Cisco Unified Business/Department Attendant Consoles Web Admin / Installation Guide
Version 2.0.1.14
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Preface

The following manual relates to the installation and utilisation of the Cisco Unified Business Attendant Console (CUBAC) and Cisco Unified Department Attendant Console (CUDAC) software product ranges. To make the document easier to read the name of the product ranges have been abridged to Cisco Unified Attendant throughout this document.

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

Cisco Unified 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 user guide is to provide information on Cisco Unified Attendant Console configuration.

Who Should Read this Guide

The document is intended for,

1. Those involved in the training of Cisco Unified Attendant Admin
2. 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

The user guide is split into six main sections. These sections explain the functionality in a way that the users can easily get familiar with Cisco Unified Attendant Admin, perform different actions and customize it. The following table provides the organization of this guide,

<table>
<thead>
<tr>
<th>Table 1: describes the sections of the user guide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part</strong></td>
</tr>
<tr>
<td>Important Information</td>
</tr>
<tr>
<td>Product Overview</td>
</tr>
<tr>
<td>Installation Checklist</td>
</tr>
<tr>
<td>Cisco Unified Attendant Admin</td>
</tr>
<tr>
<td>Uninstall Attendant EnterpriseAdmin</td>
</tr>
</tbody>
</table>

Conventions

This document uses the following conventions.

<table>
<thead>
<tr>
<th>Table 2: explains the writing convention used in the user guide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Convention</strong></td>
</tr>
<tr>
<td><strong>boldface</strong> font</td>
</tr>
<tr>
<td><strong>italic</strong> font</td>
</tr>
<tr>
<td>[ ]</td>
</tr>
<tr>
<td>{ x</td>
</tr>
<tr>
<td>[ x</td>
</tr>
<tr>
<td><strong>String</strong></td>
</tr>
<tr>
<td><strong>screen</strong> font</td>
</tr>
</tbody>
</table>
Table 2: explains the writing convention used in the user guide

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boldface screen font</td>
<td>Information you must enter is in boldface screen font.</td>
</tr>
<tr>
<td>italic screen font</td>
<td>Arguments for which you must supply values are in italic screen font.</td>
</tr>
<tr>
<td>→</td>
<td>This pointer highlights an important line of text in an example.</td>
</tr>
<tr>
<td>^</td>
<td>The symbol ^ represents the key labeled Control-for example, the key combination ^D in a screen display means you hold down the Control key while you press the D key.</td>
</tr>
<tr>
<td>&lt; &gt;</td>
<td>Nonprinting characters, such as passwords, are in angle brackets.</td>
</tr>
</tbody>
</table>

Notes use the following conventions:

Note

Means reader take note. Notes contain helpful suggestions or references to material not covered in the publication.

Timesavers use the following conventions:

Timesaver

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

Tips use the following conventions:

Tip

Means the information contains useful tips.

Cautions use the following conventions:

Caution

Means reader be careful. In this situation, you might do something that could result in equipment damage or loss of data.

Warnings use the following conventions:
Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:
http://www.cisco.com/techsupport

You can access the Cisco website at this URL:
http://www.cisco.com

You can access international Cisco websites at this URL:

Product Documentation DVD

The Product Documentation DVD is a comprehensive library of technical product documentation on a portable medium. The DVD enables you to access multiple versions of installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the same HTML documentation that is found on the Cisco website without being connected to the Internet. Certain products also have .PDF versions of the documentation available.

The Product Documentation DVD is available as a single unit or as a subscription. Registered Cisco.com users (Cisco direct customers) can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at this URL:
http://www.cisco.com/go/marketplace/

Ordering Documentation

Registered Cisco.com users may order Cisco documentation at the Product Documentation Store in the Cisco Marketplace at this URL:
http://www.cisco.com/go/marketplace/

Nonregistered Cisco.com users can order technical documentation from 8:00 a.m. to 5:00 p.m. (0800 to 1700) PDT by calling 1 866 463-3487 in the United States and Canada, or elsewhere by calling 011 408 519-5055. You can also order documentation by e-mail at tech-doc-store-mkpl@external.cisco.com or by fax at 1 408 519-5001 in the United States and Canada, or elsewhere at 011 408 519-5001.

Warning

This warning signal means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.
Documentation Feedback

You can rate and provide feedback about Cisco technical documents by completing the online feedback form that appears with the technical documents on Cisco.com. You can submit comments about Cisco documentation by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883
We appreciate your comments.

Cisco Product Security Overview

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: http://www.cisco.com/wwl/export/crypto/tool/stqrg.html. If you require further assistance please contact us by sending email to export@cisco.com.


From this site, you will find information about how to:
2. Obtain assistance with security incidents that involve Cisco products.
3. Register to receive security information from Cisco.

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL: http://www.cisco.com/go/psirt

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL: http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

For Emergencies only-security-alert@cisco.com
An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

For Nonemergencies-psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:
1 877 228-7302
1 408 525-6532

Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

The link on this page has the current PGP key ID in use. If you do not have or use PGP, contact PSIRT at the aforementioned e-mail addresses or phone numbers before sending any sensitive material to find other means of encrypting the data.

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Centre (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Reporting Security Problems in Cisco Products

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, at this URL:
http://www.cisco.com/techsupport

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:
Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL: http://www.cisco.com/techsupport/servicerequest

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:
Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL: http://www.cisco.com/techsupport/contacts

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)-An existing network is down, or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)-Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Note

Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the Tools & Resources link under Documentation & Tools Choose Cisco Product Identification Tool from the Alphabetical Index drop-down list, or click the Cisco Product Identification Tool link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting show command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.
Severity 3 (S3)-Operational performance of the network is impaired, while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)-You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The Cisco Product Quick Reference Guide is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco offerings. To order and find out more about the Cisco Product Quick Reference Guide, go to this URL: http://www.cisco.com/go/guide

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL: http://www.cisco.com/go/marketplace/

- Cisco Press publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL: http://www.ciscopress.com

- Packet magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL: http://www.cisco.com/packet

- iQ Magazine is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL: http://www.cisco.com/go/iqmagazine

  or view the digital edition at this URL: http://ciscoiq.texterity.com/ciscoiq/sample/

- Internet Protocol Journal is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:
http://www.cisco.com/ipj

• Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:

• Networking Professionals Connection is an interactive website for networking professionals to share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:
  http://www.cisco.com/discuss/networking

• World-class networking training is available from Cisco. You can view current offerings at this URL:
Introduction

Welcome to the Cisco Unified Attendant Admin User Guide. This document describes the installation and configuration procedures of the applications.

Cisco Unified 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 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) Port and CTI Route Point devices within the Cisco Unified Communications Manager database.

User configuration allows you to manage the configuration for the Cisco Unified 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/XP
• TCP/IP
• Microsoft TAPI 2.1
• Cisco Unified Communications Manager TSP

Points to Remember

Cisco Unified 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,
Chapter 1    Introduction

1. Changes made through this application are not saved until you click on the Submit button on the page.
2. The valid range or types of characters for each field have been specified on the right-hand side of the fields in red (e.g.

   Forced authorization code (FAC):  

3. Invalid input in any field will be denoted by a red colored asterisk (*).
4. Most changes to the system will be made in real-time; however, some changes will require a start and stop of Cisco Unified Attendant Server.

Accessibility for Users with Disabilities

Cisco Unified 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 Attendant Admin.

Attendants also have an option to use Cisco Unified Business/Department 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 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
Important Information

Compatibility between Cisco Unified Attendant Console and Cisco Unified Communications Manager (CUCM)

Table 1: displays the compatibility matrix for Cisco Unified Attendant Console with CUCM

<table>
<thead>
<tr>
<th>CUBAC / CUDAC Version</th>
<th>CUBAC/CUDAC-CM TSP Version</th>
<th>Cisco Unified Communication Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0.1.14</td>
<td>4.1 (1.403)</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>5.1 (0.1801)</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>6.0.0.6</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>6.1 (0.10)</td>
<td>6.1a</td>
</tr>
<tr>
<td></td>
<td>6.1 (2.4)</td>
<td>6.1.2</td>
</tr>
<tr>
<td></td>
<td>7.0 (1.6)</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>7.1(5)</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Music on Hold

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

1. When on Operator holds a call
2. During a blind transfer
3. During a re-established transfer

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 Attendant Admin.
Chapter 2     Important Information

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 Attendant Server and clients to carry on functioning if a CUCM failover occurs. The backup CTI Manager should be the Cisco Unified Communications Manager to which the phones fail over.

Busy Lamp Field

The number of devices that are monitored by Cisco Unified Attendant Console’s Busy Lamp Field may have an effect on the performance of the Attendant Console.

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 Attendant Console can display information extracted from Cisco Unified Presence Server (CUPs) from CUCM version 6.x onwards. The integration is managed via the Cisco Unified Business/Department Attendant CUPS Plug-in directly to the Cisco Unified Attendant Web Admin.

Changes to the CUPS Plug-in service will be managed in real-time. The CUPS 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 Attendant Web Admin.

Do Not Disturb Support

The Cisco Unified Attendant Console supports the Do Not Disturb (DND) functionality available from CUCM version 6.x onwards. Do not disturb is a device feature that when enabled, will block access to the device when calls are made to it. The first release of this feature will support Cisco's ringer off implementation of the DND feature.

This provides the ability to display the DND status for a contact with an active BLF device, and allow the attendant operator to enable/disable the DND status for a contact with an active BLF device.
**DTMF Digit Dialling**

The Cisco Unified Attendant Console version 2.0 has been enhanced with the introduction of an improved method of DTMF digit dialling (Dual Tone Multi Frequency or Touchtone) so that an ‘all in one’ process has been adopted to increase the time of Operator dialling.

