Registration file with Notepad and entering the two respective codes into the **Serial Number** and **Registration Key**.

Relicensing the software

There are certain instances when changes to the server environment can result in a requirement to relicense the software. The following scenarios will result in a different Registration Code being displayed:-

- Reinstallation of the Operating System (but with the same hardware),
- Installing a different Operating System (but with the same hardware),
- Adding or removing certain new hardware (eg. NIC card) could impact on the Registration Code,
- Installing on different hardware,
- Installing a different Operating System and hardware,

Within a VM Environment:-

- Copying VM Image (Will Change)

This will result in the license showing as expired, and the Cisco Unified Enterprise Attendant Console Web Admin server will show restricted menus (Engineering and Help option will be available, System and User Configuration will not be displayed.

To resolve this the software will need to be relicensed using the new Registration Code. See Appendix E, "License Management Screen within Cisco Unified Business/Department Software"

Glossary

AXL API	The AVVID XML Layer (AXL) Application Programming Interface (API) provides a mechanism for inserting, retrieving, updating, and removing data from the database using an eXtensible Markup Language (XML) Simple Object Access Protocol (SOAP) interface. This allows a programmer to access Cisco Unified Communications Manager data using XML and receive the data in XML form, instead of using a binary library or DLL.
Call Parking Devices	Virtual devices where calls can be held temporarily and picked from any other call centre extension.
CMC	Client Matter Code (CMC) is used to provide extra call logging facilities within the Communications Manager. This is used to log calls from different destinations. The user has to enter their CMC Code before their external consult transfer can proceed. The call detail records are updated with the CMC code along with the call information. This can then be used later on to charge calls to different cost centres.
CTI Port	The Computer Telephony Integration (CTI) port is actually a virtual device that allows you to create a virtual line. A CTI port must be added for each active voice line intended to be used on a Cisco IP SoftPhone.
CTI Route Point	A computer telephony integration (CTI) route point designates a virtual device that can receive multiple, simultaneous calls for application-controlled redirection.
CUPs	Cisco Unified Presence is a standards-based platform that collects information about a user's availability and communications capabilities to provide unified user presence status and facilitate presence-enabled communications for Cisco Unified Communications and critical business applications.

FAC	Forced Authorization Code (FAC) is used to provide security in the Communications Manager for dialling "Route Patterns". Traditionally, this is used to block calls to external numbers. For example, often in call centres, only some callers are allowed to make external consult transfers to certain numbers. In order to enforce security, these callers are provided with a Forced Authorization Code. The concept of FAC is that if the user makes such an external call transfer that is protected by a FAC, the user must enter the FAC before the call can continue. If an incorrect FAC is entered, or if no FAC is entered, the call fails.
Night Service	This facility allows you to take the queue out of operation at certain times of the day. During this time, calls are routed to some other destination. For example, if you close down the 'Accounts service' queue every day at 7pm, beyond that time calls can be routed to a destination - device or another queue.
SSL	Short for Secure Sockets Layer, a protocol used for transmitting private data through the Internet.

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