

# Arc Connect Installation Guide

Version 4.1



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## Section 1: Introduction

Welcome to the Arc Connect walkthrough. This document is about the whole Arc Product suite, giving a detailed overview of each. The document describes the installation procedures of the applications and their configurations.

It also contains the trouble shooting issues and their workarounds.

This document assumes that the reader has knowledge of,

- Cisco CallManager
- Windows 98/2000/XP
- TCP/IP
- Microsoft TAPI 2.1
- Cisco CallManager TSP

This document should be read in conjunction with the Arc Connect System Design Guide available from the Arc Solutions Website <http://www.arcsolutions.com/>

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## Section 2: Important Information

### 2.1 Compatibility between Arc Connect 4.1 and CallManager

<b>Call Manager</b>	4.0(2a)	4.1(3)
Cisco TAPI TSP	4.0(0.2203)	4.1(1.4)
<b>Arc Connect</b>	3.1.5 4.1.0	3.1.5 4.1.0
Music On Hold in Queue	Yes	Yes
Music On Hold – Operator	Yes	Yes
One Step Transfer	Yes	Yes
Call Parking	Yes	Yes

#### Music on Hold

Arc Connect supports Music on Hold (MoH) from CallManager in the following areas,

1. Between in-queue messages
2. When on Operator holds a call
3. During a blind transfer
4. During a re-established transfer
5. During a camp-on

A music source must be selected on the relevant devices to enable this functionality. The use of music in both the queuing and hold scenarios is controlled via settings on the Arc Server.

#### TAPI Resilience

CallManager allows a TAPI client to communicate with a primary and backup CTI Manager to receive TAPI information. This allows the Arc server and clients to carry on functioning if a failover occurs. The backup CTI Manager should be the CallManager server to which the phones fail over. For more information see Appendix 3.

#### Busy Lamp Field

The number of devices that are monitored by the Operator's Busy Lamp Field will have an effect on the performance of Arc Connect where the Console is being used. A limit of 2000 devices per Arc Connect Server is recommended. (See the Arc Connect Design Guide for more details)

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**Call Park**

It allows an Operator to place a call on a device and then call the person to attend it. The contact can then dial for the device where the call is held and answer it.

**Auto Answer**

This feature forces call down to the Operators and automatically answers it. The calls that revert to the Operators can also be automatically answered.

**2.1.1 Other items to remember**

1. The Arc Connect should not be installed on a machine that will act as the CallManager.
2. Headset operation is supported.
3. Arc recommends that you take a backup copy of the log before purging the data.

**2.2 Requirements for Arc Connect Suite (SQL Server Version)**

Arc Connect server using SQL Server database can be installed on the same machine where SQL Server has been installed. Anyway, it is advised to keep the two machines separate for a better performance.

**2.2.1 Arcdata Folder**

Before installing the Arc Connect Server (SQL Version), the machine running the SQL Server should have a shared folder 'Arcdata'. This folder should be created on 'C' drive. After installing the Arc Connect Server/Admin, while creating databases, Arc Admin Utility will select this folder as the database location on the drive. This folder will contain the databases files as well as the log files for the databases.

This folder (Arcdata) has to be shared for the copy and move operations of databases from one SQL Server to another using the Arc Admin utility.

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## Section 3: Product Overview

Arc Connect is a wide-ranging suite of Client-Server Computer Telephony Applications.

The TAPI used as an interface to the CallManager, allows the applications to provide customers with the Call Centre functionality; that are making the calls, receiving them, and performing actions on calls such as transferring, conferencing etc and the IVR facilities. The TAPI is an abbreviation of Telephony Application Programming Interface utilized by the Arc Connect.

The applications in the Arc Connect that are described in this document are briefly explained below,

### Console Connect

This is a Screen-based Operator's console that has been developed to work completely on CallManager. Essentially, we have taken the traditional telephone switchboard and re-created it as a Windows application. It is visually more appealing, easier to operate and user friendly.

### Voice Connect

It is a Server application that has been designed to enhance the voice resource on a PBX. Voice Connect is used for creating an Auto Attendant that routes the calls to the desired destination of the caller. In addition to that, In-Queue messages can be recorded and played for the callers waiting for the Operators in call Queues.

### Supervisor Connect

It is an add-on module to the Arc Connect suite. It is a Client application, which is located on the client PC. Supervisor Connect has the following functions,

1. Historical Reporting
2. Real-Time Reporting
3. Graphical Analysis
4. On-the-fly changes to the System
5. Online Messaging

Supervisor Connect will monitor and control Arc stand-alone modules. These modules are,

1. Console Connect
2. Voice Connect

### Wallboard Connect

It is a soft Wallboard application that displays the current statistics of the Call Centre. It is easy to configure the settings for the Wallboard. Also the user can re-configure it taking easy steps. The Wallboard displays,

1. Real-time statistics of the Entire System
2. Real-time statistics by Queue/Department
3. Real-time statistics by User

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### 3.1.1 Call Manager Numbering Plan for a Test Install

Directory Number	Device Name	Arc Function	Arc Connect Application	Device Type
8500	Cons_Queue_Loc1	Queue Location for Console1	Console Connect	CTI Route Point
8502	Voice_Queue_Loc1	Queue Location for Voice Session	Voice Connect	CTI Route Point
8503	Pre_Gateway1	DDI translation point	Console Connect & Voice Connect	CTI Route Point
8504	Pre_Gateway2	DDI translation point	Console Connect & Voice Connect	CTI Route Point
8505	Pre_Gateway3	DDI translation point	Console Connect & Voice Connect	CTI Route Point
8000	Gateway_1	Gateway ports for holding Calls	ALL	CTI Port
8001	Gateway_2	Gateway ports for holding Calls	ALL	CTI Port
8002	Gateway_3	Gateway ports for holding Calls	ALL	CTI Port
8003	Gateway_4	Gateway ports for holding Calls	ALL	CTI Port
8004	Gateway_5	Gateway ports for holding Calls	ALL	CTI Port
8400	Service_Queue1	Ports for Console Service Queue	Console Connect	CTI Port
8401	Service_Queue2	Ports for Console Service Queue	Console Connect	CTI Port
8402	Service_Queue3	Ports for Console Service Queue	Console Connect	CTI Port
8403	Service_Queue4	Ports for Console Service Queue	Console Connect	CTI Port
8404	Service_Queue5	Ports for Console Service Queue	Console Connect	CTI Port
8300	Voice_Port1	Voice Ports for playing and recording messages	Voice Connect	CTI Port
8600	Park_Queue1	Ports for Console Call parking	Console Connect	CTI Port
8601	Park_Queue2	Ports for Console Call parking	Console Connect	CTI Port

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8602	Park_Queue3	Ports for Console Call parking	Console Connect	CTI Port
8603	Park_Queue4	Ports for Console Call parking	Console Connect	CTI Port
8604	Park_Queue5	Ports for Console Call parking	Console Connect	CTI Port
8700	PCP_1	Ports for retriving Personal Call Park calls	Console Connect	CTI Route Point

### 3.2 Performance Information

Performance of Arc Connect can be measured in several ways,

- Number of Operators
- Number of Calls that can be held prior to distribution
- Number of monitored devices in the Busy Lamp Field

Performance Item	Maximum (per Arc Connect Server)
Number of Console Operators	100
Number of Holding Calls	200
Maximum Console BHCA	5100 (Cisco Certified)
Max Devices in BLF	2000 (subject to a minimum of 1 Publisher, 2 Subscriber)

### 3.3 Arc Connect Hardware / Software Requirements

The information provided below gives details of the minimum hardware/software required to run the Arc Connect suite of products.

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**PC Server** – Arc Connect is a client server application. The server side will need to run on a dedicated PC Server. No other applications must run on this server.  
The following table details the minimum specification required by the Arc Connect Server application.

Applies To	PC Specification
Arc Connect Server	<p><b>Pentium 4 2.2 GHz</b>  1 GB RAM  40 GB Hard Drive  CD-ROM/DVD-Rom  Network Card  SVGA (1024x768) display card with correct drivers  Windows 2000 Server SP4 or Windows 2003 Server SP1* running Windows English Regional Settings.  Windows 2003 Server  SQL Server 2000 with Service Pack 3 / MSDE for smaller installations  Microsoft Excel for Directory Importing  * Windows 2003 Server is supported for Arc 3.1.3 and upwards <i>only</i></p>
SQL Server 2000 Licensing	<p>There are two methods of licensing:  <b><u>"Per Processor" license</u></b>  This gives you unlimited connections to the Database. Therefore, there will not be any issue with using Arc Connect with a Per Processor licensed version of SQL.  OR  <b><u>"SQL Server &amp; CALS" license</u></b>  The other way to license SQL Server is using CALS (Client Access Licenses). Effectively, you purchase 1 CAL per connection to the SQL Database.  To understand <i>exactly</i> how the Arc Connect system uses SQL and how many connections are needed, this is broken down as follows. Only the applications which use licenses are documented:</p> <p>Arc Server - 2 Connections  Supervisor – 1 Connection per logged in Supervisor  Console Operator – 1 CAL per operator</p>
The Server should be connected to the network via the TCP/IP protocol.	
The Arc Server will require the appropriate Operating System Licenses.	

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2. The minimum specification required by each of the Arc Connect Client applications is as follows,

Applies To	PC Specification
<p>Arc Connect Client PC running the following application,</p> <ol style="list-style-type: none"><li>1. Supervisor</li></ol>	<p><b>Pentium 4 Entry Level Specification</b> 512 MB RAM 400MB available Hard Drive space CD-ROM/DVD-ROM Network Card Connected to Network via TCP/IP SVGA (1024x768) display card Windows Small Fonts Windows 2000 Professional / Windows XP Professional</p>
<ol style="list-style-type: none"><li>2. Console Operator</li><li>3. Arc Wallboard</li></ol>	<p><b>Pentium 4 Entry Level Specification</b> 512 MB RAM 1GB available Hard Drive space CD-ROM/DVD-ROM Network Card Connected to Network via TCP/IP SVGA (1024x768) display card Windows Small Fonts <i>17 Monitor highly recommended</i> Windows 2000 Professional / Windows XP Professional</p> <p>USB 1.0/2.0 Port for Arc Console Keyboard</p> <p>SoundBlaster compatible sound card and speakers are required for the Console Operator and Arc Wallboard.</p>

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**3. Backups** – As with all systems, we advise that backup facilities are provided to ensure application and data integrity, should an unforeseen circumstance arise. Arc recommends Veritas Backup Exec 8.6 or above, backing up all files including open files.

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** – We strongly recommend 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**

All servers in a Windows environment have a requirement for Anti Virus software, and the ARC Connect Server(s) are no exception to this rule.

McAfee NetShield, Norton Antivirus, Trend OfficeScan

**6.** The following table outlines the network requirements for running the Arc Connect Server and Client applications.

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

If you require further information, please contact Arc Technical Support on +44 (0) 870 220 2205.

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## Section 4: Installation Checklist

This checklist is designed to guide you through the installation process for Arc Console Connect 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 Checklist	
<b>Step 1 Preparation</b>	
Decide on Queues and Operators required	
Study Design Guide and formulate system numbering plan <ul style="list-style-type: none"> <li>- Host PBX Gateway (Max calls queuing at one time)</li> <li>- Service Q (Operator Held Calls, call in transfer, Recalls)</li> <li>- Park (Max Parked Calls at any point in time)</li> <li>- Queue Locations (1 per queue)</li> <li>- Pre CT Gateway Devices (for call filtering)</li> <li>- Static Voice Port</li> </ul>	
<b>Step 2 Install and Configure Arc Console</b>	
Install Arc Server and Admin applications (Use 127.0.0.1 for server name)	
Create Arc Data folder on root of C: drive	
Open Administration Application <ul style="list-style-type: none"> <li>- Create Configuration database</li> <li>- Create Arc Log Database</li> </ul>	
Configure CT Gateway section for System Devices and Directory <ul style="list-style-type: none"> <li>- General Settings</li> <li>- Resource Groups Devices</li> <li>- Main Directory</li> <li>- Directory Groups if required</li> </ul>	
Configure LDAP Synchronisation if required	
Configure Users <ul style="list-style-type: none"> <li>- Console Operators</li> <li>- Supervisors</li> <li>- Wallboards</li> </ul>	
Configure Console Connect	
Console Queues <ul style="list-style-type: none"> <li>- Name and Location</li> <li>- Distribution Type</li> <li>- Overflows <ul style="list-style-type: none"> <li>- Emergency</li> <li>- Max Calls</li> <li>- Max Waiting Time</li> <li>- No Operators logged in</li> </ul> </li> </ul>	
Assign Operators to Queues (Operators Queues)	
Assign Directory Groups to Operators (Operators Groups)	
Add Call Filters	
Add Break Hours for each queue as required (Breaks are on a 24 hour basis, to set a break overnight set a break up to 23:59:59 and another break from 00:00:00 to the start of the working day)	
Click OK to complete Arc Console configuration	

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<b>Step 3 CallManager Configuration</b>	
Create partition and Calling Search Space or add to existing ones (We recommend that all Arc devices need to be reached for all extensions and gateways, and be able to dial all devices and gateways)	
Create CTI Route Points for Queue Locations and Pre CT Gateway devices	
Create CTI Ports for Host PBX Gateway, Service Queue, Park and Static Voice ports	
Create User Profile and enable CTI usage, associate all device to be used by Arc <ul style="list-style-type: none"> <li>- CTI Ports</li> <li>- CTI Route Points</li> <li>- Phones for Operators</li> <li>- All devices to be monitored in Busy Lamp Field</li> </ul>	

<b>Step 4 Install Cisco TSP on Arc Server</b>	
Browse to CallManager configuration and select Application>Install Plugins	
Select Cisco Telephony Service Provider and run the install following the onscreen instructions.	
After rebooting the Server configure the TSP, making sure to allow for enough Automated Voice Lines (CTI Ports that will be used by Arc)	
Install Cisco TAPI Wave Driver (instructions are in the TSP readme file)	
Reboot the server	

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

<b>Step 6 Install and Configure Arc Voice Connect (Optional)</b>	
Install Voice Server on same machine as Arc Server	
Reboot if requested	
Open Voice Server application and select Configuration>Voice Ports to select your static voice port.	
Start Voice Server	
From Arc Administration application, select Voice Connect	
Configure General Settings (you must select a default In-Queue Position Message even if not using this type of message)	
Record any new phrases	
Create new messages from recorded phrases	
Add in-queue messages to each queue as required	
If using Auto Attendant, create new scripts	
Create Voice Sessions <ul style="list-style-type: none"> <li>• Name and location</li> <li>• Select script</li> <li>• Overflows</li> </ul>	
Add Break Hours for Voice Sessions	
Click OK to complete configuration	

<b>Step 6 Install Operator</b>	
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<b>Step 7 Test Console Connect</b>	
Start Arc Server	
Log in Operator	
Make test calls dialling Queue Location or Pre CT Gateway device.	

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## Section 5: Installation of Arc Connect Components

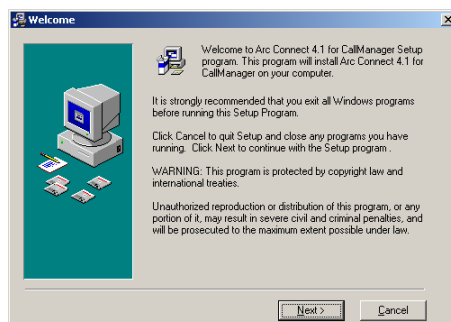
The Arc installation procedures described in this section are about the Client-Server applications in the Arc Connect. They are listed in the follows,

- Arc Connect Server
  - Arc Voice Connect Server
  - Arc Calendar Server
  - Arc Console Operator
  - Arc Connect Wallboard
  - Arc Connect Supervisor
  - Arc Connect LDAP Server
1. Insert the Arc Connect CD into to the CDROM, or browse the directory to which the downloaded installation files are saved.
  2. Select the installing location from **My Computer** or **Windows Explorer** to view the directories on the CD. The directories are named according to the applications they contain.

### 5.1.1 Installation of the Arc Connect Server and Administration

1. User should run the Server / Administration application first. Install it on a machine that is allocated to run the Arc Connect Server.

2.



The first window appears displaying a welcome note and instructions on installing.

Click **Next**.

3.



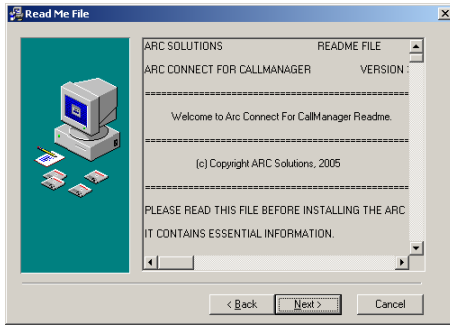
The next step of the installation script contains the License Agreement.

Click **I Agree** to continue.

If you do not agree with the license, clicking on **I Disagree** will quit the installation.

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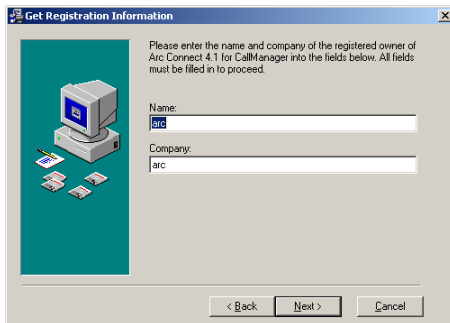
4.



This window contains important Read Me information. Once this information is read, click **Next** to proceed.

**Note:** Please ensure that you read this file because it contains important information for the Call Manager.

5.

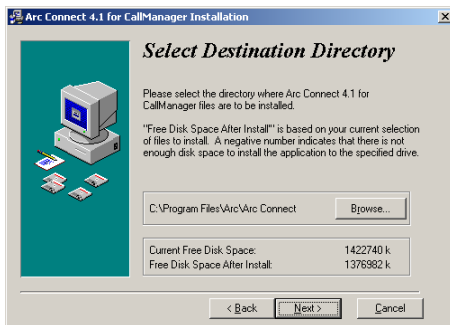


The next window contains registration information. In the **Name** text box, type the name of the license holder, and type the company name into the **Company** text box.

Click **Next** to proceed.

**Note:** Please ensure the correct spelling of these names.

6.

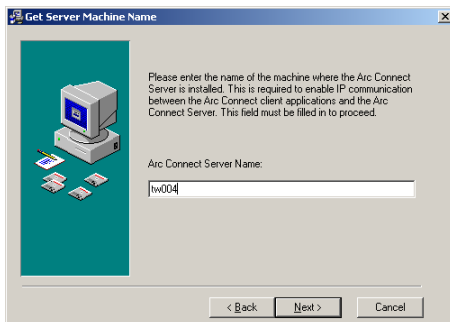


The next window is for selecting the directory into which you wish to install the application. The default location is C:\Program Files\Arc\Arc Connect.

By using the **Browse** button, you can select a different path and directory.

Click the **Next** button.

7.



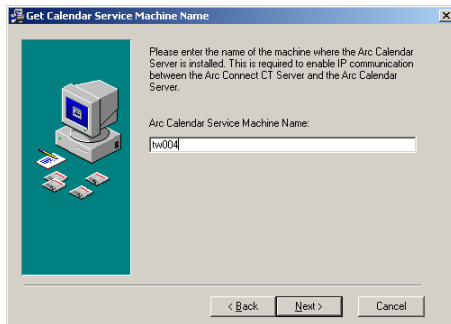
In this window, it is necessary to type the **Name** (or **IP Address**) of the machine onto which the Server application is being installed.

Click **Next**.

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

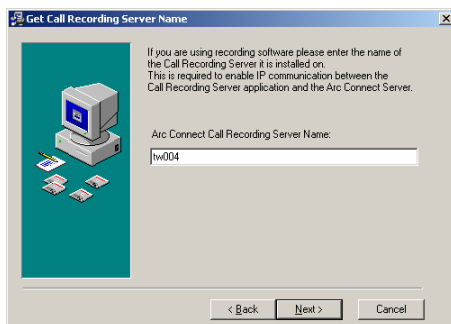
[<<TOC](#)

8.



In this window, it is necessary to type the **Name** (or **IP Address**) of the machine onto which the Calendar Service is being installed. Click **Next**.

9.

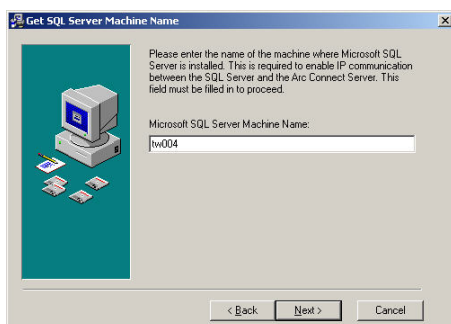


In this window, type the **Name** (or **IP Address**) of the machine onto which the Call Recording Server is being installed.

Click the **Next** button.

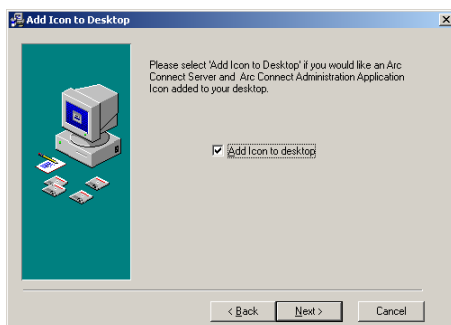
**Note:** If no Call Recording Server is being installed then this box can be left blank.

10.



If installing Arc Connect version for SQL Server, then in the next window, give the **Name** or **IP Address** of the machine where SQL Server is installed and will be used by Arc Connect Server to keep the databases.

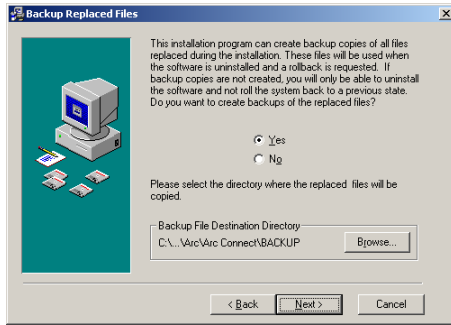
11.



In the next window, selecting the checkbox will add an icon for Arc Connect Server and Arc Connect Administration on the desktop. Click the **Next** button to proceed.