**Other items to remember**

1. Cisco Unified Attendant Server and Cisco Unified Attendant Console should not be installed on a machine that will act as Cisco Unified Communications Manager.
2. Headset operation is supported.
Product Overview

Cisco Unified Attendant Admin is the configuration tool for the Cisco Unified 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 Attendant Server,

Cisco Unified 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.
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 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 or 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 CUBAC/CUDAC Server and will require an additional range of DN’s.

**Call Flow**

The following diagram shows how calls flow through Cisco Unified Attendant Console and how they are controlled by Cisco Unified Attendant Server and Cisco Unified Communications Manager.
Call Activity is monitored by Cisco Unified Attendant Server via TAPI.

Cisco Unified Attendant Server

Cisco Unified Communications Manager
The calls land on Cisco Unified Communications Manager and it is configured to deliver these calls.

A pre-queue gateway device is configured for each DDI that is intended for the Gateway.

Internal Queue Location (DDI)

Queue locations are assigned to different Queues.

8600

CT Gateway
The call then arrives at the CT gateway where different filters are applied on the call, and it is decided which queue will get the call.

An operator can also transfer a call to another queue, that will land on the CT Gateway.

Operator 1

Operator 2

Operator 3
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. Take a printout for the following table and fill in your own number plan in the Directory Number field.

Table 1: shows a numbering plan for a test install

<table>
<thead>
<tr>
<th>Device Type</th>
<th>Directory Number (Example)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queue DDI</td>
<td>8100</td>
</tr>
<tr>
<td>Queue DDI</td>
<td>8101</td>
</tr>
<tr>
<td>CT Gateway</td>
<td>8000</td>
</tr>
<tr>
<td>CT Gateway</td>
<td>8001</td>
</tr>
<tr>
<td>CT Gateway</td>
<td>8002</td>
</tr>
<tr>
<td>CT Gateway</td>
<td>8003</td>
</tr>
<tr>
<td>CT Gateway</td>
<td>8004</td>
</tr>
<tr>
<td>Service Queue</td>
<td>8400</td>
</tr>
<tr>
<td>Service Queue</td>
<td>8401</td>
</tr>
<tr>
<td>Service Queue</td>
<td>8402</td>
</tr>
<tr>
<td>Service Queue</td>
<td>8403</td>
</tr>
<tr>
<td>Service Queue</td>
<td>8404</td>
</tr>
<tr>
<td>Park</td>
<td>8600</td>
</tr>
<tr>
<td>Park</td>
<td>8601</td>
</tr>
<tr>
<td>Park</td>
<td>8602</td>
</tr>
<tr>
<td>Park</td>
<td>8603</td>
</tr>
<tr>
<td>Park</td>
<td>8604</td>
</tr>
</tbody>
</table>

Performance Information

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

1. Number of Operators
2. Number of Contacts Supported
3. Number of Console Queues
4. BHCC - Busy Hours Call Completions
Table 2: shows the performance of CUBAC and CUDAC

<table>
<thead>
<tr>
<th>Performance Item</th>
<th>Maximum (per Cisco Unified Attendant Server)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Department Attendant</td>
</tr>
<tr>
<td>Number of Attendant Consoles</td>
<td>10</td>
</tr>
<tr>
<td>Number of Contacts Supported</td>
<td>750</td>
</tr>
<tr>
<td>Number of Console Queues</td>
<td>5</td>
</tr>
<tr>
<td>BHCC</td>
<td>1000</td>
</tr>
</tbody>
</table>

Hardware / Software Requirements

The information provided below gives details of the minimum hardware/software required to run Cisco Unified Attendant applications.

### Applies To

<table>
<thead>
<tr>
<th>PC Specification</th>
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</thead>
<tbody>
<tr>
<td>Cisco Unified Attendant Server</td>
</tr>
<tr>
<td><strong>Pentium 4 2.2 GHz</strong></td>
</tr>
<tr>
<td>2 GB RAM</td>
</tr>
<tr>
<td>72 GB Hard Drive</td>
</tr>
<tr>
<td>CD-ROM/DVD-Rom</td>
</tr>
<tr>
<td>Network Card</td>
</tr>
<tr>
<td>SVGA (1024x768) display card with correct drivers</td>
</tr>
<tr>
<td>.Net Framework 2.0 SP1*</td>
</tr>
<tr>
<td>MS SQL Server 2005 (Express) *</td>
</tr>
<tr>
<td>Internet Information Service (IIS) 6.0 (or later).*</td>
</tr>
</tbody>
</table>

* **Note:** The Attendant Console Server installation will install these applications automatically. If MS SQL Express 2005 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 the ASP.NET component must beenabled 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.
Cisco Unified Attendant Server is not supported within a 64 bit Operating System.

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

2. The minimum specification required by Cisco Unified Attendant Console is as follows,

<table>
<thead>
<tr>
<th>Applies To</th>
<th>PC Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Unified Attendant Console</td>
<td>Pentium 4 Entry Level Specification</td>
</tr>
<tr>
<td></td>
<td>1 GB RAM</td>
</tr>
<tr>
<td></td>
<td>1GB available Hard Drive space</td>
</tr>
<tr>
<td></td>
<td>CD-ROM/DVD-ROM</td>
</tr>
<tr>
<td></td>
<td>Network Card</td>
</tr>
<tr>
<td></td>
<td>Connected to Network via TCP/IP</td>
</tr>
<tr>
<td></td>
<td>SVGA (1024x768) display card</td>
</tr>
<tr>
<td></td>
<td>Windows Small Fonts</td>
</tr>
<tr>
<td></td>
<td>17 Monitor highly recommended</td>
</tr>
<tr>
<td></td>
<td>Windows 2000 Professional / XP Professional / Vista Professional (32 bit)</td>
</tr>
<tr>
<td></td>
<td>SoundBlaster compatible sound card and speakers are recommended for the Console Operator.</td>
</tr>
</tbody>
</table>

3. 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.

4. 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
5. Security Considerations

There are many different AntiVirus products that are supported on a CUxAC system server. Typically, the most commonly used products are McAfee VirusScan, Norton AntiVirus or Trend OfficeScan. This is not a definitive list. Any AntiVirus program can be used on the CUxAC Server, as long as it is configured as below:-

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 CUxAC Server

<table>
<thead>
<tr>
<th>File Location</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>\DBData</td>
<td>This folder is where the System Configuration Databases are located</td>
</tr>
<tr>
<td>Program Files\Cisco\Logging</td>
<td>This is where all the system log files are stored.</td>
</tr>
<tr>
<td>Temp\Cisco\Trace</td>
<td>This is where the Cisco TSP Trace files are located</td>
</tr>
</tbody>
</table>

Note - The "File Locations" and "File Names" may be changed by your System Administrator.

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

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

Product Feature Table

The following table displays a break down by feature of the following products.

- Cisco Attendant Console (CAC). (EOL (End of Life) 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>
<thead>
<tr>
<th>Feature</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAC</td>
</tr>
<tr>
<td>Installation</td>
<td>Browser</td>
</tr>
<tr>
<td>Configuration</td>
<td>CUCM</td>
</tr>
<tr>
<td>Support</td>
<td>Cisco TAC</td>
</tr>
</tbody>
</table>

### Queue Features

<table>
<thead>
<tr>
<th>Queue Feature</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queues supported</td>
<td>Hunt Groups</td>
</tr>
<tr>
<td>Configurable queue names and priority</td>
<td>● 5</td>
</tr>
<tr>
<td></td>
<td>● 3</td>
</tr>
<tr>
<td></td>
<td>● &lt;=50</td>
</tr>
<tr>
<td>Show all calls in all queues option</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Queue salutations</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Show &amp; pick calls from each Queue</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Queue wait time overflow</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Queue limit overflow (no of calls)</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Operator overflow (no operators)</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Queue overflow destinations supported</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Overflow options</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>

### Service options

<table>
<thead>
<tr>
<th>Service option</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency mode switch</td>
<td>○</td>
</tr>
<tr>
<td>Emergency mode destination</td>
<td>○</td>
</tr>
<tr>
<td>Night service switch</td>
<td>●</td>
</tr>
<tr>
<td>Night service hours/timing</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>
### Feature Overview

<table>
<thead>
<tr>
<th>Feature</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAC</td>
</tr>
<tr>
<td>Night service destination</td>
<td>●</td>
</tr>
<tr>
<td><strong>Directory features</strong></td>
<td></td>
</tr>
<tr>
<td>Directory size supported</td>
<td>100k</td>
</tr>
<tr>
<td>Search fields</td>
<td>2</td>
</tr>
<tr>
<td>Mobile number support</td>
<td>○</td>
</tr>
<tr>
<td>Internal directory support</td>
<td>●</td>
</tr>
<tr>
<td>External directory support</td>
<td>○</td>
</tr>
<tr>
<td>Speed dials</td>
<td>●</td>
</tr>
<tr>
<td>Alternative number search (hotkey)</td>
<td>○</td>
</tr>
<tr>
<td>Alternate Contacts search</td>
<td>○</td>
</tr>
<tr>
<td>Directory to XML phones</td>
<td>○</td>
</tr>
<tr>
<td>Cross tab searching</td>
<td>○</td>
</tr>
<tr>
<td>Notes against person</td>
<td>○</td>
</tr>
<tr>
<td><strong>Presence / Status features</strong></td>
<td></td>
</tr>
<tr>
<td>Busy Lamp Fields / Phone Status supported</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence integration with CUPS</td>
<td>○</td>
</tr>
<tr>
<td><strong>Telephony features</strong></td>
<td></td>
</tr>
<tr>
<td>Transfer Reversion (Call Recall)</td>
<td>○</td>
</tr>
<tr>
<td>Hold Recall</td>
<td>○</td>
</tr>
<tr>
<td>Call toggle</td>
<td>●</td>
</tr>
<tr>
<td>Camp on</td>
<td>○</td>
</tr>
</tbody>
</table>
### Legend:
- ⬤ = Supported,
- ⬣ = Partial Support,
- ○ = Unsupported

* The localisation languages supported are dependant on the software release version. In the case of CUDAC and CUBAC, thirteen languages are supported in software version 1.1.1.25, although the new version 2.0.0.11 which has only been available since October 2008 only supports English, with further languages to be supported in future releases. Please check with your reseller if localisation is required.

** The initial CUEAC (version 3.0.0.2) release supports English. This will be expanded to the 15 core languages within later versions scheduled for 2009 and 2010.

### System features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAC</td>
</tr>
<tr>
<td>Call hold with notes</td>
<td>○</td>
</tr>
<tr>
<td>Undirected Call park (finds first slot)</td>
<td>⬤</td>
</tr>
<tr>
<td>Directed Call Park (to specific Park location)</td>
<td>⬤</td>
</tr>
<tr>
<td>Call Hold</td>
<td>⬣</td>
</tr>
<tr>
<td>Park recall</td>
<td>⬣</td>
</tr>
<tr>
<td>Transfer</td>
<td>⬤</td>
</tr>
<tr>
<td>Conference</td>
<td>⬤</td>
</tr>
</tbody>
</table>

### Cisco Unified CallManager Supported

<table>
<thead>
<tr>
<th>CallManager Supported</th>
<th>4.3, 5.1, 6.0, 6.1, 7.0</th>
<th>4.3, 5.1, 6.0, 6.1, 7.0</th>
<th>4.3, 5.1, 6.0, 6.1, 7.0</th>
<th>6.0, 6.1, 7.0</th>
</tr>
</thead>
</table>

### Localisation and accessibility

<table>
<thead>
<tr>
<th>Languages supported*</th>
<th>20</th>
<th>1* (15 in 2009)</th>
<th>1* (15 in 2009)</th>
<th>1**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility support (with JAWS Script)</td>
<td>○</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
</tbody>
</table>
Core Languages

The 15 core languages that are supported are: English, French, Italian, German, Spanish, Portuguese, Chinese (simpl), Chinese (trad.), Japanese, Korean, Arabic, Dutch, Swedish, Russian & Danish.
Installation of Cisco Unified Attendant Applications

This section describes in detail the installation procedures for the following applications,
1. Cisco Unified Attendant Server
2. Cisco Unified Attendant Console

In order to install Cisco Unified Attendant Applications, you must configure an End 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.

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

Installation Overview

This overview is designed to guide you through the installation process for Cisco Unified 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.

Installation and Configuration Overview

Step 1 Preparation

Formulate numbering plan for test install. Refer to Table 1, page 24 for required Directory Numbers.

Prepare a Windows 2003 Service Pack 2 server with Internet Information Services (IIS) installed.
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 Attendant Console, as well as operators extensions need to be able to receive and make calls to a full range of destinations.)

For CUCM 4.3 see Appendix A “Creating the Attendant Applications End User for CallManager 4.3” on page 97.
For CUCM 5.x/6.x see Appendix B “Creating the Attendant Application End User for CallManager 5.x/6.x/7.x” on page 101

Create an End User
Create a User Group
Assign roles to User Group
Assign End User to User Group
Assign End User to CCM Super User Group

Step 3 Install and Configure Cisco Unified Attendant Admin

Install Cisco Unified Attendant Admin.
See “Installing Cisco Unified Attendant Server” on page 37.
Check Cisco Unified Communications Manager connectivity.
See “CUCM Connectivity” on page 58.
Configure CT Gateway, Service and Park devices.
See “System Configuration” on page 68.

Synchronize with CCM. Adds all required CTI devices to CCM, and adds them to the End User profile for CTI control.
See “Synchronizing with CUCM” on page 71.

Configure Directory Synchronization if required.
See “LDAP Directory Connectivity (for CUCM 4.3 only)” on page 62 and “Directory Synchronization” on page 77.

Configure Cisco Unified Attendant Console User Settings.
See “User Configuration” on page 79.
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 105 of this manual.

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

The following steps are followed in order to install the application,
The following steps are followed in order to install the application,

1. The first stage of installation will be to install any required 3rd party applications, including MS SQL Server 2005 Express IE 6.0 and MS Dotnet if they are not already installed. The default user name for the SQL connection will be \textit{sa} and the default password will be \textit{Z1ppyf0rever}. The first window appears displaying a progress bar while the setup prepares the system for installation.

\textit{Figure 1:} displays the screen that is shown while the setup prepares for installation

2. The next screen displays a welcome note and instructions on installing. Click \textit{Next}.

\textit{Figure 2:} displays the welcome screen for the

3. The next window contains registration information. In the \textit{Name} text box, type the name of the license holder, and type the company name into the \textit{Company} text box. Click the \textit{Next} button to proceed.
4. In this window, 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 Attendant Server.

5. If you already have MS SQL Server 2005 Express Edition, the screen below will be displayed. Enter the Server Name, Username and Password to connect to MS SQL Server Express 2005 Edition. Click Next.

Note: If MS SQL Server is not installed on your machine, it will be installed automatically by Cisco Unified Attendant Server Installation. Please refer to Step 1.
Figure 5: displays the Server Login Information screen for installation

6. In order to connect to Cisco Unified Communications Manager, you must enter the IP address and port. You must also specify the Cisco Unified Communications Manager End User ID and its password. Make sure the end user that you specify in this screen exists in the system. This can be done through Cisco Unified Communications Manager administration. The creation of an end user has been explained in the appendices at the end of the document. Click Next.

Figure 6: displays the CUCM information screen

Note

Previous versions of CUBAC/CUDAC installed MS SQL Server with a default Username and Password of sa and cisco. With the release of version 2.0 the password was changed to implement a more secure password structure.
7. When you enter the username and password to connect to Cisco Unified Communications Manager in the previous window, two security alerts will be displayed. Click **Yes** on both the alerts to proceed.

*Figure 7: displays the confirmation to access CUCM*

8. The next window is for selecting the directory into which you wish to install the application. 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 8: displays the screen to specify location for the files to be installed to*

9. In the next window, the summary for the current settings specified will be displayed. Click **Next** to proceed with installation or click Back to edit the settings made on the previous screens.
10. The next screen will display the progress bar for the installation.

11. Once the application has been installed, the Database Wizard will create and configure the databases for the application. Click **Next**.
12. In the next window, the status of database installation will be displayed. Once the installation is complete, click **Finish**.

Figure 12: displays the installation progress of the databases

13. The application has now been installed successfully. It is recommended that you restart your computer.
Installing Cisco Unified Attendant Console Client

Before installing the Cisco Unified Enterprise Attendant Console Client 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 105 of this manual.

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

The following steps are followed in order to install the application.

The installation instructions provided below describe the procedure to install Cisco Unified Department Attendant Console. Please note that installation for Cisco Unified Business Attendant Console follows the same procedure.

1. The first window appears displaying a message that Cisco Unified Attendant Console Installation Wizard is preparing to install. 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 is complete, the application can be used.

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” on page 101.
wizard is ready to install the application, a new screen will be displayed that will guide you through the setup process for Cisco Unified Attendant Console.

Figure 14: displays the first install screen

2. The new window that is displayed after the Preparing to Install window, shows a welcome note. This screen specifies that Cisco Unified 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 15: displays the welcome screen to installation

3. The next window contains the registration information. In the Name text box, type the name of the registered owner of Cisco Unified Attendant Console, and type the owner’s company name into the Company text box. Click the Next button to proceed.
4. In the next window, select the folder where you wish to install the application. 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.

5. In the next window, enter the IP Address of the machine running Cisco Unified Attendant Server. This is required in order to enable communication between Cisco Unified Attendant Console and Cisco Unified Attendant Server.

**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.
6. In the next window, you must select the language in which you want to install the application. Click **Next** to continue.

Figure 19: displays the screen used to select the language for the application

7. In the next window, select the check box to add an icon for Cisco Unified Attendant Console on the desktop. Click **Next** to proceed.
8. In the next window, the installation wizard displays the summary of the information you have entered so far. 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 21: displays the screen that shows the summary for the setup

9. In the next window, a progress bar is displayed that shows the status of the installation configurations and the files being copied. If you wish to exit the setup at this point, click Cancel.
10. The final window displays the confirmation that Cisco Unified Attendant Console has been installed successfully. Click the **Finish** button.

*Figure 23: displays the screen notifying that the installation is complete*
Cisco Unified Attendant Admin

This section will guide you through configuration for Cisco Unified Attendant Console. Cisco Unified Attendant Admin allows you to create and manage the Attendant Console system.

System configuration provides the facility to manage synchronization of devices and queues with Cisco Unified Communications Manager. Cisco Unified 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 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 Attendant Admin web session. This URL will be in the following format:

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

The URL, as provided by the network administrator will be entered in the address bar of the web browser, as shown in the following image:

*Figure 1: displays URL entered in the Internet Explorer address bar*

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

The following icons may be used while configuring the Cisco Unified Attendant Console,
Administrator Login

Cisco Unified Attendant Admin has an authentication mode for users. It is accessible only to the Administrator for making new configurations for Cisco Unified Attendant Console or updating them. Most of the settings configured using Cisco Unified 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 Attendant Admin,
1. Enter the URL specified by your network administrator to access Cisco Unified Attendant Admin.
2. The Logon page will open.
3. Enter **User name**.
4. Enter **Password**.
5. Click **Submit**.