[<<TOC](#)

12.

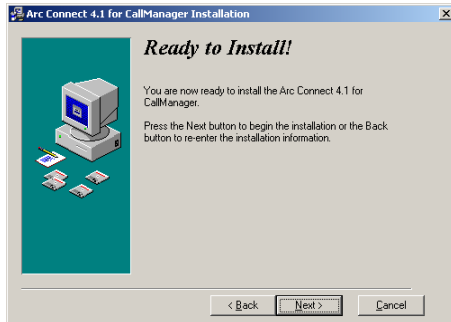


Select **Yes** to have a backup. If **Yes** is selected which is recommended on a live site, select a directory into which the backup files will be placed. The default location for backup is C:\Program Files\Arc\Arc Connect\Backup. Click **Browse** to select a different path and directory.

Click **Next**.

**Note:** These backup files will be altered or replaced by the installation routine.

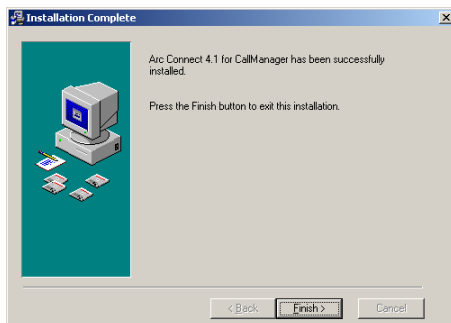
13.



The next window is the last one before the installation script starts.

Click **Next** to proceed.

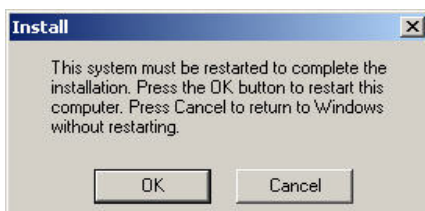
14.



Once the installation has been completed the following window will be seen.

Click **Finish** to complete installation.

15.



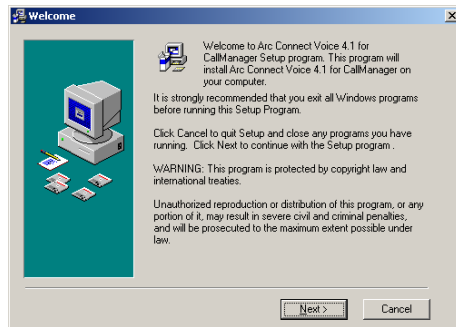
It is necessary to restart the PC after the installation of Arc Connect Server and Administration has completed.

Click **Ok** to restart the PC.

[<<TOC](#)

## 5.1.2 Installation of the Arc Voice Server

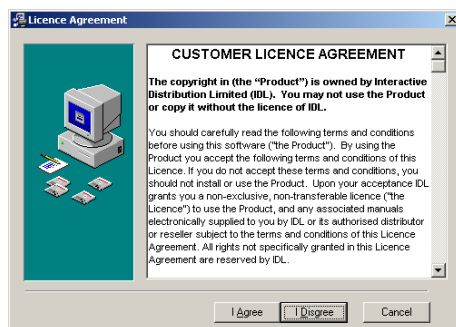
1.



This window displays a welcome note, instructions and warnings.

To start installation click **Next**.

2.

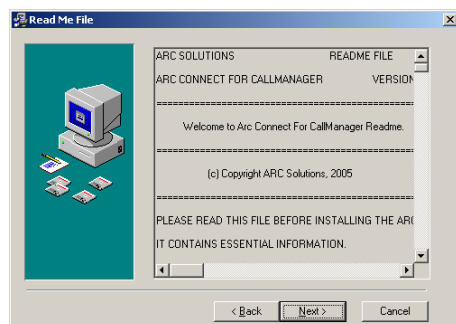


The first step of the installation contains the License Agreement.

If you agree, click I Agree.

Clicking on I Disagree will quit the installation.

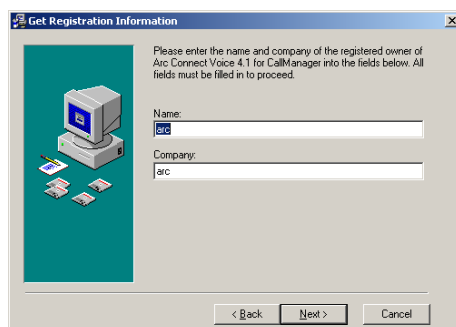
3.



The following window contains important Read Me information. Once this information is read, press **Next** to proceed.

**Note:** Please ensure that this file is read as it contains information that is important to your PBX.

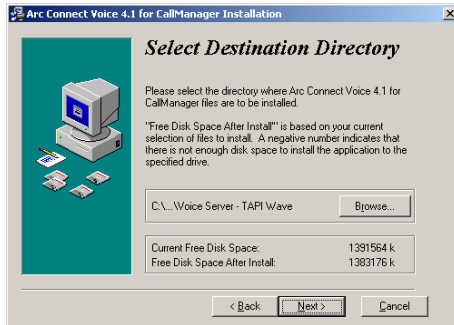
4.



The next window contains Registration information. In the **Name** text box type the name of the license holder. Type the company name into the **Company** textbox.

[<<TOC](#)

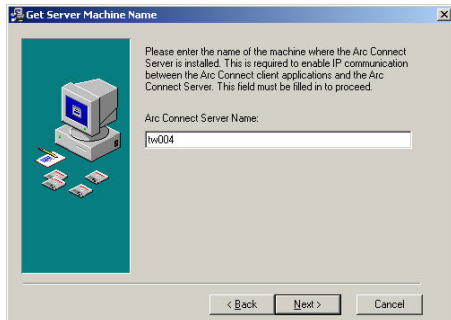
5.



The next window is used to select the directory into which you wish to install the application. This takes to C:\Program Files\Arc\Arc Connect. Click the **Browse** button to select a different path and directory.

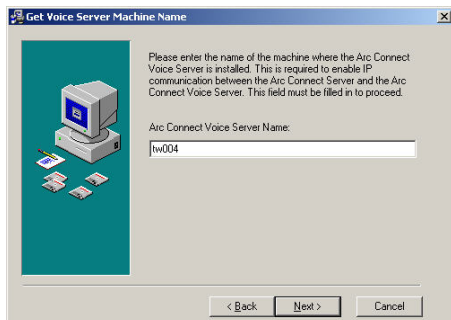
Press **Next** to proceed.

6.



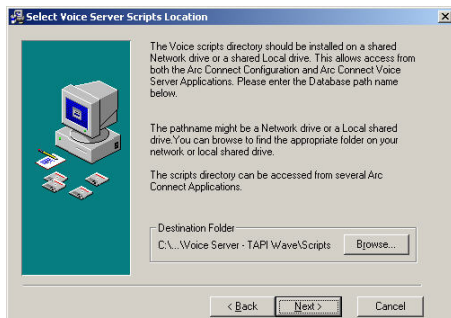
In the following window it is necessary to type the **Name** (or **IP Address**) of the machine onto which the Arc Connect Server will be installed.

7.



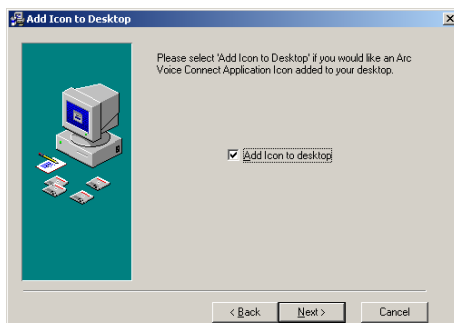
In the following window it is necessary to type the **Name** (or **IP Address**) of the machine onto which the Voice Server is being installed. If no Voice Server is being installed this text box can be left blank. Click **Next** to proceed.

8.



The following window allows the user to choose the destination directory for the Voice scripts. This directory must be shared on the local drive or a shared network drive. The Arc Connect Administration application and Voice Connect Server access this directory.

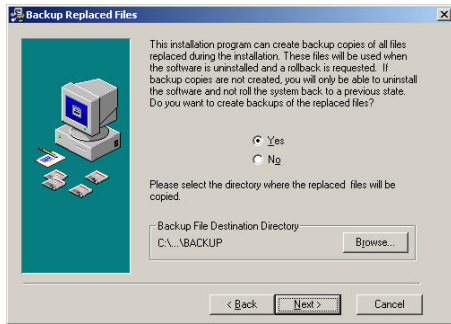
9.



In the next window, select the checkbox if you want to add an icon for Arc Voice Server on the desktop. Click **Next**.

[<<TOC](#)

10.



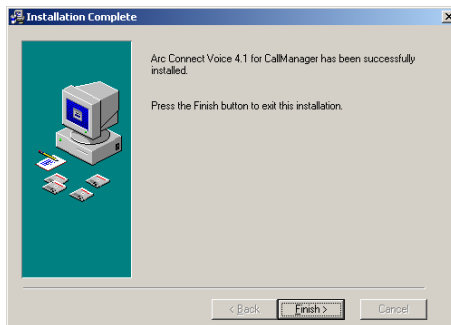
The next window is for selecting a location for backup files if you want to have. Select **Yes** to have a backup. If **Yes** is selected which is recommended on a live site, the directory into which the Backup files will be placed can be selected. The default location for backup is C:\Program Files\Arc\Arc Connect\Backup. Click **Browse** to select a different path and directory.

11.



This window is the last one before the installation script starts. Click **Next** to proceed.

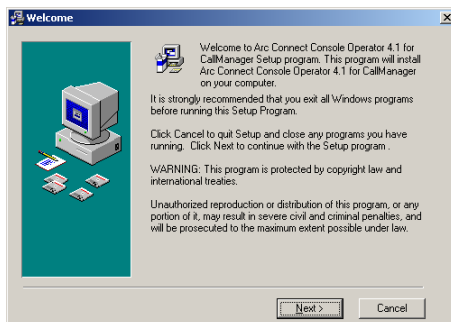
12.



In the next screen, click **Finish** to complete the installation process.

### 5.1.3 Installation of Arc Console Operator

1.



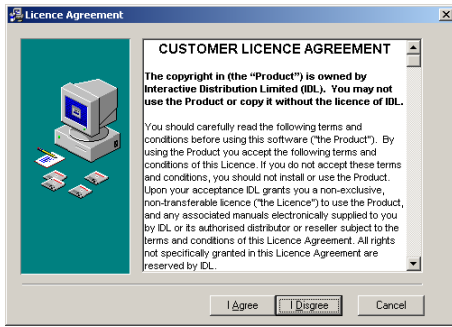
The first window appears displaying a welcome note and instructions on installing.

Click **Next**.

[<<TOC](#)



2.

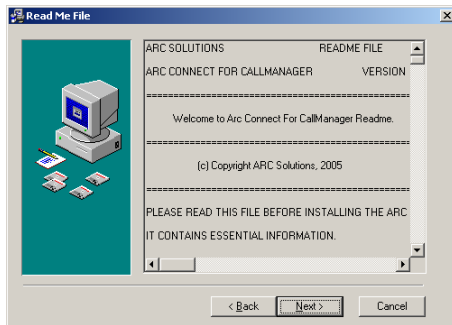


The next step of the installation script contains the License Agreement.

Click **I Agree** to continue.

If you do not agree with the license, click **I Disagree** and quit the installation.

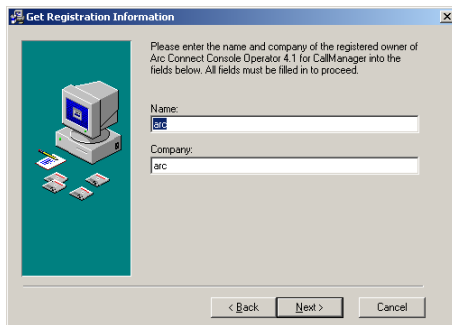
3.



The next window contains the Read Me file containing important information, please read this before proceeding.

Click **Next** to proceed.

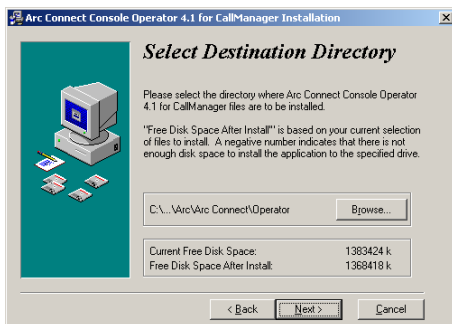
4.



The next window contains registration information. In the **Name** text box, type the name of the license holder, and type the company name into the **Company** text box.

Click the **Next** button to proceed.

5.

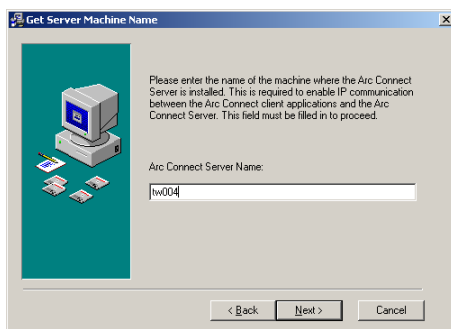


In the next window, select the location where the application files are required to be stored. This should be left as default unless a changed location is necessary. Use the **Browse** button to select a different location.

Click **Next** when the selection is completed.

[<<TOC](#)

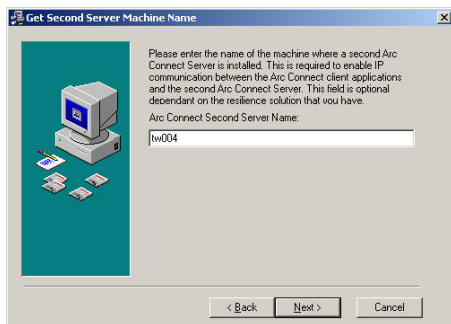
6.



In the next window, enter the **Name (IP Address)** of the machine running the Arc Connect Server.

**Note:** If this is stated incorrectly then the Console Operator will not be able to connect up to the Server and will therefore not function.

7.

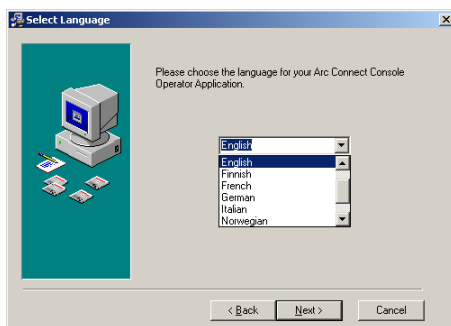


In the next window, it is necessary to type the **Name (or IP Address)** of the machine onto which the Secondary Arc Connect Server is being installed.

Click the **Next** button.

**Note:** If no Call Recording Server is being installed then this box can be left blank.

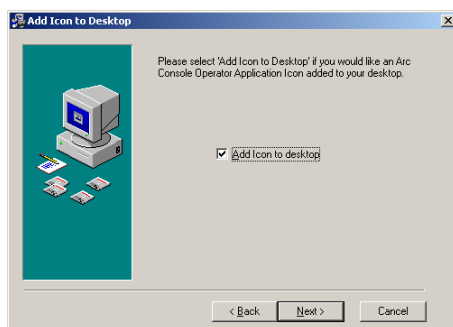
8.



In the next window, it is necessary to select the language in which you want to install the application.

Click the **Next** button to continue.

9.

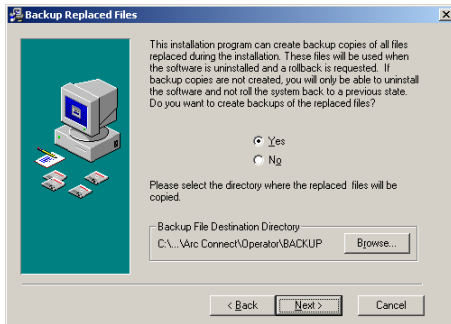


In the next window, select the check box to add an icon for Arc Console Operator on the desktop.

Click the **Next** button to proceed.

[<<TOC](#)

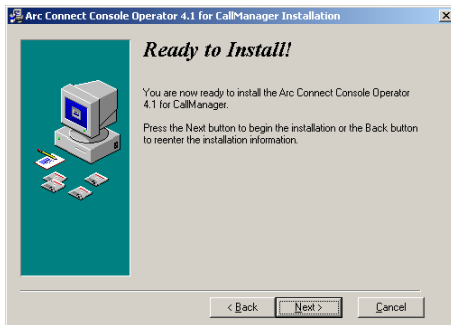
10.



Select **Yes** to have a backup. If **Yes** is selected which is recommended on a live site, select a directory into which the backup files will be placed. The default location for backup is C:\Program Files\Arc\Arc Connect\Backup. Click **Browse** to select a different path.

Click **Next** to proceed.

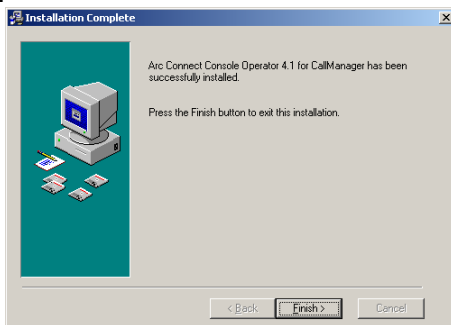
11.



The next window is for confirming that you are Ready to Install.

Click the **Next** button to install of the Console Operator.

12.

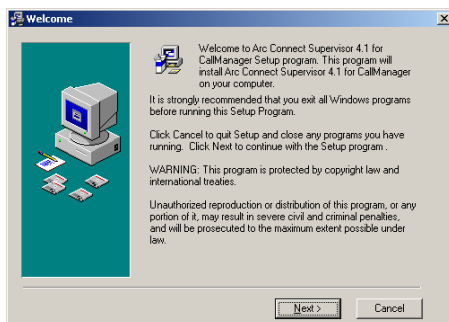


The final window displays the confirmation that Arc Console Operator has been installed successfully.

Click the **Finish** button.

#### 5.1.4 Installation of Arc Connect Supervisor

1.

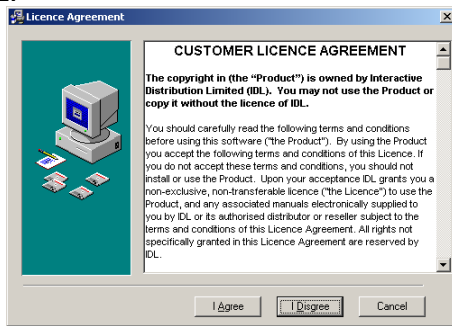


The first window appears displaying a welcome note and instructions on installing.

Click **Next**.

[<<TOC](#)

2.

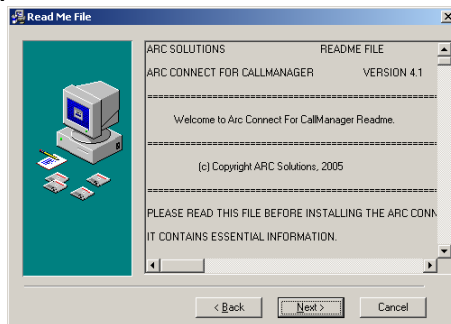


The next step of the installation script contains the License Agreement.

Click **I Agree** to continue.

If you do not agree with the license, click **I Disagree** and quit the installation.

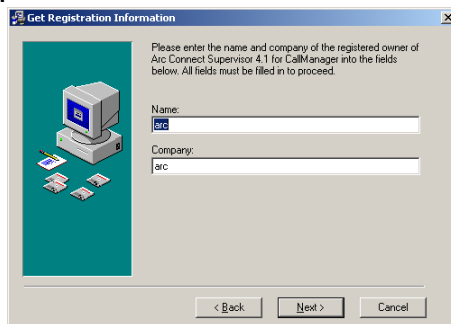
3.



The next window contains the Read Me file containing important information, please read this before proceeding.

Click **Next** to proceed.

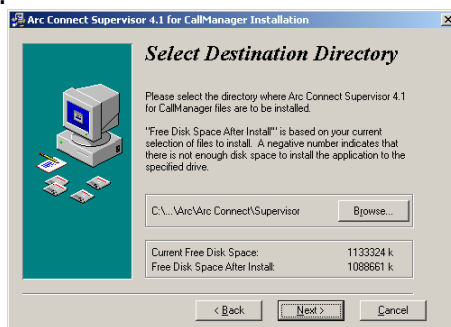
4.



The next window contains registration information. In the **Name** text box, type the name of the license holder, and type the company name into the **Company** text box.

Click the **Next** button to proceed.

5.

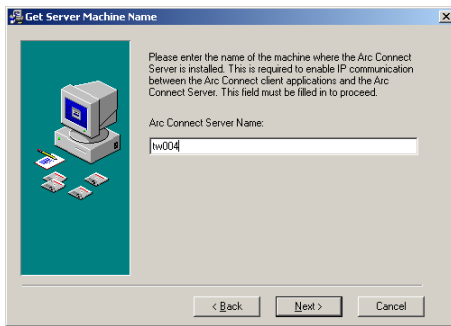


In the next window, select the location where the application files are required to be stored. This should be left as default unless a changed location is necessary. Use the **Browse** button to select a different location.

Click **Next** when the selection is completed.

[<<TOC](#)

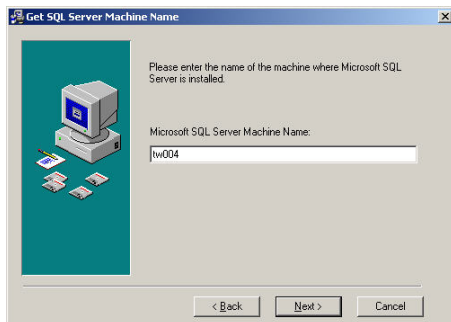
6.



In the next window, enter the **Name (IP Address)** of the machine running the Arc Connect Server.

**Note:** If this is stated incorrectly then the Console Operator will not be able to connect up to the Server and will therefore not function.

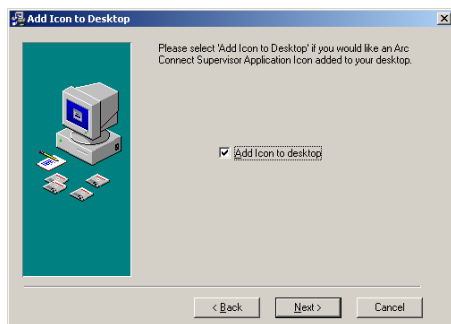
7.