### Table 1: provides the description for the icons used in the user guide

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Submit" /></td>
<td>Submit</td>
</tr>
<tr>
<td><img src="image" alt="Reset Password" /></td>
<td>Reset Password</td>
</tr>
<tr>
<td><img src="image" alt="Test Connection" /></td>
<td>Test Connection</td>
</tr>
<tr>
<td><img src="image" alt="Repair Database" /></td>
<td>Repair Database</td>
</tr>
<tr>
<td><img src="image" alt="Start Server" /></td>
<td>Start Server</td>
</tr>
<tr>
<td><img src="image" alt="Stop Server" /></td>
<td>Stop Server</td>
</tr>
<tr>
<td><img src="image" alt="Information Icon" /></td>
<td>Information Icon: Used to view runtime information for a service.</td>
</tr>
<tr>
<td><img src="image" alt="Refresh" /></td>
<td>Refresh</td>
</tr>
<tr>
<td><img src="image" alt="Synchronize with CUCM" /></td>
<td>Synchronize with CUCM</td>
</tr>
</tbody>
</table>
Figure 2: displays the login page for the application

<table>
<thead>
<tr>
<th>Logon</th>
</tr>
</thead>
<tbody>
<tr>
<td>User name: ADMIN</td>
</tr>
<tr>
<td>Password: *****</td>
</tr>
</tbody>
</table>

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

**Table 2: provides the description for the fields of the login page**

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User name</td>
<td>ADMIN</td>
<td>This field specifies the user name to log in with. The user name is ADMIN by default.</td>
</tr>
<tr>
<td>Password</td>
<td>*****</td>
<td>The number used by the operator to log in.</td>
</tr>
</tbody>
</table>

To set the password back to its default value, 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. The following areas can be accessed and configured,

**Table 3: provides the details for different types of configurations available**

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

These configurations are explained in detail in the following sections.
Engineering

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

• Manage administrator access
• Manage the database environment
• Manage connections to the Cisco Unified Communications Manager
• Manage CUPS Connectivity (for CUCM 6.0 onwards)
• Manage Cisco Unified Attendant services
• Manage LDAP Directory Connectivity (for CUCM 4.3 only)
• Enable/disable logging

Administrator Management

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

To change password,
1. Go to Engineering > Administrator Management.

   Figure 3: displays the menu option for Administrator Management

   Engineering  System Confl
   Administrator Management
   Database Management
   Service Management
   CUCM Connectivity
   CUPS Connectivity
   Logging Management

2. Enter Old Password.
3. Enter New Password.
4. Re-enter new password in the Confirm New Password field.

5. Click Submit to save changes.

   Figure 4: displays the Administrator Management page
The following table gives a brief description for the fields mentioned in the form displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old password</td>
<td>******</td>
<td>The existing password for the ADMIN user name.</td>
</tr>
<tr>
<td>New Password</td>
<td>******</td>
<td>The new password you wish to switch to.</td>
</tr>
<tr>
<td>Confirm new password</td>
<td>******</td>
<td>The new password has to be re-entered in this field in order to confirm you did not mistype in the New Password field.</td>
</tr>
</tbody>
</table>

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.

Configuration and logging databases will be created at the time of installation. Only the connectivity details can be modified through this page.

To manage database,
1. Go to Engineering > Database Management.
2. In the Server field, specify the name of the machine where the SQL Server is installed.
3. Check the **SQL authentication** checkbox in case **User name** and **Password** are required to access the database.
4. Enter **User Name**.
5. Enter **Password**.

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

7. To test the database, click **Test Connection.**

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

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

*Figure 6: displays the Database Management page*

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server:*</td>
<td>209.165.202.128</td>
<td></td>
</tr>
<tr>
<td><strong>SQL authentication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User name:</strong></td>
<td>username1</td>
<td></td>
</tr>
<tr>
<td><strong>Password:</strong></td>
<td>*************</td>
<td></td>
</tr>
</tbody>
</table>
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

The following controls are available,

Table 6: provides the description for server controls

<table>
<thead>
<tr>
<th>Control</th>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Server</td>
<td><img src="image" alt="Play" /></td>
<td>This button allows you to start the server.</td>
</tr>
<tr>
<td>Stop Server</td>
<td><img src="image" alt="Stop" /></td>
<td>This button allows you to stop the server.</td>
</tr>
<tr>
<td>Information</td>
<td><img src="image" alt="Info" /></td>
<td>This button allows you to view runtime information for the service. The information is displayed in a separate pop-up window.</td>
</tr>
</tbody>
</table>

Changes to the database configuration will require a stop and restart of Cisco Unified Attendant Server.
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,
1. Go to Engineering > CUCM Connectivity.
2. Enter CUCM name. This is the IP Address of the Cisco Unified Communications Manager Publisher.
3. Enter CUCM Port number. This should be left as 443 by default.
4. Enter User name and Password of the End User profile that is used to connect to Cisco Unified Communications Manager.
5. To save, click Submit.
6. To test, click Test Connection.

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

![Figure 8: displays the CUCM Connectivity page](image)

---

Table 6: provides the description for server controls

<table>
<thead>
<tr>
<th>Refresh</th>
<th><img src="image" alt="Refresh button" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Refresh button and the icon shown on the left allow you to see the current status of the server.</td>
<td></td>
</tr>
</tbody>
</table>

---

Cisco Unified Business/Department Attendant Consoles Web Admin / Installation Guide, Ver. 2.0.1
Table 7: Provides description for the fields on the CUCM Connectivity page

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

1. The Username and Password provided here are case-sensitive. Please make sure you enter the information in these fields in proper case.
2. The information provided in the Username and Password fields must not belong to an application user, for example CCMAadministrator.
CUPS Connectivity

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

To manage connectivity details,
1. Go to Engineering > CUPS Connectivity.

2. Enter CUPS name or IP. This is the IP Address of the Cisco Unified Presence server.
3. Enter CUPS Port number.
4. Enter Realm. The realm is used to authenticate the SIP communication. If this is left blank then the IP address of the Cisco Unified Presence Server will be used.
5. Enter User name and Password of the End User profile that is used to connect to Cisco Unified Presence Server.
6. 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).
7. Enter Certificate nickname and the Certificate Database password if TLS has been enabled.
8. To save, click Submit.

9. To test, click Test Connection.

Table 8: provides description for the fields on the CUCM Connectivity page

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUPS name or IP</td>
<td>209.165.201.0</td>
<td>In this field you specify the IP Address of the machine where CUPS is installed.</td>
</tr>
<tr>
<td>CUPS port</td>
<td>5060</td>
<td>In this field you specify the CUPS port you wish to connect to. This is set to 5060 by default. (When not using TLS)</td>
</tr>
<tr>
<td>Realm</td>
<td></td>
<td>The realm is used to authenticate the SIP communication. If this is left blank then the IP address of the Cisco Unified Presence Server will be used.</td>
</tr>
<tr>
<td>Username</td>
<td>username1</td>
<td>You must enter the end user id used to connect to CUPS.</td>
</tr>
<tr>
<td>Password</td>
<td>*****</td>
<td>You must enter the password used to connect to CUPS.</td>
</tr>
<tr>
<td>TLS Port</td>
<td>-1</td>
<td>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).</td>
</tr>
<tr>
<td>Certificate nickname</td>
<td>nickname1</td>
<td>Transport Layer Security certificate nickname is used to identify the correct certificate in the certificate database.</td>
</tr>
<tr>
<td>Certificate database password</td>
<td>*****</td>
<td>Transport Layer Security certificate password will validate the user name above to provide access to the database.</td>
</tr>
</tbody>
</table>

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

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

**Warning**

**Note**

**IMPORTANT** - The Cisco Unified Attendant CUPs Plug-in has to be added to the firewall information on the CallManager. See section “Configuring Access for the Cisco Unified Attendant CUPS Plug-In” on page 106.
LDAP Directory Connectivity (for CUCM 4.3 only)

The LDAP Directory Connectivity allows you to specify the directory platform you wish to use for downloading contacts. The application supports the following directory platforms:

- iPlanet/Netscape directory
- Microsoft Active Directory
- DC Directory

The LDAP Directory Connectivity page is divided into the following sections:

- Connection
- Authentication
- Container

Figure 9: displays the LDAP Directory Connectivity page

<table>
<thead>
<tr>
<th>LDAP Directory Connectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connection</strong></td>
</tr>
<tr>
<td>Directory Platform: DC Directory</td>
</tr>
<tr>
<td>Host Name*: 192.168.1.55</td>
</tr>
<tr>
<td>Host Port:*  3404           (1:2147483647)</td>
</tr>
<tr>
<td>Protocol Version: Version 3.0</td>
</tr>
<tr>
<td>Use SSL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Authentication</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name*: cn=Directory Manager, o=cisco</td>
</tr>
<tr>
<td>Password:* ***************</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Container</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Base DN:* cu=Users, o=cisco.com</td>
</tr>
<tr>
<td>Object Class:* InetOrgPerson</td>
</tr>
</tbody>
</table>

The following table gives brief description for the fields you can configure:
Table 9: Provides description of the fields displayed on LDAP Directory Connectivity page

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connection:</strong></td>
<td></td>
<td>This section is used to select the Directory Platform to be used.</td>
</tr>
<tr>
<td>Directory Platform</td>
<td>DC Directory</td>
<td>This list is used to choose the directory platform LDAP must connect to.</td>
</tr>
<tr>
<td>Host Name</td>
<td>192.168.1.55</td>
<td>This field is used to specify the Directory Host. Once the Directory platform is selected, the directory host is specified by default. However, you may edit the host if required.</td>
</tr>
<tr>
<td>Host Port</td>
<td>8404</td>
<td>This field is used to specify the Directory Port. Once the Directory platform is selected, the directory port is specified by default. However, you may edit the host if required.</td>
</tr>
<tr>
<td>Protocol Version</td>
<td>Version 3.0</td>
<td>This list is used to specify the Protocol Version. The latest protocol version is selected by default. However, you may select a different protocol version if required.</td>
</tr>
<tr>
<td>Use SSL</td>
<td></td>
<td>This checkbox is used in order to specify whether you wish to use SSL for connectivity or not.</td>
</tr>
<tr>
<td><strong>Authentication:</strong></td>
<td></td>
<td>This section is used to specify authentication information to access the selected directory.</td>
</tr>
<tr>
<td>User Name</td>
<td>cn=Directory Manager, o=cisco.com</td>
<td>This field is used to specify the user name to access the directory.</td>
</tr>
<tr>
<td>Password</td>
<td>******</td>
<td>This field is used to enter the password for authentication.</td>
</tr>
<tr>
<td><strong>Container:</strong></td>
<td></td>
<td>This section is used to specify the location of the data and the object type required for LDAP directory synchronization.</td>
</tr>
<tr>
<td>Base DN</td>
<td>ou=Users, o=cisco.com</td>
<td>In this field you must enter the Base Distinguished Name for the container that holds the desired records. This is so as the records that we want to retrieve are within a specific container that is on a particular domain.</td>
</tr>
</tbody>
</table>
To manage LDAP directory connectivity,
1. Go to Engineering > LDAP Directory Connectivity.

Figure 10: displays the LDAP Directory Connectivity menu

<table>
<thead>
<tr>
<th>Engineering</th>
<th>System Config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator Management</td>
<td></td>
</tr>
<tr>
<td>Database Management</td>
<td></td>
</tr>
<tr>
<td>Service Management</td>
<td></td>
</tr>
<tr>
<td>CUIM Connectivity</td>
<td></td>
</tr>
<tr>
<td><strong>LDAP Directory Connectivity</strong></td>
<td></td>
</tr>
<tr>
<td>Logging Management</td>
<td></td>
</tr>
</tbody>
</table>

2. Enter Connection details.
3. Enter Authentication details.
4. Enter Container details.
5. Click Test Connection to verify the information entered is accurate.
6. Click Submit to save.

The following protocol versions are recommended for the following Directory Platforms:

Table 10: displays the list of recommended protocol versions for each directory platform

<table>
<thead>
<tr>
<th>Directory Platform</th>
<th>Protocol Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Directory</td>
<td>Version 3.0</td>
</tr>
<tr>
<td>Microsoft Active Directory</td>
<td>Version 3.0</td>
</tr>
<tr>
<td>iPlanet/Netscape Directory</td>
<td>Version 2.0 or Version 3.0</td>
</tr>
</tbody>
</table>

**Table 9: provides description of the fields displayed on LDAP Directory Connectivity page**

| Object Class | inetOrgPerson | In this field you must enter the type of record that you want to import from the LDAP Directory. Once the directory platform is selected, the object class is specified by default. However, you may edit the object class if required. |

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

Figure 11: displays the menu option for Logging Management
2. Enter Cisco Unified Attendant Server Logging Management details.
4. Click Submit to save changes.

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

Figure 12: displays the Logging Management page
The following table gives a brief description for the fields mentioned in the form displayed above.

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

Table 11: provides the description for the fields on the Logging Management page
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 of a Support Case investigation.

To manage logging for Cisco Unified Attendant Server,

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.
2. You must specify the Logging path and file name where the log must be created.
3. Specify the number of log files that must be created in the Number of files field.
4. Specify the number of lines each log file can contain in the Lines per file field.
5. Enter Service logging path and file name to maintain log of the services for Cisco Unified Attendant Server.

Table 11: provides the description for the fields on the Logging Management page

<table>
<thead>
<tr>
<th>Number of files</th>
<th>200</th>
<th>In this field you specify the number of log files that can be created in the logging folder.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lines per file</td>
<td>10000</td>
<td>In this field you specify the number of lines each log file can contain.</td>
</tr>
</tbody>
</table>

Cisco Unified Attendant CUPS Plug-in

<table>
<thead>
<tr>
<th>Logging level</th>
<th>Detailed (default)</th>
<th>This can be set from Detailed, Advanced, Minimum, Full.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logging path &amp; file name</td>
<td>C:\Program Files\Cisco\Attendant Server\Log\CUPS.TXT</td>
<td>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.</td>
</tr>
<tr>
<td>Number of files</td>
<td>200</td>
<td>In this field you specify the number of log files that can be created in the logging folder.</td>
</tr>
<tr>
<td>Lines per file</td>
<td>10000</td>
<td>In this field you specify the number of lines each log file can contain.</td>
</tr>
</tbody>
</table>
Cisco Unified Attendant LDAP Plug-in Logging

Cisco Unified 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,
1. Select the Logging Level for LDAP Plug-in. Cisco Unified Attendant Admin provides the following options:
   a. Detailed
   b. Advanced
   c. Minimum
   d. Full
2. Specify the Logging path and file name where the log must be created.
3. Specify the number of log files that must be created in the Number of files field.
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 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,
1. Select the Logging Level for CUPS Plug-in. Cisco Unified Attendant Admin provides the following options:
   a. Detailed
   b. Advanced
   c. Minimum
   d. Full
2. Specify the Logging path and file name where the log must be created.
3. Specify the number of log files that must be created in the Number of files field.
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 synchronization of devices and queues with Cisco Unified Communications Manager. The following configurations are available under this menu,
1. System Device Management
2. Attendant Console Device Management
3. CUCM Synchronization
4. Directory Filtering
5. Directory Synchronization

System Device Management

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

To add devices,
1. Go to Engineering > System Device Management.
2. Select a Template Device. All device properties of the selected device will be mapped onto new devices being created.

3. Enter a device range for each of the following:
   a. CT Gateway Devices
   b. Service Devices
   c. Park Devices

**Note**
You can only configure a maximum of 255 wave devices for all installed TSPs because Microsoft limits the number of wave devices per wave driver to 255. This is made up from the sum total of all of the device ranges listed above.

**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.

4. Click **Submit** to save changes.

5. 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.

![System Device Management][1]

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

When operators log into Cisco Unified Attendant Console application, the Extension number that is entered during login is the Primary Number for a device. It is possible that the same extension number might be configured as a primary number for another device on a different partition. In order to differentiate between the two devices configured on the same extension number, the MAC address can be used to identify each device. A MAC address is a unique identifier for each physical device.

Using Attendant Console Device Management page, you can select a device to be associated to a particular directory number.

To select a device against a directory number,
1. Go to System Configuration > Attendant Console Device Management. A table will be displayed showing the Attendant Console Devices.

Table 12: provides description for the fields on the System Device Management page

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Template Device</strong></td>
<td></td>
<td>From this dropdown list you can select the device you want to copy the properties from, including Partition, Calling Search Space amongst others.</td>
</tr>
<tr>
<td>Copy all device properties from this device</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CT Gateway Devices</strong></td>
<td>6301</td>
<td>Specify the starting number for the range of devices to be configured.</td>
</tr>
<tr>
<td>To</td>
<td>6302</td>
<td>Specify the last number in the range of devices to be configured.</td>
</tr>
<tr>
<td><strong>Service Devices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From</td>
<td>6401</td>
<td>Specify the starting number for the range of devices to be configured.</td>
</tr>
<tr>
<td>To</td>
<td>6402</td>
<td>Specify the last number in the range of devices to be configured.</td>
</tr>
<tr>
<td><strong>Park Devices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From</td>
<td>6501</td>
<td>Specify the starting number for the range of devices to be configured.</td>
</tr>
<tr>
<td>To</td>
<td>6502</td>
<td>Specify the last number in the range of devices to be configured.</td>
</tr>
</tbody>
</table>
2. Click **Add New** to add a new device against a directory number.

3. Enter the **Device DN**. A list of devices will be displayed in the **Select device** area.

4. Using the radio button, select the device that must be used to log into Cisco Unified Attendant Console application with the specified Device Directory Number.

5. Click **Submit**.

Please note that a new device can only be added if the chosen device is not in use at that time. Similarly a selected device cannot be deleted if the device is in use.

### 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 End User profile. The following devices will be displayed on this page:

1. Queue Locations
2. CT Gateway Devices
3. Service Devices
4. Park Devices
5. Attendant Console Devices

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

Figure 16: displays the devices that will be synchronized with CUCM

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

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device DN</td>
<td>2000</td>
<td>This field specifies the directory number of each configured device.</td>
</tr>
<tr>
<td>Device Type</td>
<td>CTI Route Point</td>
<td>This field specifies the type of device.</td>
</tr>
</tbody>
</table>
Once the synchronization has been initiated, 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 End User Profile. When you click on the button the following window appears,

*Figure 17: displays the CUCM Sync Report generated after the CUCM synchronization*

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

*Table 14: provides description for the fields mentioned on the CUCM Sync Report*

<table>
<thead>
<tr>
<th>Field</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sync Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Completed</td>
<td>This field specifies whether the synchronization was successful or not.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The following statuses can be viewed,</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>In Progress</strong> - This is displayed when the synchronization is taking place.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Completed</strong> - This is displayed when synchronization is completed without</td>
</tr>
<tr>
<td></td>
<td></td>
<td>any error.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Error</strong> - This is displayed when synchronization process encounters an</td>
</tr>
<tr>
<td></td>
<td></td>
<td>error.</td>
</tr>
<tr>
<td>Started At</td>
<td>2007-04-12 16:08:52</td>
<td>This field specifies the date and time when CUCM synchronization started.</td>
</tr>
</tbody>
</table>
The table below gives a list of error codes and description that may be encountered during CUCM synchronization.