In the next window, it is necessary to type the **Name (or IP Address)** of the machine onto which the Microsoft SQL Server is being installed.

Click the **Next** button.

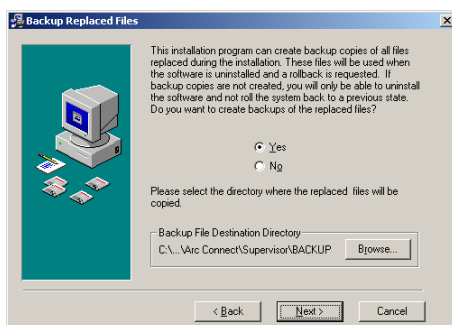
8.



In the next window, select the check box to add an icon for Arc Connect Supervisor on the desktop.

Click the **Next** button to proceed.

9.

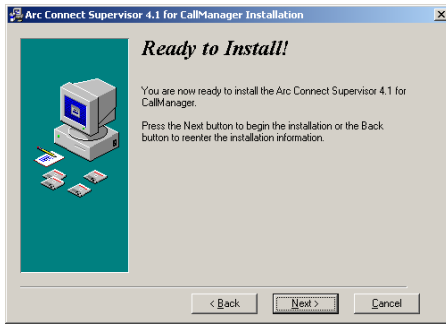


Select **Yes** to have a backup. If **Yes** is selected which is recommended on a live site, select a directory into which the backup files will be placed. The default location for backup is C:\Program Files\Arc\Arc Connect\Backup. Click **Browse** to select a different path.

Click **Next** to proceed.

[<<TOC](#)

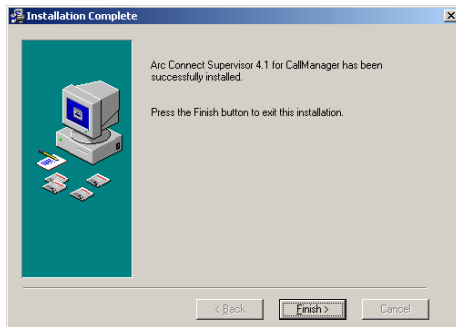
10.



The next window is for confirming that you are Ready to Install.

Click the **Next** button to install the Supervisor.

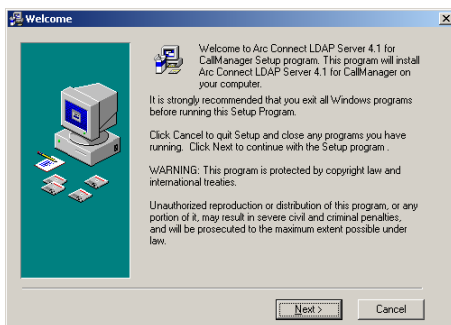
11.



The final window displays the confirmation that Arc Connect Supervisor has been installed successfully. Click the **Finish** button.

### 5.1.5 Installation of Arc LDAP Server

1.



The first installation window that displays a welcome note, instructions, and warnings.

To start installation click **Next**.

2.

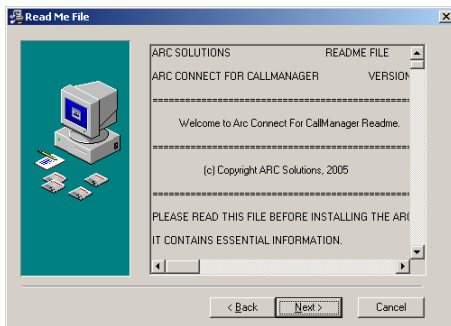


The first step contains the License Agreement.

Click **I Agree** button if you agree. Clicking on **I Disagree** will exit from the installation.

[<<TOC](#)

3.

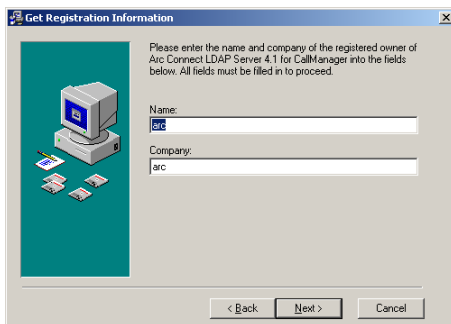


The following window contains important Read Me information.

Click **Next** button to proceed.

**Note:** Please ensure that this file is read as it contains information that is important to your PBX.

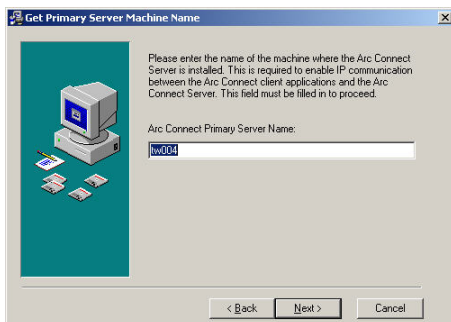
4.



The next window contains Registration information. In the **Name** textbox, type the name of the license holder. Type the company name into the **Company** textbox.

Click **Next** to proceed.

5.

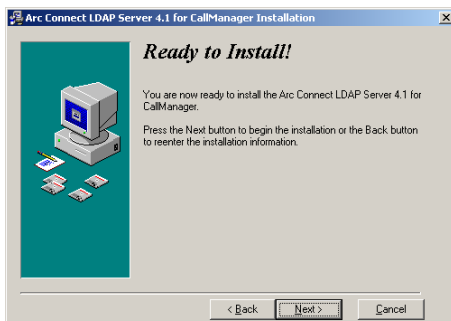


In the following page it is necessary to type the **Name (or IP Address)** of the machine onto which the Server application is being installed.

Click **Next** button to proceed

**Note:** If you are unsure of the machine name it is possible to find out through the Control Panel and by double clicking on the Network icon. This must be done on the machine that runs the Arc Server Application.

6.

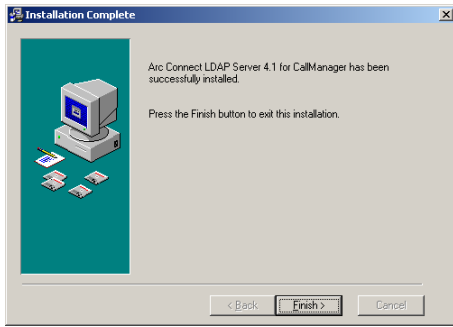


In this window the Ready to Install message displays.

Click **Next** to proceed

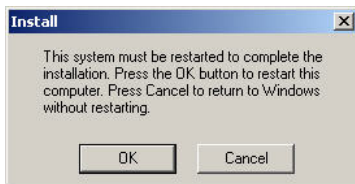
[<<TOC](#)

7.



Click **Finish** to complete installation.

8.

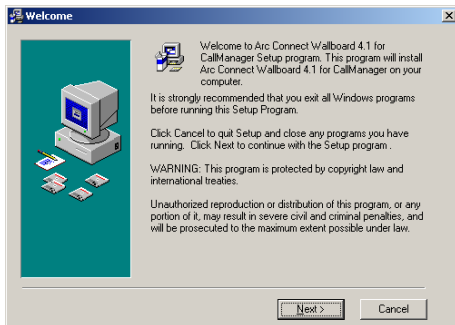


It is necessary to restart the PC after the installation of Arc LDAP Server has completed.

Click **OK** to restart the PC.

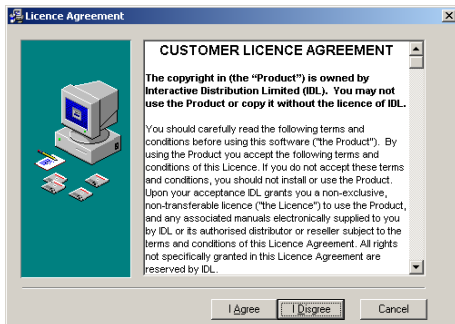
### 5.1.6 Installation of Arc Connect Wallboard

1.



This window displays a welcome note, instructions and warnings. To start installation click **Next**.

2.

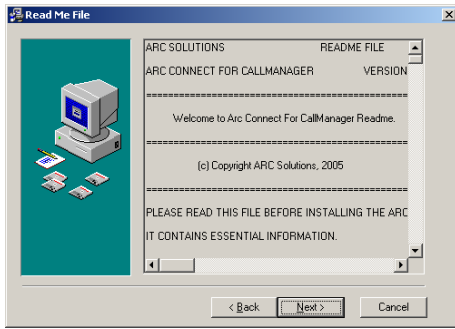


The first step of the installation contains the License Agreement. If you agree, click **I Agree**. Clicking on **I Disagree** will quit the installation.

[<<TOC](#)



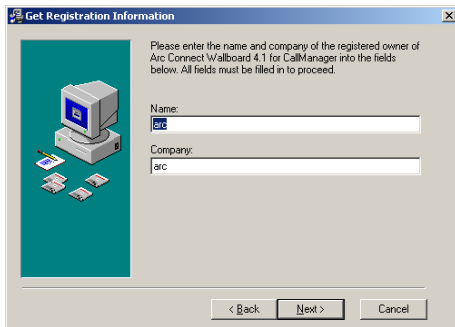
3.



The following window contains important Read Me information. Once this information is read, press **Next** to proceed.

**Note:** Please ensure that this file is read as it contains information that is important to your PBX.

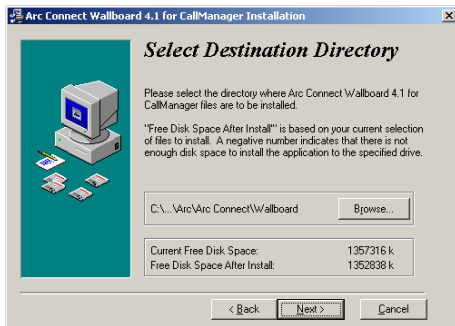
4.



The next window contains Registration information. In the **Name** text box type the name of the license holder. Type the company name into the **Company** textbox.

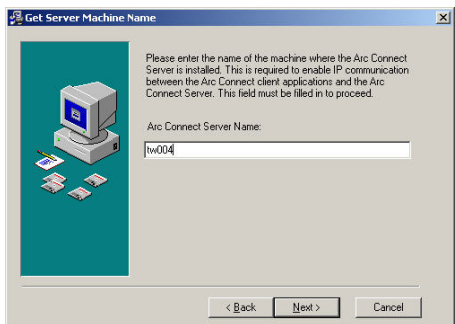
Press **Next** to proceed.

5.



The next window is used to select the directory into which you wish to install the application. This takes to C:\Program Files\Arc\Arc Connect. Click the **Browse** button to select a different path and directory. Press **Next** to proceed.

6.

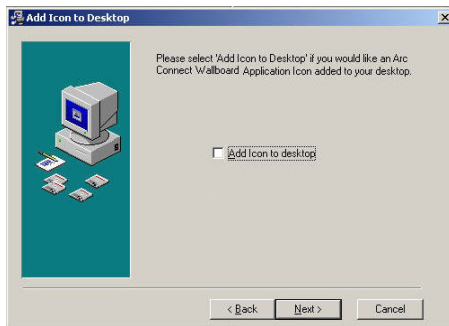


In the next window, enter the **Name (IP Address)** of the machine running the Arc Connect Server.

**Note:** If this is stated incorrectly then the Console Operator will not be able to connect up to the Server and will therefore not function.

[<<TOC](#)

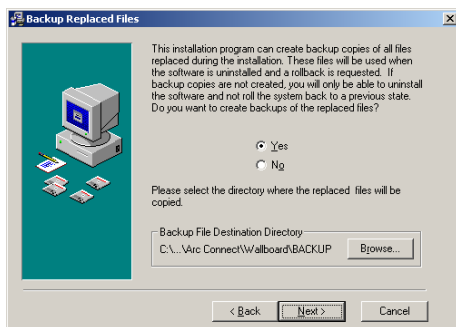
7.



In the next window, select the check box to add an icon for Arc Console Operator on the desktop.

Click the **Next** button to proceed.

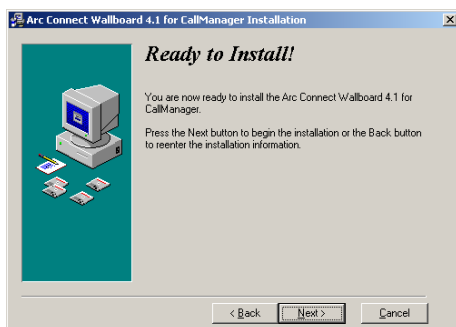
8.



Select **Yes** to have a backup. If **Yes** is selected which is recommended on a live site, select a directory into which the backup files will be placed. The default location for backup is C:\Program Files\Arc\Arc Connect\Backup. Click **Browse** to select a different path.

Click **Next** to proceed.

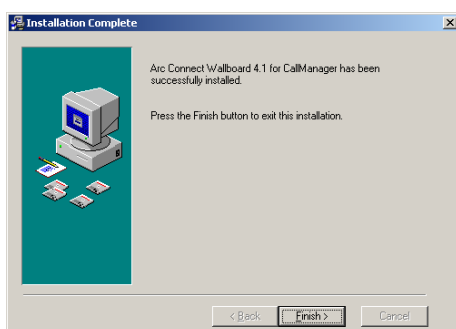
9.



The next window is for confirming that you are Ready to Install.

Click the **Next** button to install of the Wallboard application.

10.



The final window displays the confirmation that Arc Console Operator has been installed successfully.

Click the **Finish** button.

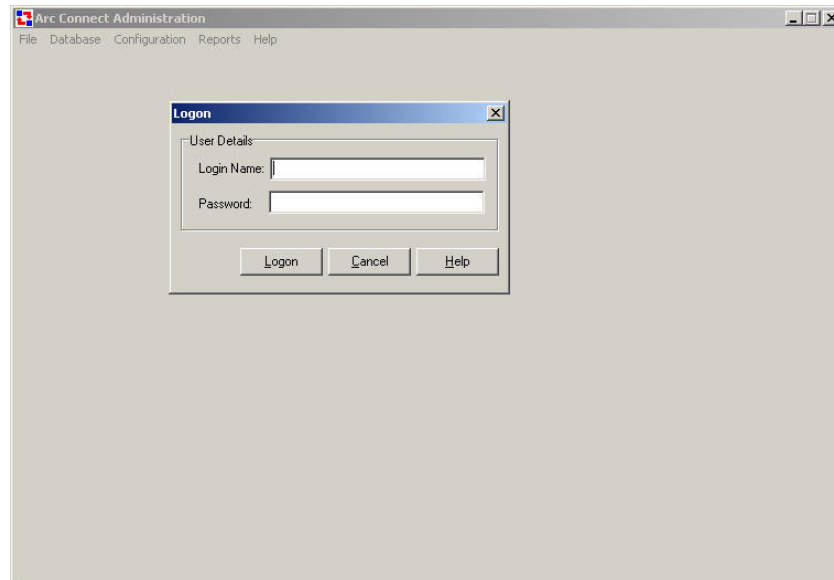
[<<TOC](#)

## Section 6: Arc Connect Configuration

This section will guide you through configuring Arc Connect.

### 6.1 Administrator Login

The Configuration Utility has an authentication mode for the users. The Configuration Utility is accessible only to the Administrator for making new configurations or updating them. The default user name and password is **ArcAdmin**.



To logon to the Administration application,

1. Open the Configuration utility.
2. Select *File* → *Logon* from the main menu.
3. The **Logon** window will open.
4. Enter **Username**.
5. Enter **Password**.
6. Click **Logon**.

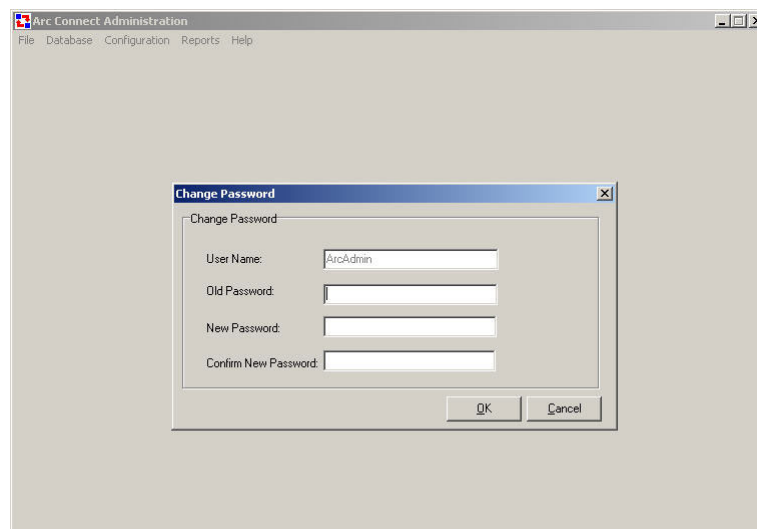
[<<TOC](#)

### 6.1.1 Change Password

The Administrator can change the password after logging into the application.

#### To Change Password,

1. Select *File* → *Change Password* from the main menu.
2. Enter the **Username** in the text box, i.e. ArcAdmin.
3. Enter the **Old Password** in the text box.
4. Type the **New Password** in the next text box.
5. Type the new password again to confirm.
6. Click **Ok**.



## 6.2 Databases

Arc Connect system is connected to two databases, Configuration database and Logging database.

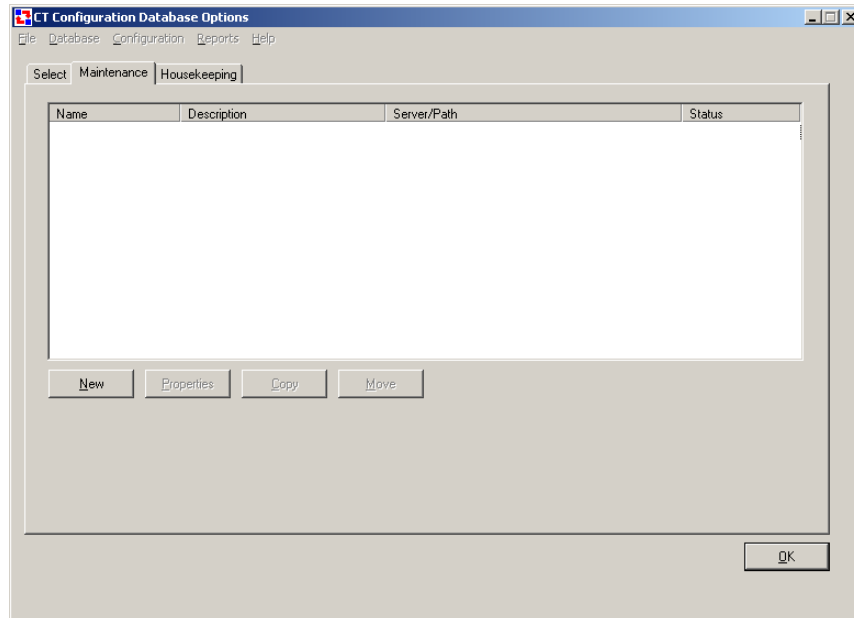
The Configuration database contains configuration information for Arc Connect. Arc CT Server consults the configuration database to check parameters for different applications and operations. There is no limit to the number of configurations the user can create on Arc Connect. However, only one can be active at any given time. While the system is running user may change any of the configuration databases that are already set up, including the one currently active. The user, however, is required to restart the CT Server after making changes. The user can also make online changes to the database using the Arc Connect Supervisor application.

The Logging database keeps a record of all events and call activities. The user can create more than one logging databases but only one of them can be used at a time.

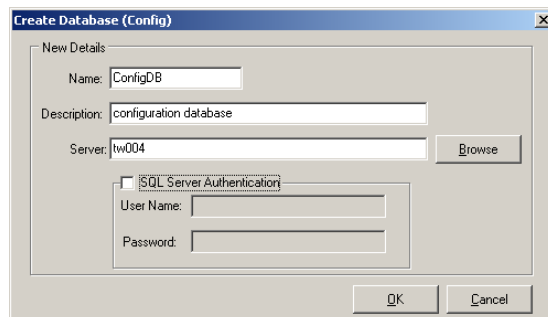
[<<TOC](#)

### 6.2.1 Create a New Configuration Database,

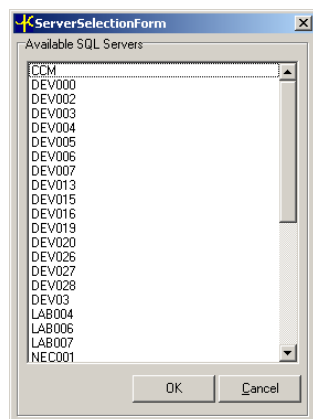
1. In the main menu, select *Databases* → *Config DB*
2. Go to **Maintenance** tab



3. Click **New**.
4. Type the Database Name and description.

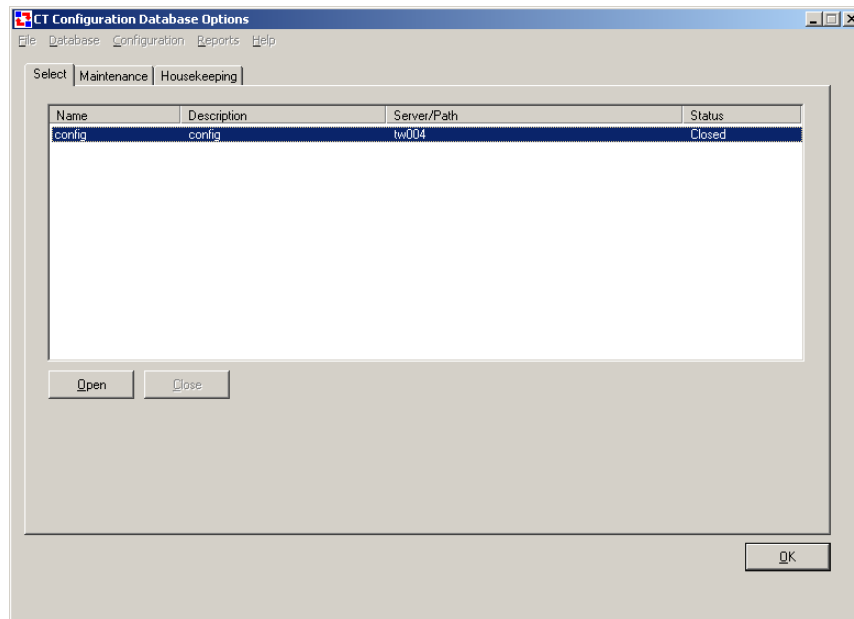


5. Give the SQL Server name or click **Browse** to select the SQL Server from the list of all available SQL Servers on the network.



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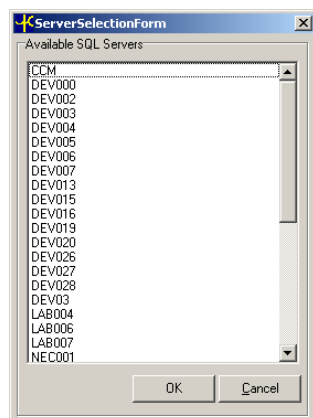
6. Give the SQL Server User name and password as authentication for the SQL Server on which you want to create the database.
7. Click **OK**. The newly created database is closed by default.
8. Go to the **Select** tab, select the newly created database and press **Open**.



9. Click **OK** to finish.

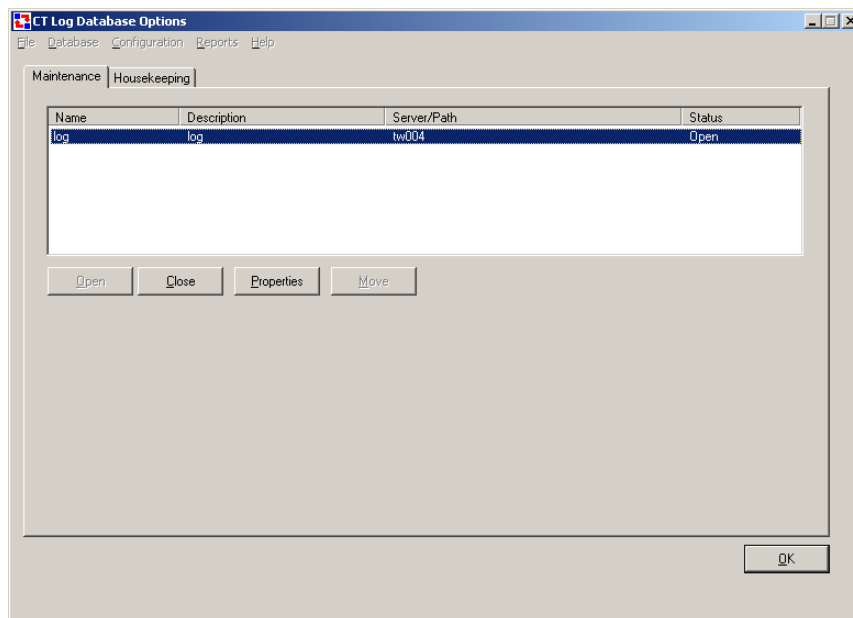
### 6.2.2 Create a New Logging Database,

1. In the main menu, select *Databases* → *Log DB*
2. Go to the **Maintenance** tab and click **New**. The default logging database name is *ArcLogDB*.
3. Give the SQL Server name or click the Browse button to select the SQL Server from the list of all available SQL Servers on the network.



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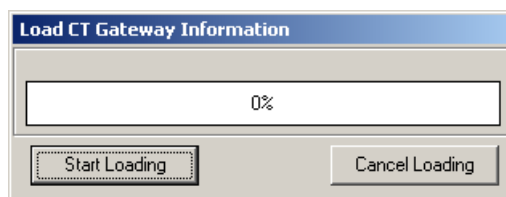
4. Give the SQL Server User name and password as authentication for the SQL Server on which you want to create the Logging DB.
5. Click **OK**. The newly created database is closed by default.
6. Go to the **Maintenance** tab, select the newly created database and click **Open**.



7. Click **OK** to finish.

### 6.3 Configuring the CT Gateway

1. Open the Arc Connect Administration application by selecting *Start Programs > Arc Connect > Arc Connect Administration*
2. *File → Logon*
3. Enter *Login name* and *password*
4. Select *Configuration → CT Gateway*
5. The Loading Info screen will be displayed on the screen. Click **Cancel** to quit loading.



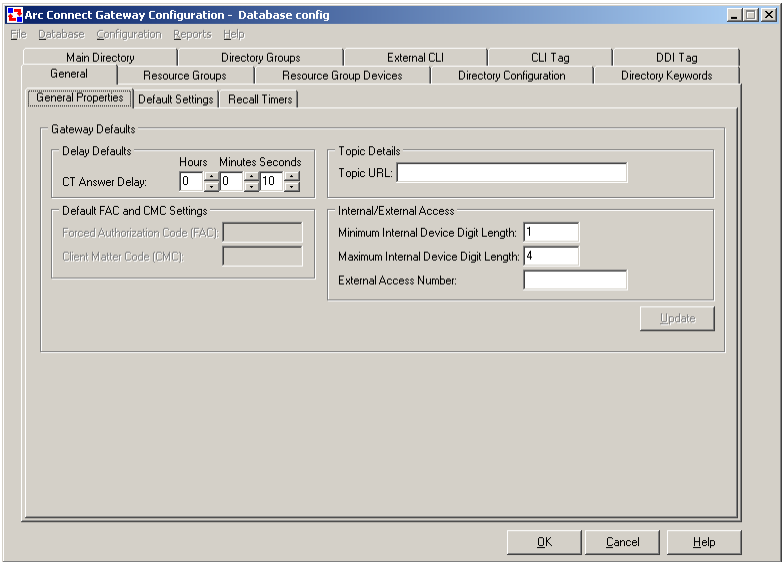
6. The following settings can be performed In the CT Gateway section.

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6.3.1.1 General Settings

The first screen to open is the General tab. This tab allows configuration of the Gateway Details, Break Hour settings, Resource Group and Default Destination Queues. This tab is further divided into the following three sub-tab pages.

- 1. General Properties
- 2. Default Settings
- 3. Recall Timers



The following is a brief description of these sub-tabs.

Control Name	Explanation
<b>General Properties</b>	
<b>Gateway Defaults:</b> This section heads three default settings.	
<b>CT Answer Delay</b>	This feature allows the user to set a time limit on how long a ringing call should go unanswered at User’s extension, before passing the call to another User or forwarded to a different destination.
<b>Internal/External Access:</b> This section has two default settings.	
<b>Minimum Internal Device Digit Length</b>	This text box requires you to input the minimum number of digits being used for an internal device.
<b>Maximum Internal Device Digit Length</b>	This text box requires you to input the maximum number of digits being used for an internal device.
<b>External Access Number</b>	This is used to automatically dial the access number when making a call to an external number. This is automatically detected when the number length exceeds the maximum internal number of digits.

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<b>Default FAC and CMC Settings – This setting needs to be manually enabled via the registry. Select HKEY_LOCAL_MACHINE\SOFTWARE\Arc Solutions\Call Connect\Server\Host PBX Configuration\Suffix # for External Out and change to Yes. To use these codes the CallManager must be set up to use the # suffix to trigger a code.</b>	
<b>Force Authorization code (FAC)</b>	The user is required to provide Force Authorization Code here. This code is configured in CallManager and is used to authorise Console Operators to make External Calls and Consult Transfer.
<b>Client Matter Code (CMC)</b>	The user is required to provide Client Matter Code here. This code is configured in CallManager and is used to authorise Console Operators to make External Calls and Consult Transfer.
<b>Topic Details</b>	
<b>Topic URL</b>	This field specifies the location for the HTML Topic Search Engine.
<b>Default Settings</b>	
<b>Default Destination Queue:</b> This section has two default settings.	
<b>Default Destination Queue</b>	It can be set after one or more Queues have been created. It ensures any call routed into the Arc system is routed somewhere even if there is no filter match against the call.
<b>Default Break Hours Overflow:</b> This section has two setting options.	
<b>Default Forward Destination Type</b>	Break Hours are configured to deflect incoming calls to a certain destination when the required destination is not available. The user can select the type of destination where incoming calls should be sent after deflection.
<b>Default Forward Destination</b>	The user is required to provide address of the extension where he wants to route incoming calls during the Break Hours.
<b>Default Resource Group</b>	
<b>Default Resource:</b> The users can configure default resource group is this section.	
<b>Default Resource</b>	This section has an option list for the Resource Groups. The option list shows all resource groups. These groups are created in the <b>Resource Group</b> section and are displayed in this list.
<b>Call Park Location</b>	
<b>Local Call Parking:</b> This section has two fields.	
<b>Local</b>	This is the extension number assigned to the Pre CT Gateway that holds the local parked calls.
<b>Resource Group</b>	This is an optional field where you can specify a resource group for local call parking.
<b>Remote Call Parking:</b> This section has two fields.	
<b>Remote</b>	This is the extension number assigned to the Pre CT Gateway that holds the remote parked calls.
<b>Resource Group</b>	This is an optional field where you can specify a resource group for remote call parking.

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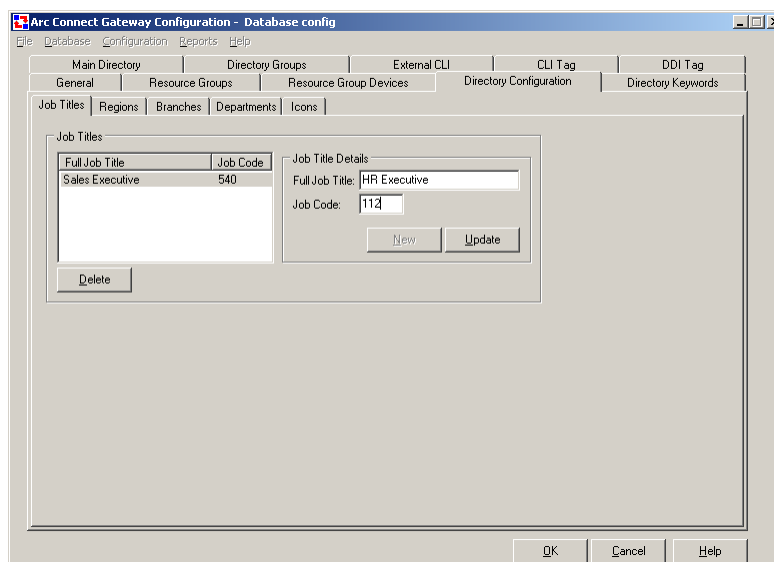
<b>Recall Timers:</b> This section has four options with Hours, Minutes and Seconds timers.	
<b>Hold Recall</b>	This is the Maximum Time Limit A Call can be Put on Hold by Operator.
<b>Transfer Recall</b>	When an Operator Transfers a call, and if the person or Device does not get the call for the time as set in 'Transfer Recall' then it will come back to the same or Operator who had transferred the call.
<b>Camp on Recall</b>	This time is used in Operator Application. When an operator wishes to transfers a call to some extension, but that person or that device is busy then Operator can put that call on Camp On. Call will wait for that extension to be free for the time as set in 'Camp on Recall' Timer. After that time call bounces back to the Operator.
<b>Call-Park Recall</b>	This time is used in Operator Application. An Operator can park the call on another extension for the other Operator to receive it.
<b>Update</b>	Each section has its own <b>Update</b> button. Click to save the settings.

### 6.3.1.2 Directory Configuration

The Directory Configuration tab is used to support messaging facility. It consists of the following sub tabs **Job Titles**, **Regions**, **Branches**, **Departments** and **Icons**

#### 6.3.1.2.1 Job Titles

This tab is used to create job titles for the users. These job titles are later assigned to the Main Directory. User can create job titles here. The **New** button creates new job titles. Previous records can be updated or deleted also.



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**To create a new job title,**

1. Click **New** button.
2. Type the **Full Job Title** and **Job Code**.
3. Press **Update**. The new title will be added to the list.

**To amend a job title,**

1. Select the job title you want to amend.
2. Change details and press **Update** to finish.

**To delete a job title,**

1. Select the job title you want to delete from the list.
2. Click **Delete**.
3. Click **Update** to finish.

**6.3.1.2.2 Regions**

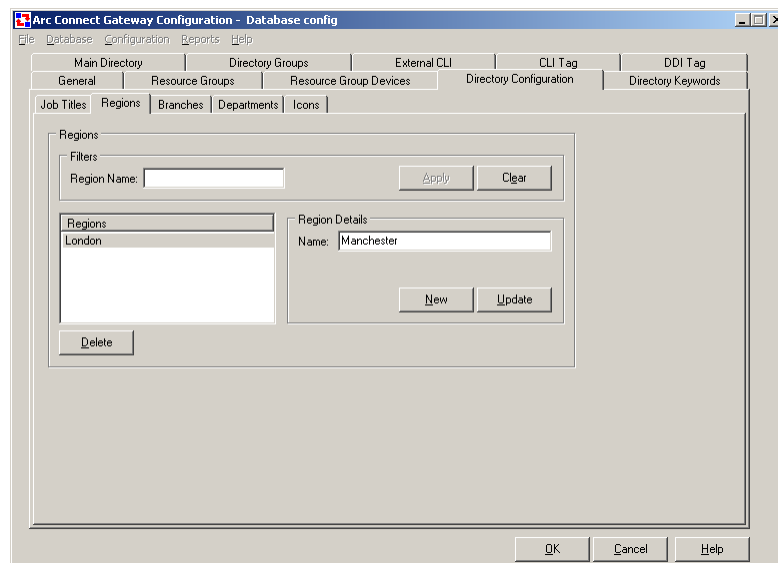
This tab is used to create or update Regions of the company.

**To create a region,**

1. Press **New** and type a name of the region.
2. Press **Update**. The newly created region will appear in the **Regions** list.

**To amend a region,**

1. In the **Regions** list, select the region you want to amend.
2. Amend the Region name.
3. Click **Update** to save changes.

**To delete a region,**

1. In the **Regions** list, select the region you want to delete.
2. Click **Delete**.
3. Click **Update** to finish.

**To find a region,**

1. In the **Region Name** text field, type the first letter(s) of the region you want to find.
2. Press **Apply**. The matching regions will appear in the **Regions** list.
3. Click **Clear** to view all regions.

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### 6.3.1.2.3 Branches

This tab is used for creating/updating branches of the Company in different Regions.

The screenshot shows the 'Arc Connect Gateway Configuration - Database config' window. The 'Branches' tab is selected. The 'Filters' section has 'Region Name' and 'Branch Name' text boxes with 'Apply' and 'Clear' buttons. The 'Branch' list table shows one entry: 'Support' under the 'Region' 'London'. A 'Delete' button is below the table. The 'Branch Details' section has 'Name' (Corporate), 'Code' (1111), and 'Region' (London) fields. The 'Branch Queues' section has 'Available Queues' and 'Selected Queues' lists, 'Add' and 'Remove' buttons, and 'New' and 'Update' buttons. The bottom of the window has 'OK', 'Cancel', and 'Help' buttons.

#### To create a new branch,

1. Click **New** and type the name and code of the branch.
2. In the **Region** list, select a region for the branch.
3. Select the required Queue(s) from the **Available Queues** list.
4. Click **Add** to create the new branch and **Update** to finish.

#### To amend a branch details,

1. In the **Branch** list, select the branch you want to amend.
2. Amend details and click **Update** to finish.

#### To delete a branch,

1. In the **Branch** list, select the branch you want to delete.
2. Click **Delete**.
3. Click **Update** to finish.

#### To find a branch,

1. Type the first letter(s) of the region or branch in the **Region Name** or **Branch Name** text field respectively.
2. Press Apply. The matching branch will appear in the **Branch** list.
3. Click **Clear** to view all branches.

### 6.3.1.2.4 Departments

This tab is used for creating/updating departments of the Branches in the company.

#### To create a new department,

1. Click the **New** button.
2. Type the department name and notes.
3. A specific Web page address (URL) can be tagged with the department.
4. Select the region from the drop down list
5. Select the branch where this department is located.
6. Click **Update**.

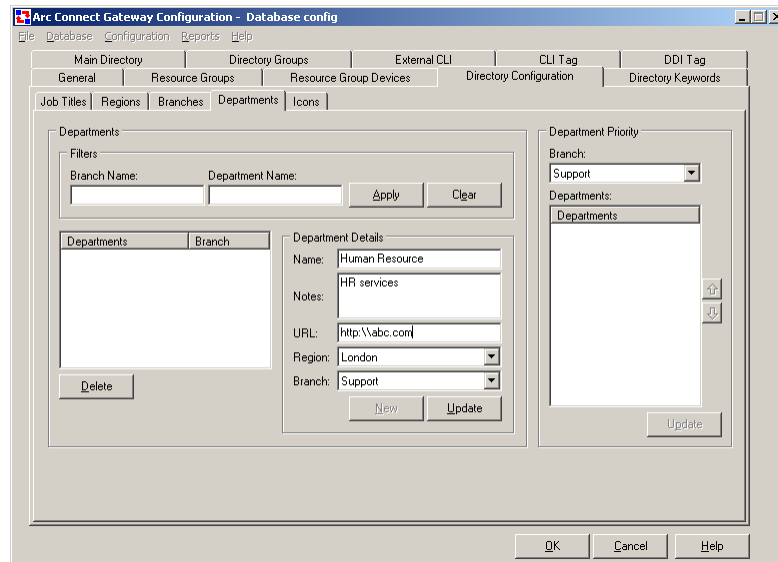
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### To amend a department details,

1. Click on the department name in the list.
2. Amend the Department details as required.
3. Click **Update** to save changes.

### To delete a department,

1. Click on the department name in the list.
2. Click **Delete**.
3. Click **Update** to finish.



### To find a department,

1. Type the first letter(s) of the branch or department in the **Branch Name** or **Department Name** text field respectively.
2. Press Apply. The matching department will appear in the **Departments** list.
3. Click **Clear** to view all departments.

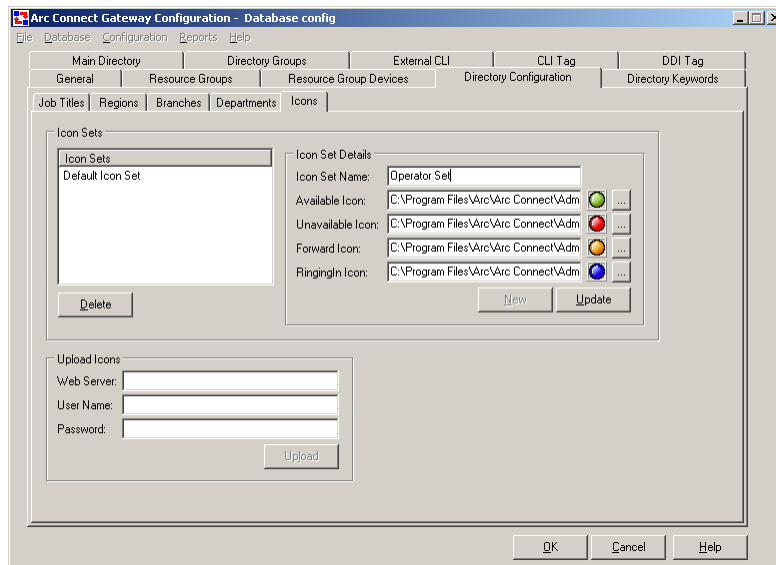
### To set priority of a department,

1. In the **Department Priority** section, select the related branch of the department you want to prioritise.
2. All the departments in selected branch will appear in the list below.
3. Click on the department name and **Up** or **Down** button to push the department up or down in the list.
4. Click **Update** to finish.


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### 6.3.1.2.5 Icons

The icons represent the status of user's extension. A default set of icons is already present.



#### To create a new set of icons,

1. Click **New** and type the name for the new set of icons.
2. Click  and browse icons for Available, Unavailable, Forward and Ringing In status of user's extension.
3. Click **Update** to finish.

#### To amend a set of Icons,

1. Click on the set of icons name in the list.
2. Amend the set of Icons details as required.
3. Click **Update** to save changes.

#### To delete a set of Icons,

1. Click the set of icons name in the list.
2. Click **Delete** button.
3. Click **Update** to finish.

### 6.3.1.3 Main Directory

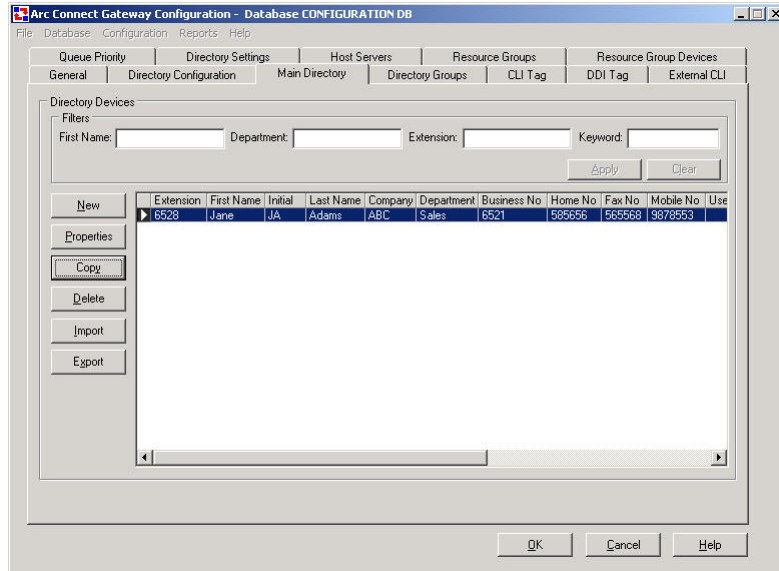
The Main Directory contains all extensions and data that the Operators will see both in their Busy Lamp and Internal Extension displays. The devices can be entered manually as individual contacts with additional information in the table that appears. Alternatively a database can be imported such as the DC directory or a Microsoft Excel import facility.

#### To import a DC Directory,

1. Before importing ensure that you have run the DC Directory install on your CallManager Server. Instructions for this are contained in Appendix I. The files are asp files any they will not affect the running of CallManager.
2. Click the **Import** button.

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3. Select the **DC Directory** button.
4. Enter the DNS name of the machine where the DC Directory is stored. Click **OK**.
5. The following screen will allow you to see the progress of the import.
6. After the import is completed, you can amend any of the contact details as required.
7. Click **Update**.



#### To Import a Directory from an Excel file,

To make a new directory manually, click the **Import** button. The following window will display.