**Table 14: provides description for the fields mentioned on the CUCM Sync Report**

<table>
<thead>
<tr>
<th>Ended At</th>
<th>2007-04-12 16:08:52</th>
<th>This field specifies the date and time when CUCM synchronization ended.</th>
</tr>
</thead>
</table>

**CUCM Connection Validation**

<table>
<thead>
<tr>
<th>User Name</th>
<th>username1</th>
<th>This specifies the CUCM end user profile ID.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>Completed</td>
<td>This specifies whether the CUCM Connection established or not.</td>
</tr>
<tr>
<td>Error Code</td>
<td>9400</td>
<td>This field specifies the code of the error that has been encountered. The error codes have been explained in detail in the next table.</td>
</tr>
<tr>
<td>Error Description</td>
<td>HTTP/1.1 503 Service Unavailable</td>
<td>This field gives a brief description of the error that has been encountered.</td>
</tr>
</tbody>
</table>

**Device Sync**

<table>
<thead>
<tr>
<th>Device DN</th>
<th>6101</th>
<th>This field specifies the number of the device being synchronized.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Type</td>
<td>Queue Location</td>
<td>This field specifies the type of device being synchronized.</td>
</tr>
<tr>
<td>Status</td>
<td>Completed</td>
<td>This field specifies the status of the device synchronization.</td>
</tr>
<tr>
<td>Error Code</td>
<td>9550</td>
<td>This field specifies the error code in case an error encountered synchronizing a device.</td>
</tr>
<tr>
<td>Error Description</td>
<td>HTTP/1.1 403 Access to the requested resource has been denied</td>
<td>This field specifies the description of the error.</td>
</tr>
</tbody>
</table>

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

**Table 15: provides error codes that may be displayed in the CUCM Sync Report**

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AXL Errors</strong></td>
<td></td>
</tr>
<tr>
<td>Less than 5000</td>
<td>These are errors that directly correspond to DBL Exception error codes.</td>
</tr>
<tr>
<td>5000</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Table 15: Provides error codes that may be displayed in the CUCM Sync Report

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5002</td>
<td>Unknown Request Error—This error occurs if the user agent submits a request that is unknown to the API.</td>
</tr>
<tr>
<td>5003</td>
<td>Invalid Value Exception—This error occurs if an invalid value is detected in the XML request.</td>
</tr>
<tr>
<td>5004</td>
<td>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.</td>
</tr>
<tr>
<td>5005</td>
<td>Unexpected Node Exception—This error occurs if the server encounters an unexpected element. For example, if the server expects the next node to be <code>&lt;name&gt;</code>, but encounters <code>&lt;protocol&gt;</code>, then this error is returned. These errors are always caused by malformed requests that do not adhere to the latest AXL Schema.</td>
</tr>
<tr>
<td>-239</td>
<td>Duplicate value in a UNIQUE INDEX column - This error occurs if the device being synchronized already exists in CUCM.</td>
</tr>
<tr>
<td>9000</td>
<td>Exception in AXL component - This error occurs if the device being synchronized already exists in CUCM.</td>
</tr>
<tr>
<td>9200</td>
<td>Device already created - This error occurs if the device being synchronized already exists in CUCM.</td>
</tr>
<tr>
<td>9300</td>
<td>Template device not found - This error occurs if the template device that you have selected to copy all device properties from does not exist.</td>
</tr>
<tr>
<td>9400</td>
<td>HTTP/1.1 503 Service Unavailable - This error is encountered when the CUCM limit for input through AXL exceeds.</td>
</tr>
<tr>
<td>9500</td>
<td>HTTP/1.1 401 Unauthorized - This error occurs due to problems in user authentication.</td>
</tr>
<tr>
<td>9550</td>
<td>HTTP/1.1 403 Access to the requested resource has been denied - This error occurs when access to a device is denied.</td>
</tr>
<tr>
<td>9600</td>
<td>CallManager OS not recognized - This error occurs when access to CUCM is denied.</td>
</tr>
<tr>
<td>9650</td>
<td>CallManager Version not detected - This error occurs when access to CUCM is denied.</td>
</tr>
<tr>
<td>9700</td>
<td>Socket error - This error occurs due to network problems.</td>
</tr>
<tr>
<td>9750</td>
<td>Connection refused - This error occurs due to network problems.</td>
</tr>
<tr>
<td>9755</td>
<td>Read Timeout - This error occurs due to network problems.</td>
</tr>
<tr>
<td>10000</td>
<td>Connection timeout - This error occurs due to network problems.</td>
</tr>
<tr>
<td>9900</td>
<td>An unknown error occurred - This is an unknown error.</td>
</tr>
</tbody>
</table>
Directory Filtering (for Cisco Unified Department Attendant Console only)

This section provides a list of teams and the departments they belong to. The Directory Filtering web page allows you to filter the teams in order to facilitate synchronization of contact details from Cisco Unified Attendant Console database with Cisco Unified Communications Manager via AXL API. You can select a team and view or edit the following information,

1. **Team:** This field displays the name of the team. This information cannot be changed.
2. **Department:** This field specifies the name of the department. You can update the department name through this page.
3. **Maximum Imported Records:** This field is used to specify the maximum number of contacts that can be imported for a particular team through LDAP.

Please note that this feature is only available for Cisco Unified Department Attendant Console.

2. In the Team Filtering section, select a team that you wish to modify.

3. Edit the information for the selected team.

The department name that you enter in the **Department** field shown above, can be searched on exact match as well as pattern match basis. If you enter an exact name (for example, **New Department**) in the field, the contacts will be synchronized for the particular department name entered.

The pattern match is based on wildcard. The following symbols are used to support wildcard,
If you enter a pattern in the Department field (for example, *Department?), the contacts will be synchronized for all the departments that have names following the pattern entered in the field (in this case, New Department1, Sales Department 3).

4. Once you have configured directory synchronization, click Submit would save the changes.

Directory Synchronization

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

1. **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.

2. **LDAP System Configuration:** This section allows you to Enable External LDAP Integration. This checkbox is checked when you wish to synchronize with CUCM using an external LDAP instead of CUCM’s LDAP.
   a. **DC Directory.** Standard Supported fields are:- Department, First_Name, Last_Name and INTL. With External LDAP turned on:- Email, Fax, Mobile, Title and Initials are available.
   b. **Microsoft Active Directory.** Standard Supported fields are:- Department, First_Name, Last_Name and INTL. With External LDAP turned on:- Email, Title, Company, Home Phone, Mobile, Initiats and Fax are available.
   c. **iPlanet/Netscape Directory.** Standard Supported fields are:- Department, First_Name, Last_Name and INTL. With External LDAP turned on:- Email, Initials and Fax are available.

4. **Auto Synchronization:** You can set preferences for automatic synchronization. The following options are available to do so,
   a. **On start-up:** If this checkbox is checked then the synchronization is started when Cisco Unified Attendant Server starts.
   b. **On reconnect:** If this checkbox is selected then the synchronization will start when Cisco Unified Attendant Server reconnects with the LDAP plug-in following a loss of connection.

4. **Schedule Settings:** This section requires information on the scheduling of synchronization. You must enter the following information,
   a. **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

### Table 16: provides the list of symbols that may be use for wildcard

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>Used to match any single character.</td>
</tr>
<tr>
<td>*</td>
<td>Used to match zero or more characters.</td>
</tr>
<tr>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

If you enter a pattern in the Department field (for example, *Department?), the contacts will be synchronized for all the departments that have names following the pattern entered in the field (in this case, New Department1, Sales Department 3).
iii. Daily
iv. Weekly
v. Monthly

b. 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).
c. Start date: This field is used to specify a date to start the synchronization.
d. Start time: This field is used to specify the time to start the synchronization.

To configure directory synchronization for Cisco Unified Business Attendant Console,
1. Go to System Configuration > Directory Synchronization.
2. Enter specifications for the above-mentioned sections.
3. Once you have configured directory synchronization, click Submit would save the changes.

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

Figure 20: displays the settings for Directory Synchronization

To configure directory synchronization for Cisco Unified Department Attendant Console,
1. Go to System Configuration > Directory Synchronization.
2. Enter specifications for the above-mentioned sections.
3. Once you have configured directory synchronization, click Submit would save the changes.

The following image shows the configurations you can set using the above-mentioned procedure.
2. Enter specifications for the following,
   a. Directory Import
   b. LDAP System Configuration
   c. Auto Synchronization
   d. Route Partition
   e. Schedule Settings

6. Once you have configured directory synchronization, click Submit would save the changes.

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

Figure 21: displays the Directory Synchronization page for Cisco Unified Department Attendant Console

User Configuration

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

- General settings for Cisco Unified Attendant Console
- Queue Management
- Operator Management
General Properties

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

1. **Internal/External Access:** These settings allow Cisco Unified 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,
   a. **Minimum internal device digit length:** This text box requires you to enter the minimum number of digits being used for an internal device.
   b. **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 up to 24 characters in length.
   c. **External access number:** This field specifies the access number when making a call to an external number.
   d. **External international access number:** This is the number that is to be dialled when making a call to an international external number.
   e. **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,
   a. **Hold recall:** This is the maximum time limit a call can be put on hold by an operator.
   b. **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.
   c. **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.

4. **Working Days (for Cisco Unified Business Attendant Console only):** This section allows you to set specific days and hours when the Attendant Console queues will be active. You must specify the following fields,
   a. The checkboxes provided allow you to select the days the queues are active.
   b. 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.

To configure General Properties,

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

   *Figure 22: displays menu option for General Properties*
2. Enter specifications for the above-mentioned sections.

3. Once you have configured the general properties, click Submit to save the changes.

The following image shows the General Properties page for Cisco Unified Business Attendant Console. The Working Days section is available here. Users with the license for Cisco Unified Department Attendant Console will not be provided with the Working Days section.

Queue Management

The Queue Management web page allows you to manage the configuration for existing queues. 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,
a. **Name (for Cisco Unified Business Attendant Console):** This field specifies the name of the queue.
b. **Team (for Cisco Unified Department Attendant Console):** This field specifies the name of the team.
c. **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.
d. **Priority (for Cisco Unified Business Attendant Console):** You can assign a priority number to a queue that determines which queue must be given priority when calls are being routed.