1. Select the option **Wizard** on this window. And click **Import**.
2. The **Directory Import Wizard** will open that will guide the user through the process of importing contacts to the Main Directory from a Microsoft Excel Workbook.
3. Specify the File name and select the field names to be given in the Excel file.
4. A Microsoft Excel file with all the field names will open, when the import is complete.
5. The Excel file will contain a few more fields than the **Contact Properties** form.

#### To Export a Directory as an Excel File,

To save the list of all Main Directory device in Excel Sheet,

1. Click the **Export** button.
2. Give the output file name and path in the browsing window.

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3. Click the **Save** button.
4. File will be saved on the disk.

#### 6.3.1.3.1 Adding a new Contact

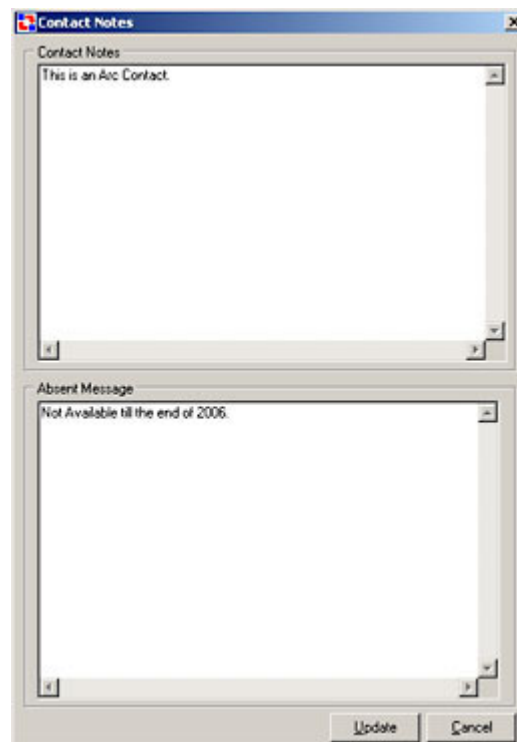
Click on the **New** button on the **Main Directory** and the following window will open for entering a new contact details. The users can add General information for the Operators, their working category, set icons for the identification and their contact details.

Control Name	Explanation
<b>General Information</b>	This is the general information about the contact. Alternates can be added for <b>First Name</b> and <b>Last Name</b> fields.
<b>Numbers</b>	All the phone numbers associated with the contact can be added here in this area. Alternates can be added for <b>Extension</b> number.
<b>Company Information</b>	Information of the new contact's company is added in this area.
<b>Authentication</b>	This area contains authentication information that is required to log in and answer calls.
<b>Contact Category</b>	The contact can either be used in Internal Directory of the Console Operator.
<b>Contact Icons Information</b>	Every contact can have a special set of icons. Customized icons are grouped as a set in Directory Configuration tab.
<b>Keywords</b>	Add a keyword that will be used to search the record in the list on the <b>Main Directory</b> tab. This field will be available in the Console Operator application with the keywords entered here in this tab.

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Enter all the required information in the above form. Click the button **Contact Notes** to enter any other contact information. The following window will be displayed for **Contact Notes**.



The screenshot shows a 'Contact Notes' dialog box. It has a title bar with the text 'Contact Notes' and a close button. The dialog contains two text areas. The first text area is labeled 'Contact Notes' and contains the text 'This is an Arc Contact.'. The second text area is labeled 'Absent Message' and contains the text 'Not Available till the end of 2006.'. At the bottom of the dialog are two buttons: 'Update' and 'Cancel'.

In case a contact is absent or not available, the user can also enter an **Absent Message** that can specify the reason of the contact's absence.

When done, click **Update** on the *Contact Properties* window. A new contact with the given information will be created.



## NOTE

Users will only be able to modify the contact fields that have NOT been mapped for LDAP Synchronization.

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### 6.3.1.4 Directory Groups

Operators see this information in their **Busy Lamp Field or Internal Directory** of the Console Operator. Depending on the business scenario in place, these groups have two functions. In a single business scenario a Default list of all extensions may be enough, allowing the Operators to see all extensions. In a multi-tenant environment a Directory Group can be set up for each company, so that when a call arrives, the Operators see only the relevant extensions in their display. A directory group is assigned to a call filter, and if a call arrives via the assigned filter the operator will only see those contacts in the Directory Group as they answer the call. Once the call is over, the display will revert to their configured Operator Group.

Control Name	Explanation
<b>Directory Group</b>	This list displays the directory groups created.
<b>Directory Group Details:</b> This section includes the following settings.	
<b>Devices Available</b>	It displays the list of devices available, from which the user can add the required devices in the <b>Devices Used</b> list.
<b>Devices Used</b>	It displays the devices added from the <b>Devices Available</b> list.
<b>BLF</b>	In the Devices Used there is a check box against each contact to indicate whether device status should be displayed when the Directory Group is being used. The BLF section makes it easy to either check all devices in the group or clear the BLF check box from all group devices.

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#### To create a new group,

1. Click **New**.
2. Enter a **Name** and **Description** for the new group.
3. In the **Devices Available** section, select the device you want to use in the group. Click **Add** to use the selected device or **Add All** to use all available devices.
4. The selected devices will be displayed in the **Devices Used** section. Click **Check All** to add all used devices to the Busy Lamp Field (BLF).
5. Click **Update** to finish.

To delete a directory group, select it from the **Directory Group** list and click **Delete**. Now click **Update** to save changes.

#### 6.3.1.5 CLI Tag

A majority of incoming calls will have a Calling Line Identifier (CLI) presented at the same time as the call. This is the number from where the caller is making the call. By attaching some meaningful information as a tag to the number can help users when they receive calls from a particular number, for example VIP, #1 Customer etc. User can also add a point of reference as well, such as a company name or contact. All the Numbers added in CLI Type Call Filters will also appear in this Listing.

The screenshot shows the 'Arc Connect Gateway Configuration - Database config' window. The 'CLI Tag' tab is selected under the 'Directory Configuration' section. On the left, a table lists CLI tags with columns 'CLI Number', 'CLI Tag', and 'CLI Reference Data'. One entry is visible: CLI Number 6523, CLI Tag 23, and CLI Reference Data 45. Below the table are 'Delete' and 'Search' buttons. On the right, the 'CLI Tag Properties' section has input fields for 'Number' (6523), 'Tag' (23), and 'Reference Data' (45), with 'New' and 'Update' buttons below them. At the bottom of the window are 'OK', 'Cancel', and 'Help' buttons.

CLI Number	CLI Tag	CLI Reference Data
6523	23	45

CLI Tag Properties

Number: 6523  
Tag: 23  
Reference Data: 45

New Update

Delete Search:

OK Cancel Help

#### To Create a New CLI Tag,

1. In the CLI Tag Properties section, click **New**.
2. Enter CLI number, tag and reference data.
3. Press **Update** to finish.

#### To Amend a CLI Tag,

1. Select the CLI tag you want to amend from the tag list
2. Change details and press **Update**.

#### To Delete a CLI Tag,

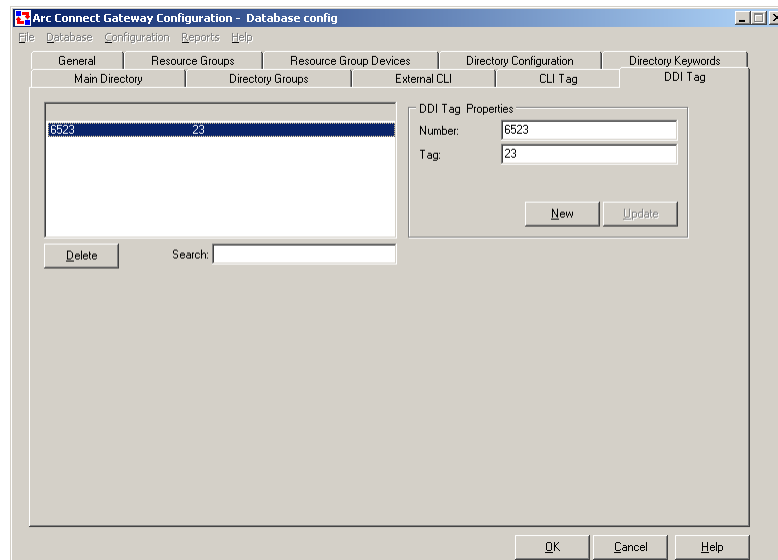
1. Select the tag you want to delete from the tag list.
2. Press **Delete**.
3. Click **Update** to finish.

To search an existing tag, type the number and click **Search** button.

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### 6.3.1.6 DDI Tag

A DDI is the number that the caller has dialled (Direct Dial Inbound). As user configures the call filters with the ICD areas any DDI(s) that are entered will automatically be added to this list. Alternatively, user can enter any of the DDI tags here.



#### To Create a New DDI Tag,

1. In the DDI Tag Properties section, click **New**.
2. Enter DDI number, tag and reference data.
3. Press **Update** to finish.

#### To Amend a DDI Tag,

1. Select the DDI tag you want to amend from the tag list
2. Change details and press **Update**.

#### To Delete a DDI Tag,

1. Select the tag you want to delete from the tag list.
2. Press **Delete**.
3. Click **Update** to finish.

To search an existing tag, type the number and click **Search** button.

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### 6.3.1.7 External CLI

External CLI is a contact outside the Call Centre. Information associated with the External CLI will be shown to the Operators. Devices can be entered along with the information in the Blank fields that appear. These contacts are based on the Phone numbers you provide here; therefore these are called External CLI Details. In this window you will see the List of Contacts on the Left side that show two columns Name and Company name. Selected contact will be shown in detail in the fields of CLI Properties.

To create an external CLI, click **New** and provide the following information,

Control Name	Explanation
<b>First Name</b>	Enter the first name of the contact who's CLI is being entered.
<b>Middle Name</b>	Enter the middle name of the contact.
<b>Last Name</b>	Enter the last name.
<b>Company Name</b>	Type the company's name.
<b>Department</b>	Enter the working department of the contact.
<b>Business 1</b>	Enter the business type for the contact.
<b>Business 2</b>	Enter the second business type for the contact if it exists.
<b>Home</b>	Enter the home address.
<b>Mobile</b>	Enter the mobile number for the contact.
<b>Fax</b>	Enter the fax number.
<b>Email</b>	Type the email address for the contact.
<b>User Field 1</b>	Enter a field, the user wants to add for the contact but is not listed in the section.
<b>User Field 2</b>	Enter a field, the user wants to add for the contact but is not listed in the section.
<b>User Field 3</b>	Enter a field, the user wants to add for the contact but is not listed in the section.

Click **Update** to finish.

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To delete an external CLI, select it from the list and click **Delete**. Click **Update** to finish. The user can also change details of an external CLI.

**To change external CLI details,**

1. Select the external CLI you want to amend.
2. Change details as required
3. Click **Update** to finish.



**NOTE**

Users will only be able to modify the contact fields that have NOT been mapped for LDAP Synchronization.

### 6.3.1.8 Directory Keywords

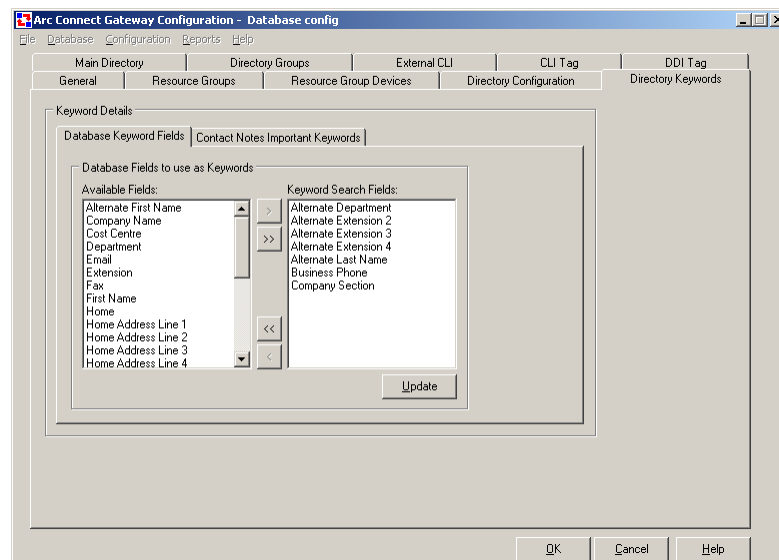
The **Directory Keywords** tab consists of two sub-tabs, **Database Keyword Fields** and **Contact Notes Important Keywords**.

#### Database Keyword Fields

This tab contains Available Fields and Keyword Search Fields. The fields selected here serve as keywords when searching for contacts in the Main Directory tab.

**To configure keywords,**

1. In the **Available Fields** list, select the field you want to add to the Main Directory.
2. Click button. The selected field will be added to the **Keyword Search Field** list.
3. Use button to select add all fields.
4. The user can remove search filters from **Keyword Search Field** list by pressing the button. Similarly all filters can be removed by pressing the button.
5. Click **Update** to save changes.



#### Contact Notes Important Keywords

This sub-tab allows you to create keywords. These keywords are used for contacts with Contact Notes in Arc Console Connect.

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### 6.3.1.9 Resource Groups

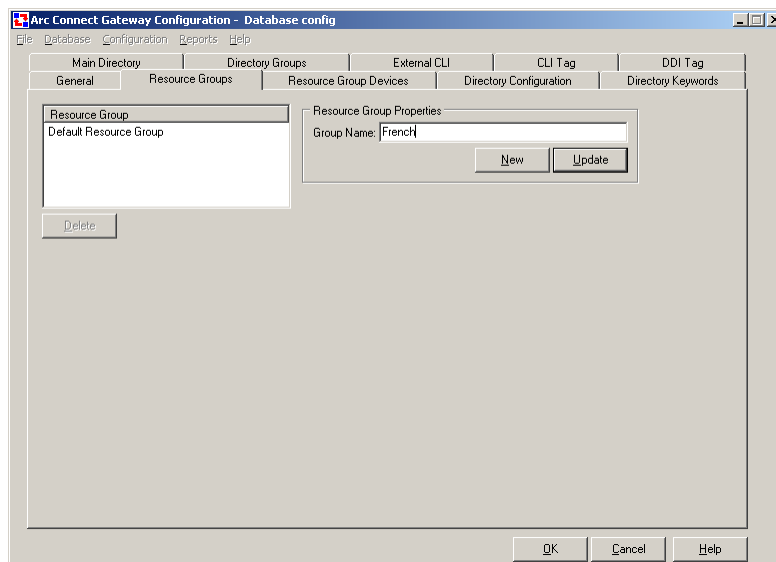
A Resource Group is a partition or subset of devices or queues available to the user. The Users can create a number of partitions or subsets of available devices and assign different functionality to devices and queues in each queue.



#### EXAMPLE

A user may wish a different music on hold (MOH) for different call types such as English speaking, French speaking etc. The user can create two resource groups for this purpose. The devices associated with an English-speaking resource group will be configured to play specific MOH. Similarly, the French resource group can be configured to play a different MOH.

The figure below shows the tab used to create, modify and delete the resource groups.



#### To create a new Resource Group,

1. In the Resource Group tab, click **New**
2. Enter the name of the new group.
3. Click **Update** to finish. The new group will appear in the Resource Group list.

### 6.3.1.10 Resource Group Devices

This tab allows the users to configure device for Resource Groups. It shows available groups on the left hand side and five sub-tabs on the right hand side. These sub-tabs are,

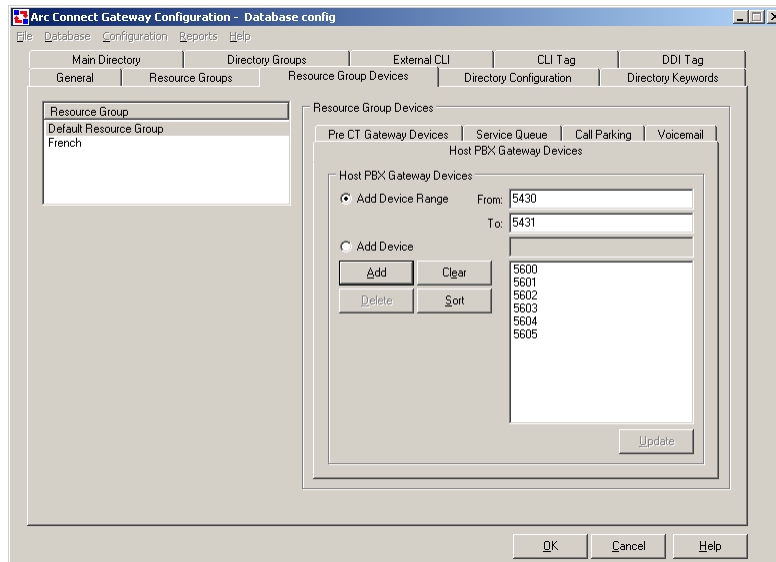
1. Host PBX Gateway Devices
2. Pre CT Gateway Devices
3. Service Queue
4. Call Parking
5. Voicemail

[<<TOC](#)

#### 6.3.1.10.1 Host PBX Gateway Devices

These are the devices upon which calls can be held prior to them being delivered to Operator. The more devices configured, the more calls can be held in the Arc Connect system waiting to be answered. Once a call is delivered down to Operator, the Gateway device becomes free for another call.

This sub-tab allows the user to configure Host PBX Devices for available Resource Groups.



#### To configure devices,

1. In the **Resource Group** list, select the group for which you want to configure devices.
2. In the **Host PBX Gateway devices** section, select **Add Device Range** to configure a series of devices or **Add Device** to configure a particular device.
3. Click **Add** to configure devices.
4. Use **Delete** button to remove a selected or click **Clear** to remove all devices from the list.
5. Click **Sort** to sort devices in the list and click **Update** to save.

#### 6.3.1.10.2 Pre CT Gateway Devices

The Pre CT Gateway devices are required to pass calls into the Arc Connect. Once a call dials in a Pre CT Gateway port, it is taken into the Arc CT Gateway. If the Arc Server is not functioning or the Gateway devices are full, then a call is held on the Pre CT Gateway port until it can be routed into the Gateway. Alternatively, a Forward on No Answer can be set on the port to provide a level of Resilience, by routing to another device or group of devices.

#### To configure devices,

1. In the **Resource Group** list, select the group for which you want to configure devices.
2. In the **Pre CT Gateway Devices** section, select **Add Device Range** to configure a series of devices or **Add Device** to configure a particular device.
3. Click **Add** to configure devices.
4. Use **Delete** button to remove a selected or click **Clear** to remove all devices from the list.
5. Click **Sort** to sort devices in the list and click **Update** to save.

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#### 6.3.1.10.3 Service Queue

The Service Queue allows calls to be put on hold by the Operator. It also adds functionality to CallManager by providing Transfer Recall and Camp on facilities on the Operator's phone. It requires a number of configured CTI Ports. The number of CTI Ports configured, determines the number of calls that can be Held, Camped on or Recalled at any one time.

##### To configure devices,

1. In the **Resource Group** list, select the group for which you want to configure devices.
2. In the **Service Queue Devices** section, select **Add Device Range** to configure a series of devices or **Add Device** to configure a particular device.
3. Click **Add** to configure devices.
4. Use **Delete** button to remove a selected or click **Clear** to remove all devices from the list.
5. Click **Sort** to sort devices in the list and click **Update** to save.

#### Call Parking

This sub-tab is used to configure Call Parking devices for Resource Groups.

##### To configure devices,

1. In the **Resource Group** list, select the group for which you want to configure devices.
2. In the **Call Park Devices** section, select **Add Device Range** to configure a series of devices or **Add Device** to configure a particular device.
3. Click **Add** to configure devices.
4. Use **Delete** button to remove a selected or click **Clear** to remove all devices from the list.
5. Click **Sort** to sort devices in the list and click **Update** to save.

#### 6.3.1.10.4 Voicemail

This sub-tab allows the user to configure voicemail devices.

##### To configure devices,

1. In the **Resource Group** list, select the group for which you want to configure devices.
2. In the **Voicemail Devices** section, select **Add Device Range** to configure a series of devices or **Add Device** to configure a particular device.
3. Click **Add** to configure devices.
4. Use **Delete** button to remove a selected or click **Clear** to remove all devices from the list.
5. Click **Sort** to sort devices in the list and click **Update** to save.



#### NOTE

When configuring a device range, the value in **From** field must be less than the value in **To** field.

The user can remove a selected device in a Resource Group using the **Delete** button. Similarly, all selected devices can be removed using **Clear** button.

The **Sort** button is used to sort all configured devices in a Resource Group.

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## 6.4 LDAP Synchronisation

1. Click on the *Configuration* menu.
2. Select *LDAP Synchronisation*.

### 6.4.1 Scheduled Sources

This is the main tab of the LDAP Synchronisation. The users can create copy, edit and delete scheduled LDAP Directory source here.

To create a new Directory source users have to move gradually through the six sub-tabs provided.

#### To create a new Scheduled Source

1. Click the **New** button.
2. The given options in the **Source Details** tab will become active.

#### 6.4.1.1 Source Details

The information provided here is used to create authenticated connection between LDAP Server and the LDAP Directory Server.

The tab has three sections,

1. General
2. Connection
3. Authentication

The screenshot shows a window titled "LDAP Synchronization - Database New database". The "Scheduled Sources" tab is active, displaying a list of sources on the left and a "Source Details" form on the right. The "Source Details" form has three sections: "General" with fields for "Source Name", "Platform" (a dropdown menu showing "iPlanet"), and a "Status Active" checkbox; "Connection" with fields for "Host Name", "Host Port", and "Protocol Version" (a dropdown menu showing "LDAP Version 3.0"); and "Authentication" with fields for "User DN" and "Password". At the bottom of the form are "Update", "Test", and "New" buttons. The window also has "Delete", "OK", "Cancel", and "Help" buttons at the bottom.

Control Name	Explanation
<b>General:</b>	This section allows the users to enter the information for the Source and its platform.
<b>Source Name</b>	This is the name of the Source.
<b>Platform</b>	The user can select an option from the drop down box, <b>iPlanet</b> or <b>Microsoft Active Directory</b> . This selected option will allow the LDAP Server to operate according to the LDAP Directory Server.

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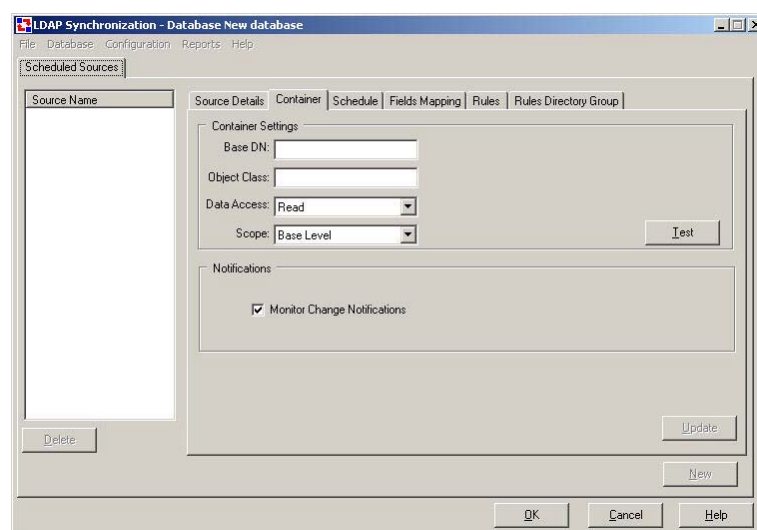
<b>Status Active</b>	Select to active the status of the <b>LDAP Directory Server</b> . An inactive Directory Server is unable to synchronise data to the Arc Contact database.
<b>Connection:</b> This section allows the users to give the host information and its protocol version.	
<b>Host Name</b>	The user is required to enter the <b>IP Address</b> or the <b>Name</b> of the host i.e. the machine on which the <b>LDAP Directory Server</b> is installed.
<b>Host Port</b>	This is for the number of the port to which the LDAP Directory Server is connected.
<b>Protocol Version</b>	Users will select an option from the drop down box. The values are the versions of the LDAP Server. The selected version is used to connect to the LDAP Directory Server.
<b>Authentication:</b> This section is for entering secure information for the user name and password.	
<b>User DN</b>	The users are required to enter the user name for authentication to the LDAP Directory Server.
<b>Password</b>	Enter a password for the <b>User DN</b> .
<b>Update</b>	Click this button to save the information entered or changed.
<b>Test</b>	Click this button to validate the information entered by the users.

#### 6.4.1.2 Container

This tab requires information about the basic storage place of the objects and classes. This storage place is in the LDAP Directory Sever. The LDAP Server will use these objects and classes to synchronise contacts to the Arc database.

It has two sections,

1. Container Settings
2. Notifications



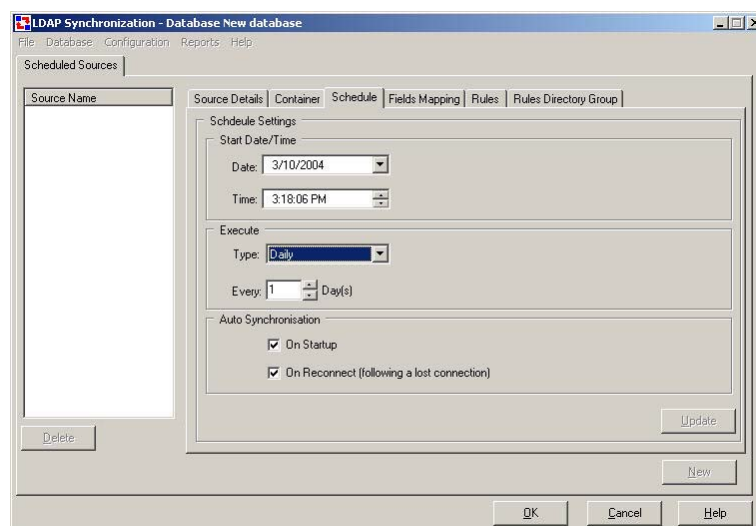
[<<TOC](#)

Control Name	Explanation
<b>Container Settings:</b> In this section the users can define the objects and classes used for the synchronisation of contacts.	
<b>Base DN</b>	It is the distinguished name of the domain that contains the objects and the classes. This will also have the complete path of the container hierarchy through which the objects and classes are taken.
<b>Object Class</b>	It is the type of the objects and classes specified in the container.
<b>Data Access</b>	This is an option box, <b>Read</b> , <b>Write</b> and <b>Both</b> . Select a value to specify whether the user is allowed to only read, write the container or do the both.
<b>Scope</b>	It has three options, <b>Base Level</b> , <b>One Level</b> , and <b>Sub Tree Level</b> . Select one option to define the scope of the container.
<b>Test</b>	Click the button to validate the information entered in this section.
<b>Notifications</b>	
<b>Monitor Change Notification</b>	It is a checkbox. If the users select this option then Arc LDAP Server starts monitoring change notifications for the LDAP Directory Server.
<b>Update</b>	Click to save the information.

#### 6.4.1.3 Schedule

This tab requires information on the scheduling of the synchronisation. It has a section, **Schedule Settings**. This section is further divided into three sub-sections,

1. Start Date/Time
2. Execution
3. Auto Synchronisation



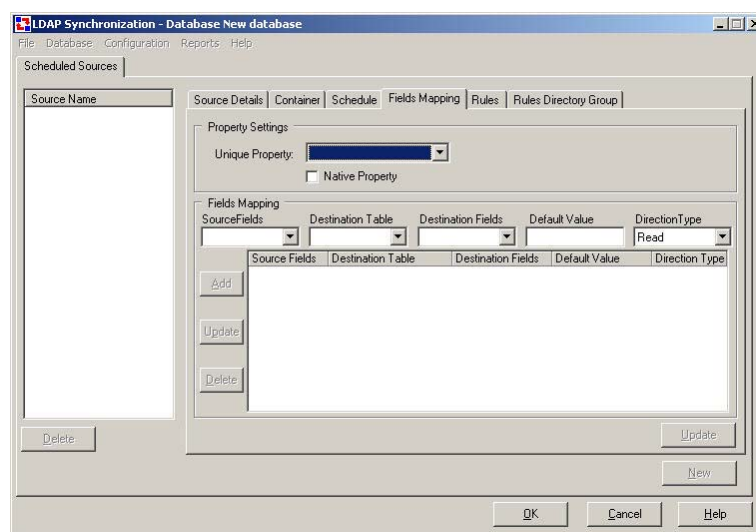
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Control Name	Explanation
<b>Source Settings:</b> This is the main section of the tab that consists of three sub-sections allowing users to set the schedule at the basis of date and time.	
<b>Start Date/Time:</b> It allows the users to select the date and time to set the schedule.	
<b>Date</b>	This drop list opens a calendar for selecting date. This is to set date to start the synchronisation.
<b>Time</b>	Click the up and down arrows to change and set time. The value of the time selected will change only. For example, if the user selects the PM value and clicks the arrow, it will change to AM but the Hours, Minutes and Seconds will not.
<b>Execute:</b> The users can set the execution periods in this section.	
<b>Type</b>	This is an option list. It has <b>None</b> , <b>Hourly</b> , <b>Daily</b> , <b>Weekly</b> and <b>Monthly</b> options. The synchronisation will take place on the basis of the type selected.
<b>Every [(Number)(Type)]</b>	The caption for this option changes with the selection of the <b>Type</b> . For example, <b>Every 2 Week(s)</b> or <b>Every 1 Day(s)</b> .
<b>Auto Synchronisation:</b> The users can set preferences for the automatic synchronisation.	
<b>On Start up</b>	If this checkbox is selected then the synchronisation is started when the Arc LDAP Server starts.
<b>On Reconnect</b>	If this check box is selected then the synchronisation will start again after the reconnection of the LDAP Server. This is in case of disconnection.
<b>Update</b>	Click to save the information in the tab.

#### 6.4.1.4 Fields Mapping

The users can configure settings to map the External sourced contacts to the Arc database. It has two sections,

1. Property Settings
2. Fields Mapping

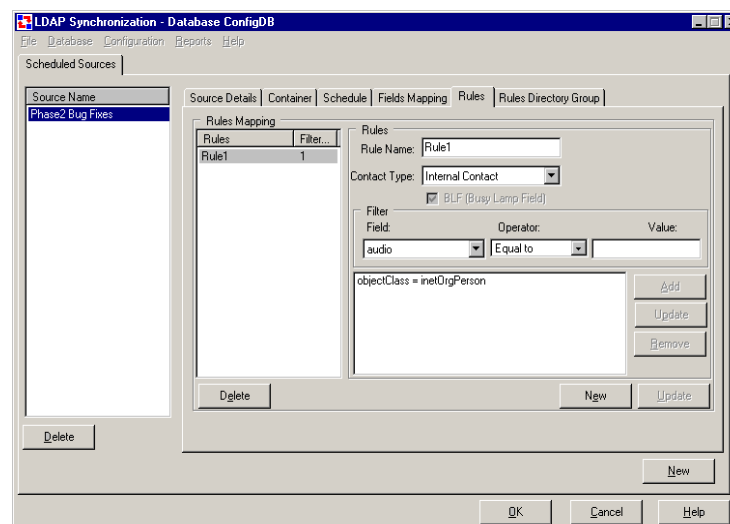


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Control Name	Explanation
<b>Property Settings:</b> This section allows the users to set properties for the source attributes.	
<b>Unique Property</b>	This is an option list that displays the source attributes defined in the source and the object class. It allows the users to select a unique property for the synchronisation.
<b>Native Property</b>	If this check box is selected, then users cannot select an option from the <b>Unique Property</b> .
<b>Fields Mapping</b>	
<b>Source Fields</b>	It is an option list that contains the fields specified in the object class given in the <b>Container</b> tab.
<b>Destination Table</b>	It displays the tables supported in the Arc database.
<b>Destination Fields</b>	All the contact properties in the selected table will display in this option list.
<b>Default Value</b>	Enter a default value if required for the <b>Fields Mapping</b> .
<b>Direction Type</b>	It has three options, <b>Read</b> , <b>Write</b> and <b>Both</b> . Users can select one to create a contact property from LDAP Server to Arc Server and vice versa.
<b>Add</b>	Click to add the information in the table below.
<b>Update</b>	Click to update information in the table.
<b>Delete</b>	Click to delete information from the table.
<b>Update</b>	Click this button to save information in the <b>Fields Mapping</b> tab.

#### 6.4.1.5 Rules

The users can select and define the type of contacts i.e. Internal or External required to synchronise for the Arc Console Operator. The LDAP Server will synchronise the defined set of contacts from the LDAP Directory Server to the Arc Contact database according to the rules. It has a section, **Rules Mapping**. This further has a sub-section, **Rules** having another sub-section, **Filter**.

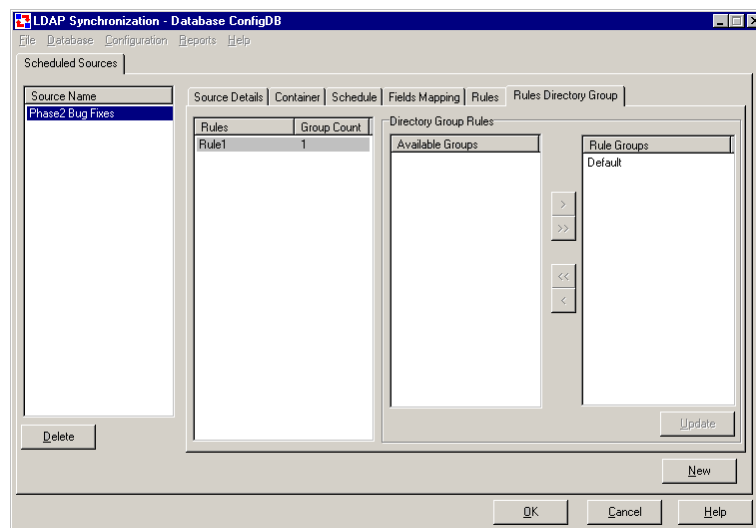


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Control Name	Explanation
<b>Rules Mapping:</b> This section contains a list that shows the Rules and Filter.	
<b>Rules</b>	
<b>Rule Name</b>	Enter the name of the rule user is going to create.
<b>Contact Type</b>	Select an option from the list, <b>Internal Contacts</b> and <b>External Contacts</b> .
<b>BLF (Busy Lamp Field)</b>	If this check box is selected, the LDAP Server will synchronise the internal contact properties from the LDAP Directory Server to the Arc Console Operator.
<b>Filter:</b> After the above information, users can enter information for the filters.	
<b>Field</b>	This option list shows the fields that are used to build Filters.
<b>Operator</b>	It has a set of comparison operators to create a Filter.
<b>Value</b>	Enter value of a Filter to be created which will be used for the comparison.
<b>Add</b>	Click to add the filter in the table.
<b>Update</b>	Click to update filter in the table.
<b>Delete</b>	Click to delete filter in the table.
<b>New</b>	Click to create a new <b>Rule</b> .
<b>Update</b>	Click to update a <b>Rule</b> .
<b>Delete</b>	Click to delete a selected <b>Rule</b> .

#### 6.4.1.6 Rules Directory Group

The users can relate the created Rules to the Directory Groups in this tab. It has two sections. One shows a list of **Rules** and **Group Count**. The second is **Directory Group Rules**.



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Control Name	Explanation
<b>Directory Group Rules</b>	
<b>Available Groups</b>	This list contains the available Directory Groups.
<b>Rule Groups</b>	This list contains the Rule Groups added from the <b>Available Groups</b> .
<b>Update</b>	Click to save the <b>Directory Rule Groups</b> .

## 6.5 Users

Users are defined as the persons who would be using the Arc Connect applications in a Call Centre. These include Supervisors, Wallboards, Operators.

1. Open the Arc Connect Administration application by selecting *Start Programs → Arc Connect → Arc Connect Administration*
2. Select *Configuration → Users*.

### 6.5.1 Supervisors

These are the Administrators in a Call Centre responsible for the correct configuration of Arc Connect applications. Supervisors will be using Arc Supervisor application in order to keep the configuration of the Call Centre according to the needs. To help them Arc Supervisor application provides a number of Online and Historical Reports in graph and text formats. To make effective changes in configuration, online updates are available for each module.

Select the Supervisor tab,

**To add a new Supervisor,**

1. Click the **New** button to create a new Supervisor.
2. Enter name of the Supervisor in the **Name** text box.
3. Enter a **Login Name**. This name is used to login into the *Supervisor* application.
4. Enter **Password** and then confirm it by re-entering it in **Confirmation**. This password will be entered along with the **Login Name** to enter *Supervisor* application. Click **Reset Password** to change existing password.

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5. Select a **Module Available** such as **Console Connect** to which the Supervisor will have access. The given modules are *Console Connect and Voice Connect*.
6. Click **Update** to finish.

#### To change details of a Supervisor,

1. In the **Supervisor Name** list, select the Supervisor for which you want to change details.
2. Make changes and click **Update** to finish.

#### To delete a Supervisor,

1. In the **Supervisor Name** list, select the supervisor you want to delete.
2. Click **Delete**.
3. Click **Update** to save changes.

### 6.5.2 Wallboards

To log on to the Wallboard application, **User Name** and **Password** are required. In this window the Users for the Wallboard application are configured giving their required information for logging.

Select the Wallboard tab,

The screenshot shows the 'User Configuration - Database config' window with the 'Wallboards' tab selected. On the left, there is a list box labeled 'Wallboard Name' containing 'John Smith' and a 'Delete' button below it. On the right, the 'Wallboard Properties' form is displayed. It includes the following fields and controls:

- Name:** Text box containing 'John Smith'.
- Login Name:** Text box containing 'W/LBD'.
- Password:** Text box with masked characters (dots).
- Confirmation:** Text box with masked characters (dots).
- Reset Password:** Button.
- Modules Available:** A section with two checked checkboxes: 'Console Connect' and 'Voice Connect'.
- New** and **Update** buttons at the bottom of the form.

At the bottom of the main window are 'OK', 'Cancel', and 'Help' buttons.

#### To add a new Wallboard,

1. Click the **New** button to create a new Wallboard.
2. Enter the name of the Wallboard in the **Name** text box.
3. Enter a **Login Name**. It is used to login into the *Wallboard* application.
4. Enter the **Password** and then confirm it by re-entering in the **Confirmation**.
5. Select the **Modules Available**. Wallboard will have access to the modules selected here.
6. Click **Update** to finish.

#### To change details of a Wallboard,

1. In the **Wallboard Name** list, select the Wallboard for which you want to change details.
2. Make changes and click **Update** to finish.

#### To delete a Wallboard,

1. In the **Wallboard Name** list, select the Wallboard you want to delete.
2. Click **Delete**.
3. Click **Update** to save changes.

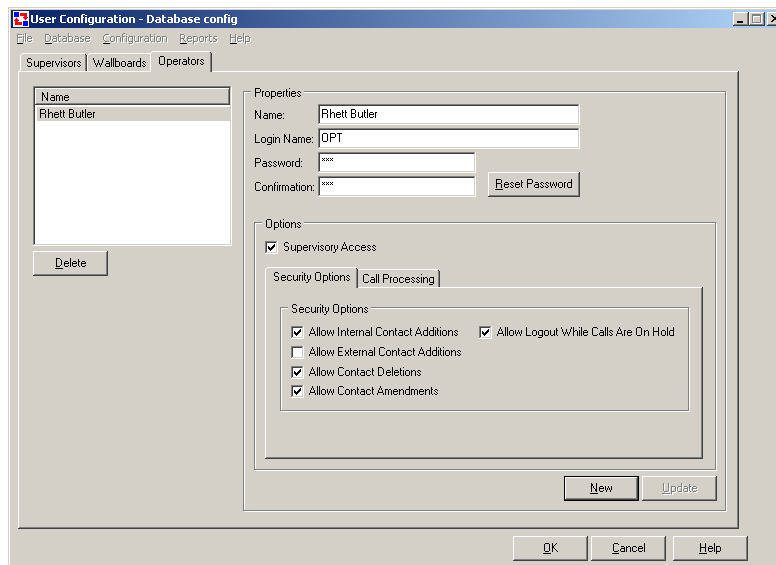
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### 6.5.3 Operators

This tab allows you to set up all of the relevant Console Operators on your system. An Operator is defined as any person who will be taking calls within Arc Connect. An Operator can be anyone from the Managing Director downwards, and can cover the whole organization, if required.

This tab also allows you to set up all of the relevant Operators on your system. An Operator is defined as any person who will be taking calls within Arc Connect.

Console Operators are configured to attend calls within Console Connect Queues. These Operators will be using the Arc Console Operator application.



#### To add a new Operator,

1. Click the **New** button to create new Operator.
2. Enter the **Name** of the Operator.
3. Enter **Login Name**. The Operator uses it to log into the respective Arc application.
4. Enter **Password** and then confirm it by re-entering it in **Confirmation**. The Operator will enter the password along with the login name.
5. Select the desired **Type** i.e. Console Operators.
6. Select option **Supervisory Access** if required. By selecting this option, other logged in Operators will see this Console Connect Operator as Supervisor in the dial out list.
7. Select option from the **Security Options** i.e. **Allow Logout while Calls are On Hold** if required. This option allows the Console Connect Operator to Logout while the Calls are still on Hold.
8. **Call Processing** tab provides device options to the administrator to choose from. The administrator can either assign a headset, handset or leave it to the operator's choice what device he would like to use.
9. Click **Update**.

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## 6.6 Messaging

This tab page allows the Administrator to configure settings for page messages. The page messages are useful means of communication between Console Operator and IP Phone users. An operator can send a page message to a single IP Phone or a group of IP Phones. To configure these settings, select *Configuration* → *Messaging* in the main menu. The main section displays two tabs, **Configuration** and **Paging**.

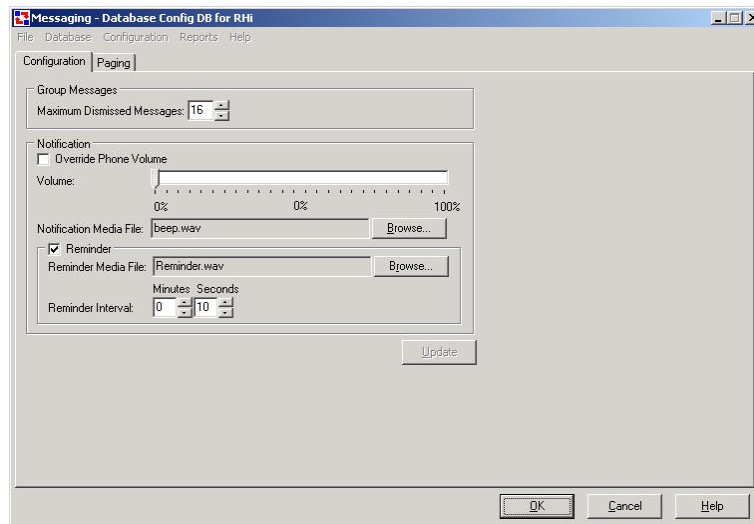
### 6.6.1 Configuration

The following settings are made in this tab,

1. **Group Messages**
  - a. **Maximum Dismissed Messages:** When a message is sent to a group and the number of recipients (as configured here) dismisses the message, it goes back to the sender. For example, the value is 16. Now, when a message is sent to a group of 20 users and 16 users dismiss the message. The message will go back to the sender.
2. **Notification**
  - a. **Override Phone Volume:** This option allows the Administrator to set any sound file of his choice as ring tone of the IP Phone. The sound file configured here is played on IP Phone instead of its default ring tone.
  - b. **Volume:** Use this slider to adjust volume.
  - c. **Notification Media File:** Click **Browse** to select the desired sound file (.wav)
3. **Reminder**

Select this checkbox to enable/disable recurring sound alert. The reminder is used to inform the IP Phone user if there is any pending message to be attended on the IP Phone.

  - a. **Reminder Media File:** Click **Browse** to select the desired sound (.wav) for reminder.
  - b. **Reminder Interval:** Set interval for the reminder.



Click **Update** to save changes.