2. **Emergency (for Cisco Unified Business Attendant Console):** 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,
   a. **Overflow number:** In case of an overflow the exceeding number of calls will be transferred to the number specified in this field.
   b. **Maximum calls:** This field allows you to set the total number of calls that can wait in a Queue at any given time.
   c. **No operator overflow:** If there is no operator logged in to the selected queue, an incoming call will be immediately routed to the *Overflow number* if this checkbox is selected.

4. **Night Service (for Cisco Unified Business Attendant Console):** This section allows you to specify a *Night service number.* The calls made on the days and time specified for night service, are routed to this number.

To manage queues,

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

   *Figure 24: displays the menu option for Queue Management*

   ![Figure 24: displays the menu option for Queue Management](image)

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.
3. Edit the specifications for the above-mentioned sections.
4. Once you have modified the configuration, click **Submit** to save the changes.
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 Business Attendant Console.

*Figure 25: displays the Queue Management page for Cisco Unified Business Attendant Console*

<table>
<thead>
<tr>
<th>Queue Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
</tr>
<tr>
<td>Name*: DEV</td>
</tr>
<tr>
<td>DDI*: 9850</td>
</tr>
<tr>
<td>Priority*: 99</td>
</tr>
<tr>
<td>Emergency</td>
</tr>
<tr>
<td>Emergency number:</td>
</tr>
<tr>
<td>Overflow</td>
</tr>
<tr>
<td>Overflow number:</td>
</tr>
<tr>
<td>Maximum calls:</td>
</tr>
<tr>
<td>No operator overflow</td>
</tr>
<tr>
<td>Night Service</td>
</tr>
<tr>
<td>Night service number:</td>
</tr>
</tbody>
</table>

---

Submit | Synchronize with CUCM
If you have a license for Cisco Unified Department Attendant Console you will only be able to configure the fields shown in the following image.

Figure 26: displays the Queue Management page for Cisco Unified Department Attendant Console

### Queue Management

**General**

- Team:* Team 1
- DDI:* 1205

**Overflow**

- Overflow number: 123
- Maximum calls: 11
  
  (0-255, 0 = Disabled)
  
  ✔ No operator overflow

![Submit] Synchronize with CCM

---

**Operator Management**

The **Operator Management** web page allows you to manage the configuration for the operator profile.

To manage operators,

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

   Figure 27: displays the menu option for Operator Management

   ![Menu Options]

   - Select the operator profile that needs to be modified. Once an operator profile is selected, the form will be automatically loaded with the operators profile information.

2. Edit **Login name**.

3. Edit **Team name** (for Cisco Unified Department Attendant Console only).

4. Change **Password**.

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

6. Click **Submit** to save changes.
8. 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 Business Attendant Console.

*Figure 28: displays Operator Management page for CUBAC*  

![Operator Management](image)

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Login name:*</td>
<td>OPERATOR1</td>
</tr>
<tr>
<td>Password:</td>
<td>**************</td>
</tr>
<tr>
<td>Confirm password:</td>
<td>**************</td>
</tr>
</tbody>
</table>

Submit  Reset Password  

If you have a license for Cisco Unified Department Attendant Console you will be able to configure the fields shown in the following image.

*Figure 29: displays Operator Management page for CUDAC*  

![Operator Management](image)

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Login name:*</td>
<td>OPERATOR1</td>
</tr>
<tr>
<td>Team:</td>
<td>Team 1</td>
</tr>
<tr>
<td>Password:</td>
<td>**************</td>
</tr>
<tr>
<td>Confirm password:</td>
<td>**************</td>
</tr>
</tbody>
</table>

Submit  Reset Password  

Uninstalling the Application and its Components

This section describes in detail how to uninstall the following,
1. Cisco Unified Attendant Server
2. SQL Server 2005
3. BDE
4. .Net Framework

Uninstalling Cisco Unified Attendant Server

The following steps are followed in order to uninstall the application,
1. Go to Start > Settings > Control Panel > Add/Remove Programs.

Figure 1: displays the Add/Remove Programs window
2. Select Cisco Unified Attendant Server from the list of Programs. Click **Remove**.
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 2: displays the Preparing to Install screen*

   ![Preparing to Install](image)

4. The following message box will appear confirming whether you want to remove Cisco Unified Attendant Server from your machine or not. Click **OK** to continue.

   *Figure 3: displays the message box that asks you if you want to remove the application from the system*

   ![Confirm Uninstall](image)

5. The next window displays the progress of the un-installation.

   *Figure 4: displays the un-installation progress of the application*

   ![Uninstallation Progress](image)
6. Once the files have been uninstalled successfully, the next window will ask whether you wish to restart the computer now or later. It is recommended that you restart the machine. Click Finish.

Figure 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,
1. Go to Start > Settings > Control Panel > Add/Remove Programs.

Figure 6: displays the Add/Remove Programs window
2. Select Microsoft SQL Server from the list of Programs. Click **Remove**.
3. The next window will display the list of server instances. Select the instance that you wish to be removed.

   **Figure 7:** displays the server instance to be removed

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

   **Figure 8:** displays the summary screen for the components that need to be uninstalled
5. In the next window, the status will be displayed for the components removal. Click **Finish** once all the components have been removed.

*Figure 9: displays the setup progress*

![Setup Progress](image)

6. Once you have uninstalled MS SQL Server, you must delete the databases on the following location, 

C:\DBdata\
Uninstalling BDE Utility

The following steps are followed in order to uninstall BDE Utility,
1. Go to Start > Settings > Control Panel > Add/Remove Programs.

   *Figure 10: displays the Add/Remove Programs window*

2. Select BDE Utility from the list of Programs. Click Remove.
3. The next window that is displayed will show the status of the wizard while the files are being prepared to uninstall BDE.

   *Figure 11: displays the Preparing to Install screen*
4. The next message box will confirm whether you wish to remove BDE or not. Click OK to continue.

*Figure 12: displays the message box to confirm whether all features of the BDE Utility need to removed or not*

5. The next window will display the setup status and the progress for the features removed.

*Figure 13: displays the setup status for the uninstallation of the application*

6. Once the BDE Utility has been removed the following screen will appear.

*Figure 14: displays the screen that shows that the removal of BDE Utility is complete*
Uninstalling .NET Framework

The following steps are followed in order to uninstall .NET Framework,
1. Go to Start > Settings > Control Panel > Add/Remove Programs.

   Figure 15: displays the Add/Remove Programs window

2. Select Microsoft .NET Framework 2.0 from the list of Programs. Click Remove.
3. The next window provides you with the option to either repair the installed files or uninstall .NET Framework.

   Figure 16: displays the option to either repair or uninstall .NET Framework
Chapter 6  Uninstalling the Application and its Components

4. The next message box will appear confirming if you would like to remove .NET Framework. Click OK.

*Figure 17: displays the message box to confirm whether you wish to remove .NET Framework or not*

5. The next window will display the setup progress of the components being removed.

*Figure 18: displays the setup progress for the uninstallation of .NET Framework*
6. The next window will display that the components have been uninstalled successfully. Click Finish.

*Figure 19: displays the message that the .NET Framework components have been removed successfully*
Creating the Attendant Applications
End User for CallManager 4.3

An End User is required within CallManager to allow Cisco Unified Attendant applications to communicate with the CallManager via TSP. This user is created in order to,

- Access AXL API
- All CTI related functionalities

The end user profile that is created here is later used to connect to CCM through Cisco Unified Attendant Admin. This end 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 End User
2. Creating a User Group with the correct roles associated
3. Associating the user with the user group.
4.

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

---

**Note**

If you are using Active Directory to Synchronize with the CallManager, the End User profile must exist in AD.

### Assigning Access Rights

In order to assign access rights required to create new End User, you must log into Cisco Unified CallManager 4.3. Enable MultiLevelAdmin as instructed below,

1. Go to User > Access Rights > Configure MLA Parameters.

*Figure 1: displays the menu to configure Access Rights option*
2. From the *Enable MultiLevelAdmin* dropdown list, select *True*.

*Figure 2: displays the configuration for MLA*

Two new fields, *New password for CCMAdministrator* and *Confirm password for CCMAdministrator*, will appear on the same page, as shown in the image below.

*Figure 3: displays the new fields to set new CCM Administrator password*

3. Enter password in *New password for CCMAdministrator* field.
4. Re-enter to confirm the password in *Confirm password for CCMAdministrator* field.
5. Click *Update*.

Once the password has been set, you must restart Cisco Unified CallManager and log in with CCMAdministrator login using the new password set in the procedure mentioned above.
Setting Up an End User

Once you have logged in as CCMAdministrator, you must follow these steps,

From CUCM Administration,
1. Choose User > Add a New User.

*Figure 4: displays the menu used to create a new user*

2. Enter information in the following fields. Please note that the fields mentioned below are mandatory.
   a. Last Name
   b. User ID
   c. User Password
   d. Confirm Password
   e. PIN
   f. Confirm PIN
   g. Enable CTI Application Use

*Figure 5: displays the user configuration for End User*

3. Click Insert.

Assigning the End User to SuperUserGroup

The SuperUserGroup 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 SuperUserGroup.

To add the user to SuperUserGroup,

   *Figure 6: displays the menu for User Group*

2. On the User Group Configuration page, select **SuperUserGroup** from the User Groups list.

   *Figure 7: displays the User Group Configuration page for SuperUserGroup*

3. Click **Add a User to Group**.
4. On the next page search for the user you created in the previous section

   *Figure 8: displays the search option to find the newly created user*

5. From the Search Result, select the user and click **Add Selected**. The user will be added to the SuperUserGroup successfully.
Creating the Attendant Application
End User for CallManager 5.x/6.x/7.x

An **End User** is required within CUCM to allow Cisco Unified Attendant applications to communicate with the CallManager via TSP. This user is created in order to,

- Access AXL API
- All CTI related functionalities

The end user profile that is created here is later used to connect to CCM through Cisco Unified Attendant Admin. This end 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 End User
2. Creating a User Group with the correct roles associated
3. Associating the user with the user group.