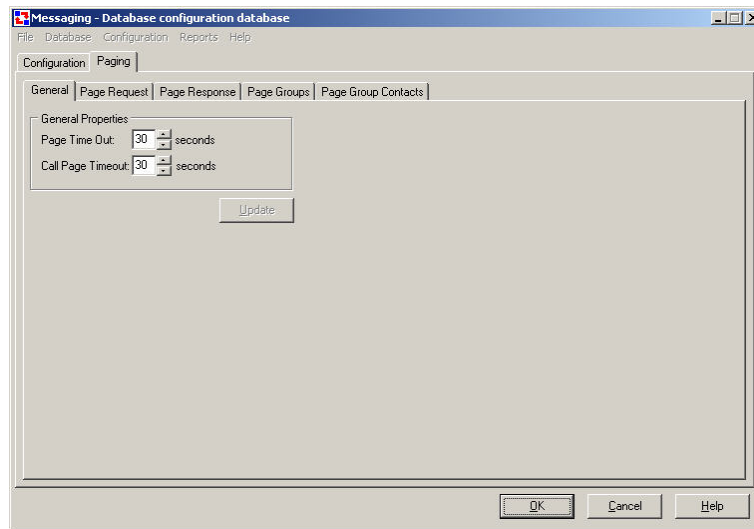
### 6.6.2 Paging

This tab page is further divided in five sub-tabs. These are explained in the following,

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### 6.6.2.1 General

The **General** sub-tab allows the Administrator to configure the time-out duration. The following configurations are available in this area.

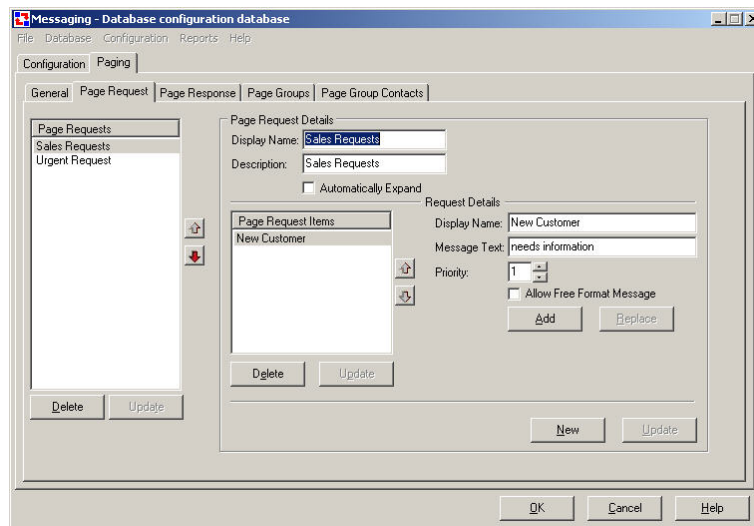


1. **Page Time Out:** This is the time after which a Page Request expires if not delivered to any recipient.
2. **Call Page Timeout:** This is the time after which a Page Request with Call expires and returns to the sender if not received by any IP Phone user.

Click **Update** to save changes.

### 6.6.2.2 Page Request

This sub-tab allows the Administrator to create, update or delete groups of messages. Each page group can contain page requests or messages of similar type. This facilitates the Operator to easily find and send desired page request.



**To create a page request group,**

1. Click the **New** button.
2. In **Page Request Details** section, enter display name and description. This name is displayed in Operator's paging window.

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3. Select **Automatically Expand** checkbox. If selected, the group list is expanded in Operator's paging window and displays all messages in the group. In this checkbox is not selected, only page group are displayed to the Operator however, the Operator can manually expand the group to view page requests or messages.
4. Press **Update** to finish. The newly created page group will be displayed in the **Page Requests** list.
5. The order of page request groups in the list can be changes using the Up and Down buttons. Press **Update** button after changing the order.

Once a page request group is created, the Administrator can associate messages to each page request group.



**To add page request item to a page group,**

1. In the **Page Requests** list, select the group to which you want to add a message.
2. In the **Request Details** section, type the name and text of the page request. The name and text typed here are displayed on recipient's IP Phone screen.
3. Set priority level. A greater number represents lower priority level.
4. Select **Allow Free Format Message** checkbox. This will enable the operator to add additional message to the page request.
5. Click **Add** to finish. The newly created message will be shown in **Page Request Items** list.

**To amend page request item details,**

1. In the **Page Request Items** list, select the message you want to amend.
2. Make changes and press **Replace** button.

**To change page request order,**

1. Select the page group for which you want to change the message order.
2. The messages added to the group will appear in the **Requests Items** list.
3. Use  and  to change order.
4. Press **Update** to finish.

**To delete a page group,**

1. In the **Page Requests** list, select the page group you want to delete.
2. Press **Delete**.

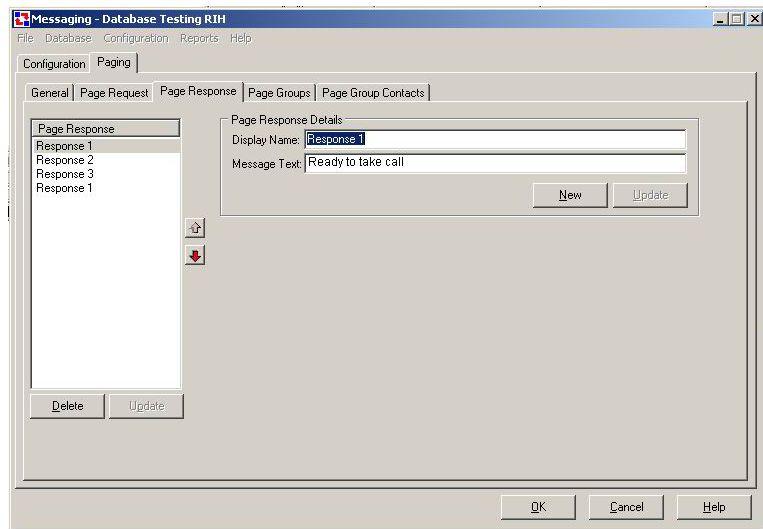
**To amend a page group,**

1. In the **Page Requests** list, select the group you want to amend.
2. Make changes to the group
3. Click **Update** to save changes.

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### 6.6.2.3 Page Response

This sub-tab allows the Administrator to manage page replies. These replies are sent in response to page requests through an IP phone. Page replies can be created, updated and deleted in this section.





#### To create a reply,

1. Click **New** button.
2. Enter display name and message text.
3. Press **Update** to finish. The newly created reply appears in the **Page Response** list.

#### To amend a reply,

1. In the **Page Response** list, select the reply you want to amend.
2. Amend details and press **Update** to save changes.

#### To change order of a Page Response,

1. In the **Page Response** list, select a page response.
2. Use  and  buttons to move the selected Page Response
3. Click **Update** to save changes.

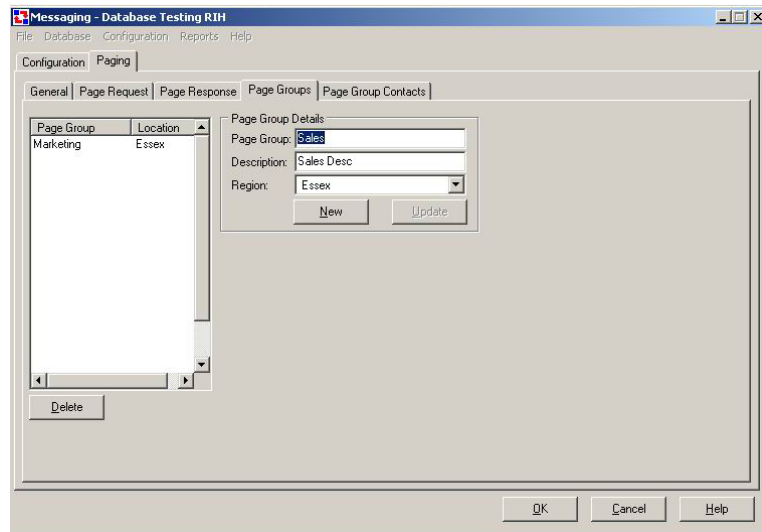
#### To delete a reply,

1. In the **Page Response** list, select the reply you want to delete.
2. Press **Delete**.

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#### 6.6.2.4 Page Groups

The Administrator can create a page groups in this sub-tab. A Page group is a set of contacts or page recipients. The Operator can use page group to send page messages to multiple recipients simultaneously.



##### To create a page group,

1. Press **New** button.
2. Enter the name and description of the group.
3. Select a Region from the list.
4. Press **Update** to finish. The newly created page group will appear in the **Page Group** list.

##### To amend a page group,

1. In the **Page Group** list, select the group you want to amend.
2. Change details as required.
3. Press **Update** to save changes.

##### To delete a page group,

1. In the **Page Group** list, select the page group you want to delete.
2. Press **Delete**

#### 6.6.2.5 Page Group Contacts

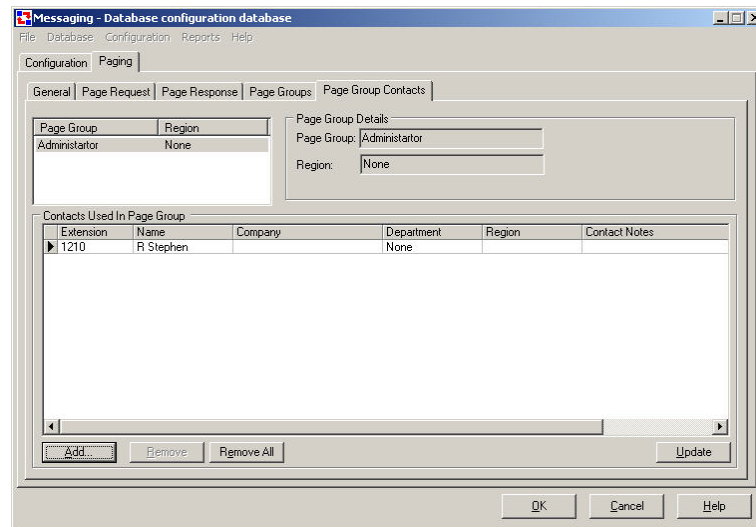
The Administrator can associate a contact with a page group in this sub-tab. The Administrator can also associate one more contacts to a group. Similarly, contact associations can be created or removed here.

##### To associate a contact to a group,

1. In the **Page Group** list, select a group.
2. Press **Add** button. This will open a new window.
3. In the new window, select the contact you want to associate with the selected group. The Administrator can also search a contact from the directory using different search criteria in this window. Only console contacts can be associated to a group.

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4. Press **Add**. The contact will be added to the selected group and displayed in the **Contacts Used in Page Group** section. These are the contacts configured in the **Main Directory** as *Console Contacts*.
5. Press **Update** to finish.



#### To remove a contact from group,

1. In the **Page Group** list, select the group from which you want to remove a contact.
2. All contact associated with the group will appear in the contacts list.
3. Select the required contact and press **Remove**. The **Remove All** button removes all contacts from the selected group.

## 6.7 Reason Codes

1. Open the Arc Connect Administration application by selecting *Start Programs → Arc Connect → Arc Connect Administration*.
2. Select *Configuration → Reason Codes*.

### 6.7.1.1 Break Reasons

While configuring the Break Hours for the Queues, user will have to select the reasons for the **Break Hours**. These reasons are called the Break Reasons in Arc Connect. These reasons are configured in this section and will be used in other sections while setting Break Hours for the *Call Queues*.

This window is used to create the reason codes that user will be selecting while setting Break Hours for the Call Queues. Select the Break Reasons tab,

#### Adding a new Break Reason,

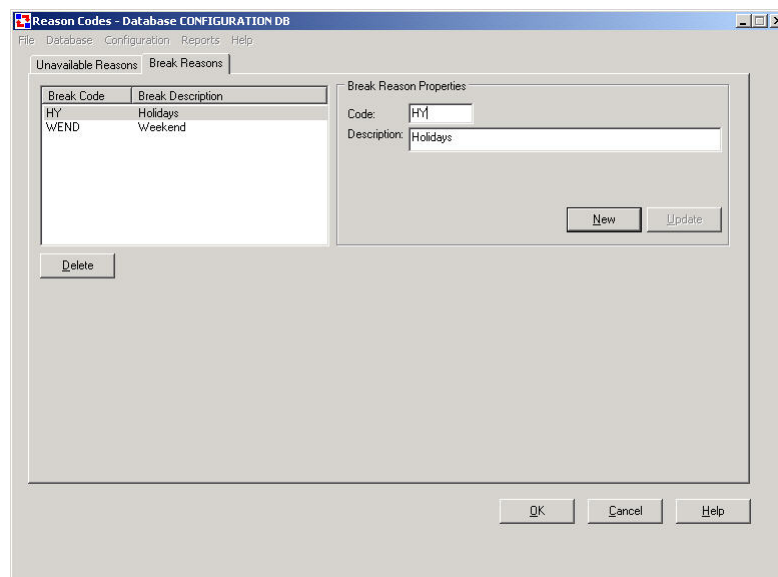
1. Click **New** to add a new **Break Reason**.
2. Enter **Code**.
3. Enter **Description**.
4. Click **Update** when done.

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### To delete a Break Reason,

1. In the **Break Code** list, select the reason you want to delete.
2. Click **Delete**.
3. Click **Update** to save changes.

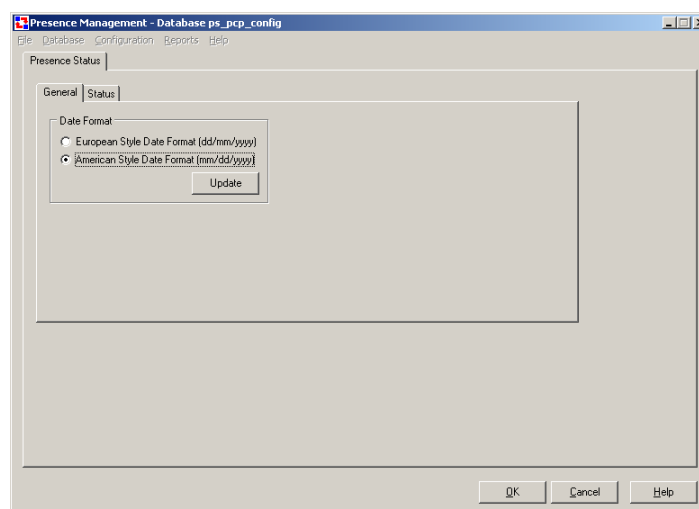


## 6.8 Presence Management

Presence Status is the current status of an internal contact. Each contact can set a presence status that can be viewed in the Console Operator's Internal Directory and Busy Lamp Fields, thus letting the operator know whether the contact is ready to take calls or not. The Administrator can create new status and configure the attributes as well.

Administrator can manage Presence Status as follows:

1. Open the Arc Connect Administration application by selecting *Start Programs* → *Arc Connect* → *Arc Connect Administration*.
2. Select *Configuration* → *Presence Management*.

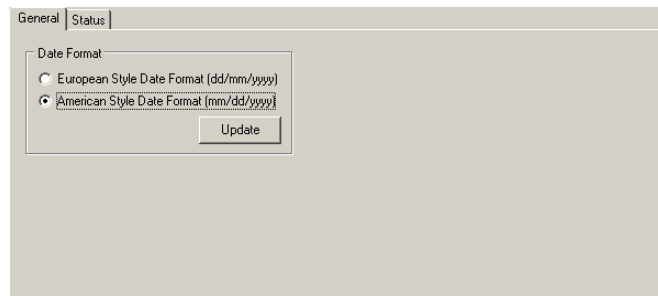


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### 6.8.1 General Settings

The General tab allows the user to select and update the Date Format for the Presence Status attribute where date needs to be entered. This section provides the following date formats:

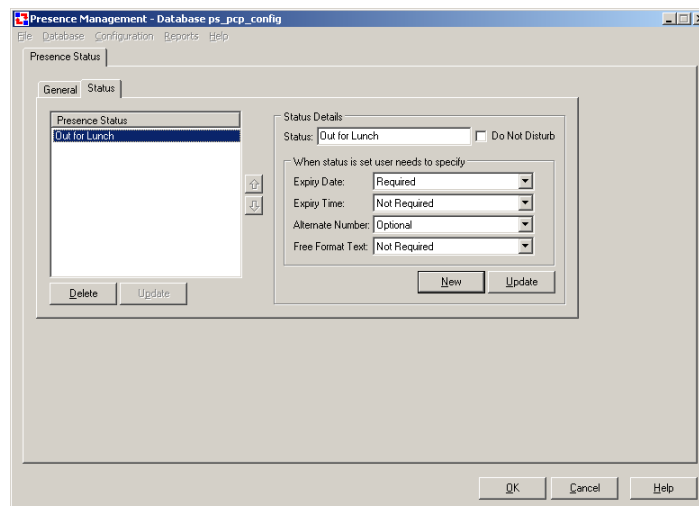
1. **European Style Date Format:** This date format displays date as dd/mm/yyyy, where day, month and year are specified respectively. (e.g. 27/08/2005).
2. **American Style Date Format:** This date format displays date as mm/dd/yyyy, where month, day and year are specified respectively. (e.g. 08/27/2005)



Once you have selected the Date Format click **Update** to save changes.

### 6.8.2 Status Configuration

The Status tab allows the user to create new status that can be selected by the internal contacts to show their availability details. All the statuses that have been created are displayed in a list on the left side of the tab as shown below:



The Administrator can edit or delete any of the statuses from the list by simply selection the status and clicking on **Delete** or **Update**.

Each status that is created has a number of *Attributes* associated to it. These attributes are the properties associated with a particular presence status and are as follows:

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Control Name	Explanation
<b>Status Details:</b> This section allows the users to set	
<b>Status</b>	The field allows the user to enter a name for Presence Status that is being created or modified.
<b>Do Not Disturb</b>	Selecting this checkbox would display a <i>Do Not Disturb</i> message when an internal contact selects a status that has this option enabled.
<b>When status is set user needs to specify:</b> This section allows the user to configure the category for the following <i>Additional Attributes</i> .	
<b>Expiry Date</b>	This attribute specifies the date on which the presence status for contact will expire.
<b>Expiry Time</b>	This attribute specifies the time at which the presence status of contact will expire.
<b>Alternate Number</b>	This attribute specifies the alternate number to which the call must be forwarded.
<b>Free Format Text</b>	This attribute specifies a note entered by the contact that must be displayed along with presence status.

As mentioned earlier, the Additional Attributes are the properties that are set once the user has selected a status. Therefore, the Administrator can categorise these attributes as follows:

1. **Required:** This category specifies that the user must enter a value for the attribute.
2. **Not Required:** This category specifies that the user does not need to enter a value for the attribute. The attributes configured as Not Required are disabled and do not accept an input.
3. **Optional:** This category specifies that the user may or may not enter a value for the attribute.

#### To add a new Status,

1. Click **New**.
2. Enter the name of the status in the *Status* field.
3. Select the Do Not Disturb checkbox if required.
4. From the dropdown boxes, select the categories for *Additional Attributes*.
5. Click **Update** to save Status Details.

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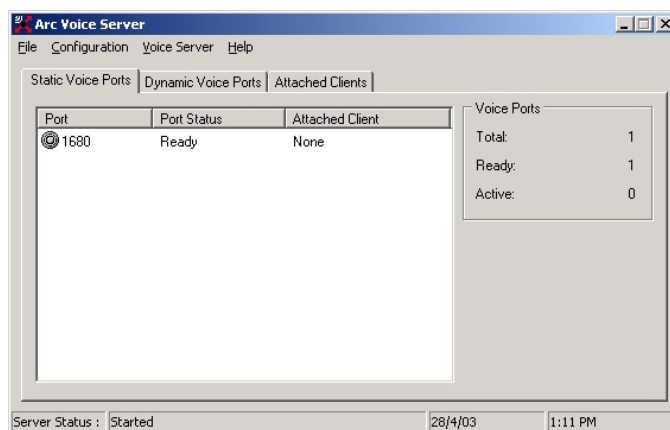
## 6.9 Arc Voice Connect Server Configuration

Before you can configure any voice settings for a Queue messaging or Auto Attendant, you will need to start up the voice server. Firstly the ports for the server need allocating to a TAPI user.

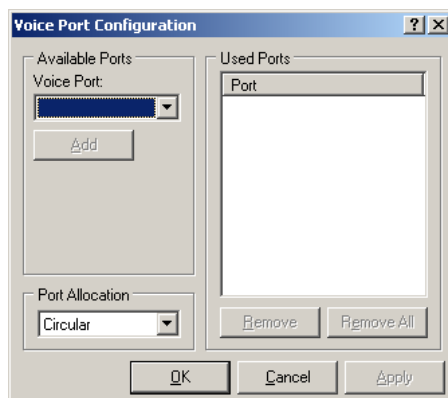
Cisco CallManager supports full music on hold where the Arc Voice Server plays messages to calls while they are sitting on the Host PBX Gateway Ports. You will need to set up a single Voice Port (CTI Port) for recording and playback of Phrases and Messages whilst configuring the system.

### 6.9.1 Voice Server Setup

1. Open the Voice Connect Voice server. *Start → Programs → Arc Connect → Arc Connect Voice Server*. The following screen will appear:



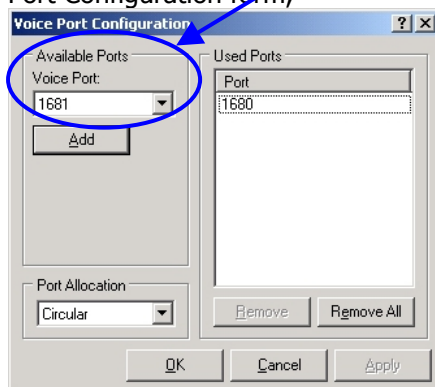
2. The Voice ports that were configured on CallManager now need to be added. Select *Configuration → Voice Ports*,



3. This form allows the Voice ports that were configured on CallManager to be allocated to the Voice Connect Server.

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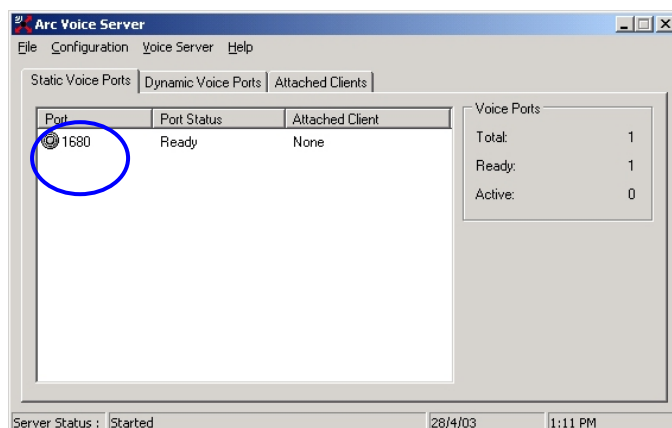
4. Dial the first voice port [extension](#), 1680 in this example and it will appear in the Voice Port Configuration form,



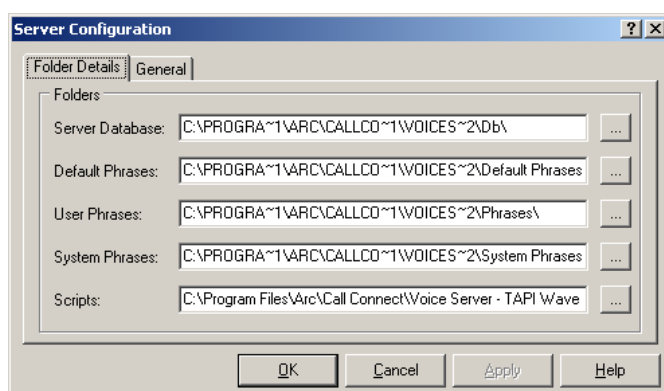
If the Voice ports do not appear in the Available ports section of this form, review the following,

1. Is TAPI configured correctly on the computer that is running the Voice server? See the TAPI installation document in the switch specific documents section.
2. Does the TAPI wave drive need to be removed and reinstalled?
3. Are the Voice ports configured correctly on the CallManager?