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

---

**Note**

If you are using Active Directory to Synchronize with the CallManager, the End User profile must exist in AD.

---

**Setting Up an End User**

To set up a new End User, you must follow these steps,

From CUCM Administration,

1. Choose *User Management > End User.*
2. Click the button to add a new user.
3. Enter information in the following fields. Please note that the fields mentioned below are mandatory.
   a. User ID
   b. Password
   c. Confirm Password
   d. PIN
   e. Confirm PIN
   f. Last Name

4. Click **Save** to save the settings for newly created user.
Creating a User Group

Once the 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,

2. Click the button to add a new user group.
3. Enter Name for the new user group.

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,
1. Choose Back To Find/List > Go or User Management > User Groups.
2. On Find and List User Groups page, search for the user group you created.

Figure 3: displays the menu option for User Group

Figure 4: displays the User Group Configuration page
3. In the Search Results, click on the Roles link for the user group.
4. Click Assign Role to Group to find and list roles for assignment.
5. Select the roles that need to be assigned to this group. The following checkboxes must be selected:
   a. Standard CTI Allow Car Park Monitoring
   b. Standard CTI Allow Calling Number Modification
   c. Standard CTI Allow Control of All Devices
   d. Standard CTI Allow Reception of SRTP Key Material
   e. Standard CTI Enabled
6. Click Add Selected to assign roles.
7. Click Save.

To add the End User to the User Group,
2. Click the newly created User Group.
3. Click Add End Users to the Group to find and list the users.

4. Select the newly created End user from the list and click Add Selected to successfully add the user to the group.
Adding End User to Standard 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 Super CCM User,
3. In the Search Results, Click Standard Super CCM Users.
4. Click Add End Users to the Group to find and list the users.
5. Select the newly created End user from the list and click Add Selected to successfully add the user to this group.
Figure 10: displays the selected search result that is to be added to the user group

![Search Options]

**Search Options**

Find user where [User ID] begins with UserID

(userid begins with UserID)

---

**Search Results**

<table>
<thead>
<tr>
<th>User ID</th>
<th>First Name</th>
<th>Last Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>UserID1</td>
<td></td>
<td>lastname1</td>
</tr>
</tbody>
</table>

Select All | Clear All | Add Selected | Close | Rows per Page: 250

Configuring Access for the Cisco Unified Attendant CUPS Plug-In

It is important that the Cisco Unified Attendant CUPs Plug-in Address is added to the firewall information on the CallManager.

To do this go to Cisco Unified Presence menu, and select Proxy Server and Incoming ACL (access control list)

Figure 11: displays accessing the Cisco Unified Presence Proxy Server, Incoming ACL menu.

The page **Find and List Allowed Incoming Hosts** will be displayed.
Click on **Add New** and enter the **Description** and **Address Pattern**.

Confirm the address and description have been added.
TAPI Configuration

You must install Cisco Telephony Service Provider (TSP) on the machine that will run the Cisco Unified Attendant Server. This allows the Server to communicate with CUCM’s CTI Manager service to allow call control on all devices associated to the End 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 Attendant Console will download the TSP installation file to the Desktop of the server machine. To download manually follow steps 1-4 below.

On the Server machine browse to CUCM Administration,

1. Select Application > Plugins.

Figure 1: displays the menu option for plugins

<table>
<thead>
<tr>
<th>Application</th>
<th>User Management</th>
<th>null</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco IPMA Configuration Wizard</td>
<td>Cisco Unified CM Attendant Console</td>
<td>Plugins</td>
</tr>
</tbody>
</table>

2. Find Cisco Telephony Service Provider using the search field.

Figure 2: displays the search option to find and list the required plugin

<table>
<thead>
<tr>
<th>Search Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find Plugin where Plugin Name begins with Cisco Telephony Service</td>
</tr>
<tr>
<td>and Plugin Type equals Installation</td>
</tr>
</tbody>
</table>

3. In the Search Results, click Download on the Cisco Telephony Service Provider line.
4. Save CiscoTSP.exe on your desktop.
5. Double Click the CiscoTSP.exe icon on the desktop and follow the on screen instructions to complete the install.
6. During the installation, you will be asked if you want to install multiple instances of TSP. Click No.

Figure 3: displays the message box confirming whether multiple instances for TSP are to be installed or not

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,
1. Go to Start > Settings > Control Panel > Phone and Modem Options.
2. Select Advanced tab.
3. Select CiscoTSP001.tsp.
4. Click Configure.
5. Enter the End User ID of the user that was created for the CallManager earlier in the User Name field.
6. Enter the password of the user in the Password field.

Figure 4: displays the End User ID information to be entered in the fields

7. Select the CTI Manager tab,
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.

9. Select the Wave tab.

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. After completing the TSP configuration you will need to install the **Cisco TAPI WAVE** driver. The instructions on how to do this are included on the Cisco TSP readme file. You will also need to uninstall and reinstall this driver every time you change the figure here.

11. Click OK.
12. Select Advanced tab.
13. In the Provider Open Completed Timeout (secs) field enter 300.
14. Click OK.
15. Reboot the machine.
16. Install the Cisco Tapi Wave driver, using instructions in the Cisco TSP readme file located in C:\Program Files\Cisco\ciscotsp.txt
17. Reboot the server.
   TAPI has now been successfully installed.

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.

1. From Control Panel execute the Add Hardware utility. Click the Next button.
2. Select Yes, I have already connected the hardware Radio button. Click Next.
3. Select Add a new Hardware device from the list. Click the Next button.
4. Select Install the hardware that I manually select from a list radio button. Click the Next button.
5. Select Sound, video and game controller when prompted for hardware type. Click the Next button.
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.
7. Click Open to install the Cisco Wave Driver and select OK.
8. Highlight the Cisco TAPI Wave Driver in Select a Device Driver window and select Next. Select Next in Start Hardware Installation window.
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.

1. You will be prompted to reboot the server. Do so.
2. TAPI has now been successfully installed.
The following Appendix outlines the process of downloading, updating and licensing the Cisco Unified Attendant Applications. This is done via the Solutions + website.

**Updating from an Earlier Version of Cisco Unified Attendant Applications**

The Cisco 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 Attendant Console Applications it is recommended that you back up the Cisco Folder, backup of DBs and within the Registry the backup of Arcsolutions folder.

**Accessing the Solutions + Website**

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

Go the website [http://cisco-ac.arcsolutions.com](http://cisco-ac.arcsolutions.com)

---

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

---

Enter your *User Name* and *Password* to **Log In** to the web site.
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.
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 Submit to complete the registration of this account.

Figure 2 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 3 Completing the Account creation
Appendix D  Downloading, Updating and Registering Software

Logging into the site

When you log into the account, the initial Welcome screen provides the following options:-

- **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 initial 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.

![Welcome Screen](image)

**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.
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. Saving the file to a local area is recommended.

The download for CUBAC and CUDAC are around 250mb. The contents include SQL database, explorer, installs, languages and the CUxAC software.

When the software has been downloaded, continue with the installation process described in Section 4 Installation of Cisco Unified Attendant Applications 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 across a drill down method across three screens.
- Registration code from an installed CUBAC/CUDAC software. This information is obtained from the Help menu within the Cisco Unified Business/Department Attendant Console Web Admin.

Log into the account, and select Activate Evaluation Software. You will be prompted to select your Reseller.

If your Reseller is not available there is facility to add a Reseller.

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

**Note**

Within the Cisco Unified Business/Department Attendant Console Web Admin the Product Key is referred to as Registration Code within the Help>Licensing menu.

Select the Product that you have installed. When you click Next, an Activation Code will be emailed out to the registered email address, and a confirmation screen will confirm this.

Save the Activation code to a location where it can be browsed to from the CUBAC/CUDAC Web Admin server.

Return to the CUBAC/CUDAC Web Admin Server and bring up the License Management screen (Help > Licensing)
Appendix D     Downloading, Updating and Registering Software

Figure 12 License Management screen

Use **Browse** to locate the Registration File. When the file has been found, Click on **Submit** to complete the process.

---

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 and LAC number that you are activating.
The License Code (LAC) is obtained from the reseller when the product is purchased.

When you click **Submit**, another screen will appear and you will be prompted to enter the **Product Key**. This information is obtained from the **Help>Licensing** menu within the Cisco Unified Business/Department Attendant Console Web Admin.

**Note**

Within the Cisco Unified Business/Department Attendant Console Web Admin the Product Key is referred to as Registration Code within the **Help>Licensing** menu.
When you click **Submit**, the Activation Code will be emailed out to the registered email address, and a confirmation screen will confirm this.

Save the Activation code to a location where it can be browsed to from the CUBAC/CUDAC Web Admin server. Return to the CUBAC/CUDAC Web Admin Server and bring up the License Management screen (**Help > Licensing**).

Use **Browse** to locate the Registration File. When the file has been found, Click on **Submit** to complete the process. After applying the license the services should be stopped and restarted for the registration to be completed.
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**.
## Glossary

<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AXL API</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Call Parking Devices</strong></td>
<td>Virtual devices where calls can be held temporarily and picked from any other call centre extension.</td>
</tr>
<tr>
<td><strong>CMC</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>CTI Port</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>CTI Route Point</strong></td>
<td>A computer telephony integration (CTI) route point designates a virtual device that can receive multiple, simultaneous calls for application-controlled redirection.</td>
</tr>
</tbody>
</table>
### 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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