5. End the call and click on add. This port will now appear in the used ports column.
6. Click **Ok** when complete. The Voice Server should appear as follows, showing the configured ports,



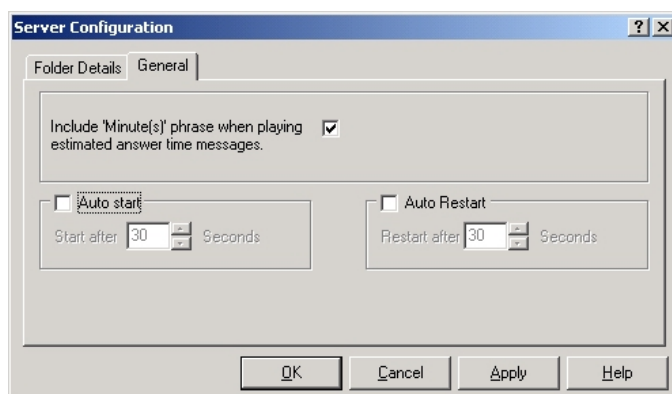
7. Select *Configuration* → *Server*.



These are the locations of the various files that will be used by the Voice Server. These directories must be shared local drives or shared network drives. The Arc Connect Administration application and Voice Connect server access these directories. These files do not need to be changed under normal circumstances.

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8. Under the **General** tab, the following sections display,



This check box allows the **Minutes** phrase to play automatically after the time phrase has been played, in an estimated answer time message. For example, if this box is selected and a message is set as follows:

Phrase 1	'Your call will be answered in'
Phrase 2	'Six'
Phrase 3	[no phrase]

"Your call will be answered in six minutes" will be heard. If this feature is used, the server will also differentiate between **minute** and **minutes** such as 1 minute or 2 minutes.

9. **Auto Start** functionality starts the Voice server automatically after the user opens the application.  
**Auto Restart** tries to restart the Voice server after the specified seconds.  
Select **Ok**.
10. The Voice Server configuration is now complete.  
11. Select Voice Server and restart the server.  
12. The Device Status will change from **Not Monitored** to **Ready**.

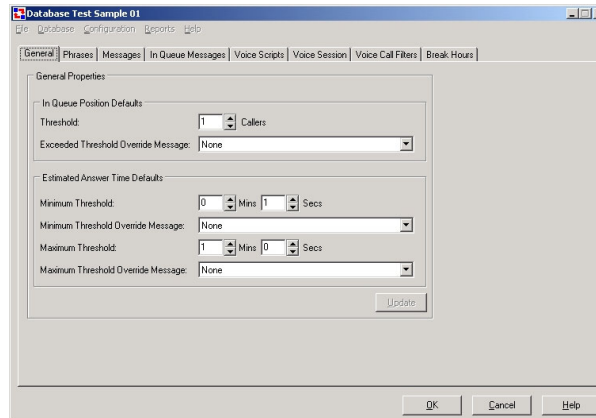
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## 6.10 Voice Connect Configuration

Select *Configuration > Voice Connect*,

### 6.10.1 General

The General settings apply across the Voice Connect application. Minimum and maximum parameters are set if **In Queue Position** or **Estimated Answer Time** messages are being used. For example, to tell the first five callers exactly where they are in the Queue, and play a generic message to all other callers.



#### 1. In Queue Position Defaults.

The selected message is played after the selected number of calls in the Queue has reached the limit. This means that if the threshold is set to five, the sixth caller will get the selected message. For example, if you have a message that informs the caller of their position in the Queue, you may not want the callers to know that they are eleventh in the Queue. You would then construct a neutral message informing the caller that they are in a Queue and not their position. The threshold would be set to ten and only the first ten callers would be informed of their Queue position.

#### 2. Estimated Answer Time Defaults.

If the call answer time is below the minimum threshold, usually the call is going to be answered quickly; therefore the selected message could inform the caller that their call will be answered shortly. If the answer time is above the maximum threshold, then a message telling the caller that all USERS are busy could be played.



### NOTE

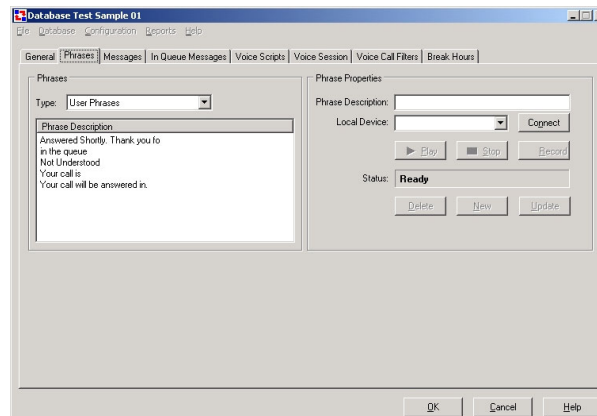
Please note that if you are to use either of these message tabs you must select a default message and threshold for the type of message you will be playing. Failure to set this will result in callers not getting played any of these message types.

### 6.10.2 Phrases

Phrases are used to make up messages. By default the phrases shown below (except Welcome) are included. From the list the phrases "Your call is" and "in the Queue" are used as a position message i.e. "Your call is fourth in the Queue." Standard phrases can also be turned into message for playing.

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Select the **Phrases** tab,



1. Select a **Phrase Type - User phrases** or **System phrases**. User phrases are phrases that are produced by the end user. System phrases are phrases that are used by the system when constructing an in-queue position or estimated answer time message.
2. Select a **Phrase Description**.
3. **Phrase Properties**.
  - a. *Connect*. This button is used in conjunction with the Local Device drop down menu. The local device drop down menu will show all devices in the TAPI list. From this, select the number of the phone nearest to you. Click **Connect** and the phone will ring. This is the phone from which the phrase recording will play.
  - b. *Play*. Highlighting a phrase and selecting play will allow you to hear the selected phrase.
  - c. *Stop*. This stops the playing message.
  - d. *Delete*. This will delete the selected **Phrase**.
  - e. *New*. Pressing the New button will move the cursor to the **Phrase Description** line. Enter the name of the phrase that you are about to record.
  - f. *Record*. This will allow you to record a new phrase.



#### TIP

A rule to remember, a caller always hears a message but no phrase.

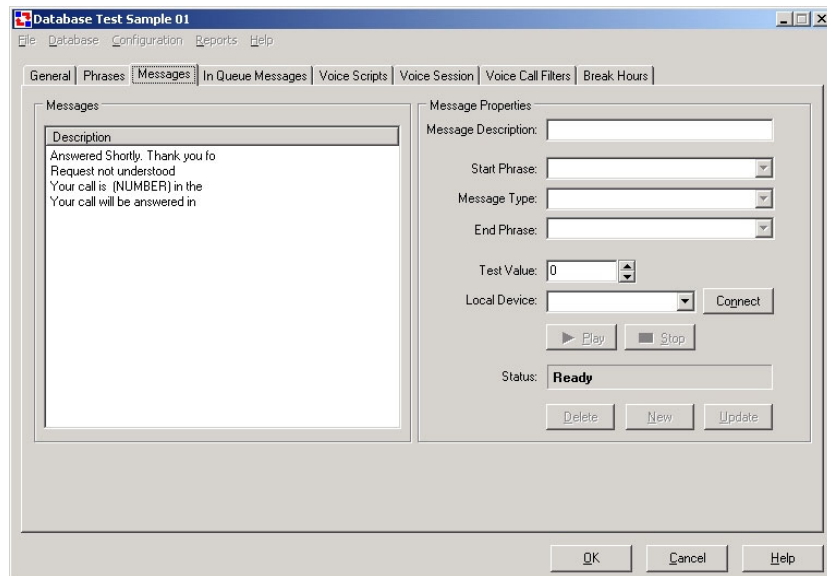
### 6.10.3 Messages

They can be composed of a single phrase (Standard) or two separate phrases (In Queue position IQP or Estimated Answer Time EAT). They are selected to play either in the Queue messages or within a Script.

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Select the Messages tab,



### Adding a Phrase,

1. Enter **Description** of the current messages.
2. Enter a single or multiple phrases in **Start Phrase**.
3. Select a **Message Type**. It can be **Standard**, **Estimated Answer Time** or **Queue Position**.
4. Enter the final part of the phrase(s) in **End Phrase**.
5. Select a **Test Value**. This selects a value for testing the new IQP or EAT message. The value 1 – 60 and First to sixtieth are supported.



### EXAMPLE

<b>Start Phrase:</b>	'Your call is...'
<b>Message Type:</b>	Queue position
<b>End Phrase:</b>	'in the Queue...'
<b>Test Value</b>	3

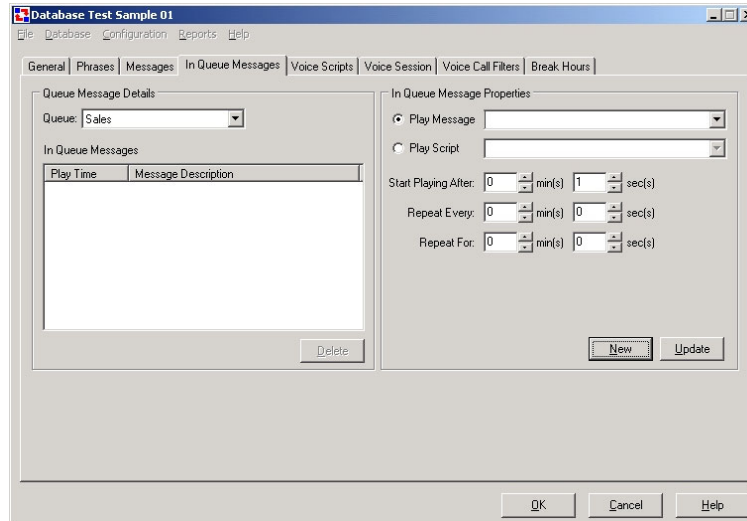
This would produce the message, 'Your call is third in the Queue'.

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#### 6.10.4 In Queue Messages

Any Queue can have messages selected to play to callers if they are held awaiting a USER. Voice Connect supports the use of both messages and scripts being played to callers while holding, subject to licensing.

Select the In Queue Messages tab,



#### Entering Queue Message,

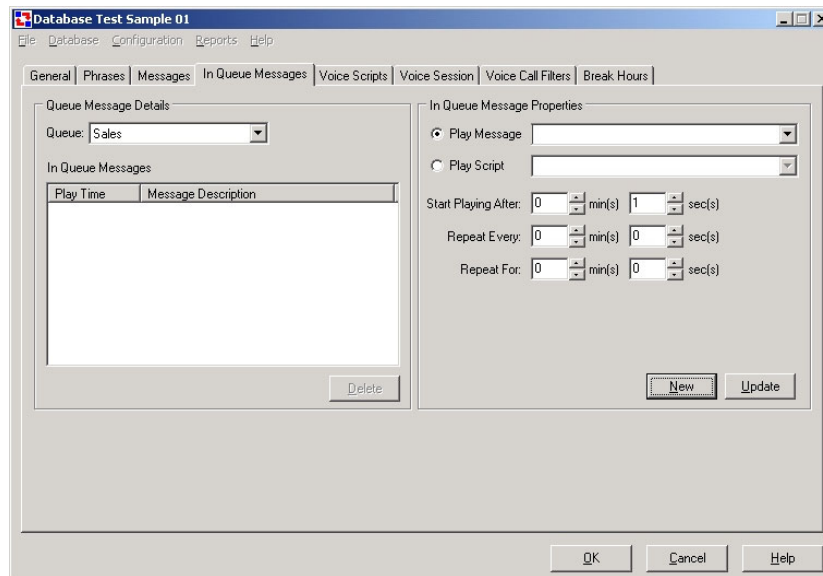
1. Enter a **Queue**. This is the Queue where the message or script plays.
2. Select an **In Queue Message**. This will show the time of the call when the current Queue message was played.
3. Select **Play Message** and **Play Script** to play in the currently selected Queue.
4. Select **Start Playing After** the time when the **In Queue Message** should start playing.
5. Select **Repeat Every** time how often the message should be repeated.
6. Select **Repeat for** to set how long the **In Queue Message** should be played for.
7. Clicking **Update** will add the selected message or script to the in the Queue message list.

#### 6.10.5 Voice Scripts

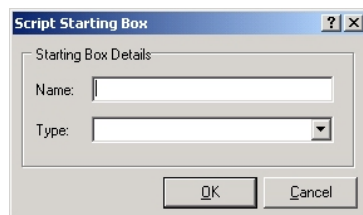
Voice Scripts allow the user to set up multi-level auto attendant. A box within a script can either simply play a message and route the call to a single destination (Message Box below) or it can require a caller to make a decision to help route their call to it's final destination (Decision Box below). Single digit tones can be used within a script.

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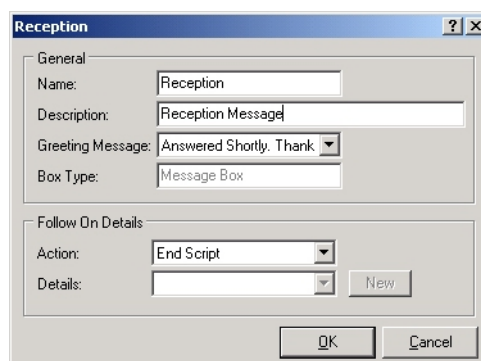
1. Select the Voice Scripts tab,



2. Clicking **New** will open the **Script Starting Box**,



3. Enter the **Name** of your script.
4. Enter the type of the script required to display. The options are **Message Box** or **Decision Box**. Selecting **Message Box** and **Ok** will produce an icon on the script tree section.
5. Highlighting this icon and selecting properties will produce the Box entry form,



6. **Reception** window opens up.
7. Enter **Name** of the script.
8. Enter the **Description** of the script.
9. Enter the **Greeting Message**, which the caller will hear at the time of calling.
10. It displays the default **Box Type**.
11. Select an **Action** how the call will be processed once the greeting has played.

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12. Select **Details**. These are the details of the action. E.g. if the selected Action is transfer to extension, the details section will show a list of all available extensions.
13. Selecting **Decision Box** and **Ok** will produce an icon on the script tree section. Highlighting this icon and selecting properties will produce the Box entry form,

The screenshot shows a 'test' dialog box with the following sections:

- General:** Name: test, Description: (empty), Box Type: Decision Box, Greeting Message: (empty).
- Digit Options:** A table with 12 rows (1-0, \*, #) and columns for Action, Details, and a New button. All Action and Details fields are set to 'None'.
- Invalid Digits:** Maximum Retries: 1, Message: (empty), Action: None, Details: (empty).
- Time Out:** Time Out: 10 Seconds, Action: None, Details: (empty).

14. Enter **Name** of the script.
15. Enter the **Description** of the script.
16. It will display the default **Decision Box**.
17. Select a **Greeting Message** that the caller will hear.
18. In the **Digit Options**, note that there are 12 possible digits (1 to #), each representing the digits on a telephone keypad. Action and details, this decides the type of destination for the call.
19. For multi level auto attendants select **Goto Box**. The **New** button will be highlighted. Now you can create a new box. Once the box is created, it can be edited from the main Voice Scripts tab; any existing boxes will be listed in the details section.
20. Select a Queue from the list of the currently configured Queues in **Transfer to Queue**.
21. The call will be transferred to the device number that is in the **Transfer to Device** you entered in the **Details** section. This can be an internal or external number.
22. For the **End Script**, the caller will be sent back to the *Arc Connect* gateway. This is mainly used for an in Queue script; the caller will be returned to the queue they came from.
23. **Invalid Digits**. If the caller presses a digit that has not been configured, i.e. this digit has an action setting of **None** then the actions of the invalid digits section will apply.
24. **Maximum Retries**. This is the number of attempts that a caller has to enter the correct response.
25. **Message**. The message that is played after a caller has pressed an invalid digit.
26. **Action**. This action will occur when the maximum retries limit has been exceeded.
27. **Details**. The destination for the action.
28. **Time Out**. This is the action that will be followed if the caller does not press anything. This is also useful if the caller is using a pulse dial phone.

[<<TOC](#)

29. **Time out X seconds.** The duration of time in seconds that the script will wait before the Action will operate.
30. **Action.** The required action upon timeout.
31. **Details.** The destination for the action.



## NOTE

Please note that once a voice script is updated by using the **Update** button it will become live on your system. A script change only will not require you to stop and start your Arc Server.

### 6.10.6 Voice Sessions

Voice Sessions are set up in the same way as other Queues. The calls are routed directly to Voice Sessions where the user requires all callers to be greeted in the same manner. Then, depending on the script, calls will be routed onwards.

Select the Voice Sessions tab,

Overflow Type	Destination Type	Destination	Data
Max Call Waiting Time	None	None	00...
Max Calls	None	None	0
No Voice	None	None	0

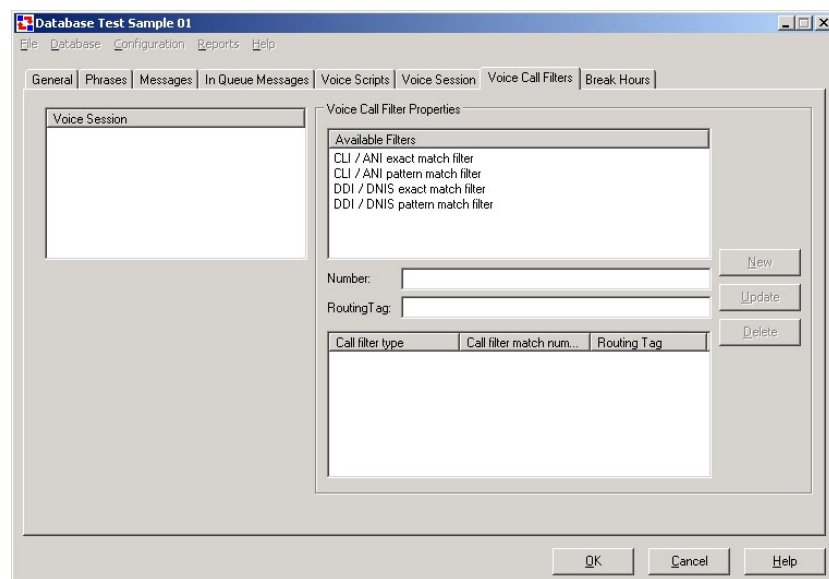
1. Once a voice script has been constructed, this screen will allocate a location number to it in the same manner as the allocation of a location number to a Queue. In the above figure, dialling 603 will call the developed script.
2. Note that overflows options can be configured in the same way as a Queue.
3. Select **New**.
4. Enter the **Name** of the Session e.g. Welcome.
5. Enter the **Location Number**. This is the number that will be dialled internally to reach this queue. This location should be configured on the host PBX as per the switch specific documents.
6. **Session overflow**. If there are more than XX calls waiting or the call has been waiting longer than X hours, X minutes and X seconds, then overflow is set to the forward destination. This setting is individual to each session.
7. Click **Update** when done.

### 6.10.7 Voice Call Filters

Voice Call Filters work in the same way as Queue Call Filters. Any filters entered here will result in these calls being routed to the Voice Session.

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Select the Voice Call Filters tab,



1. This section is used to filter incoming calls to their intended destination.
2. Highlight the session that is the required destination.
3. Highlight the required filter.
4. Enter the number criteria in the **Number** text box.
5. Enter the required text in the **Routing Tag** field. Ensure that all required User applications have the routing tag enabled in their call information to display this text.
6. Select a filter from **Types of filter**.

<b>CLI exact match filter:</b>	Any calls with this exact CLI will be sent to the required Queue.
<b>CLI pattern match filter:</b>	Any calls matching this CLI pattern will be filtered to the required Queue. For example, all calls that are CLI begin with 020849884* and are filtered to the required Queue.
<b>DDI exact match filter:</b>	Any calls matching this DDI will be filtered to the required Queue.
<b>DDI pattern match filter:</b>	Any calls matching this DDI pattern will be filtered to the required Queue. All calls that's DDI begins with 020849884* will be filtered to the required Queue.
<b>Divert exact match filter</b>	All calls that have been diverted from a device to any Pre CT Gateway will arrive in the Queue in which this filter is applied.
<b>Divert external call filter</b>	All External calls that have been diverted from a device to any Pre CT Gateway and could not be caught by any divert filter will arrive in the Queue in which this filter is applied. User does not need to give any number in case of this filter. This filter will be applied only once in any call queue in the system.
<b>Divert internal call filter</b>	All internal calls that have been diverted from a device to any Pre CT Gateway and could not be caught by any divert filter will arrive in the Queue in which this filter is applied. User does not need to give any number in case of this filter. This filter will be applied only once in any call queue in the system.

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### Divert pattern match filter

All calls that have been diverted from a device (with a number that matches the pattern given in this filter) to any Pre CT Gateway will arrive in the Queue in which this filter is applied. If user has given a number i.e. 300 in this filter then all calls from 3005 and 3006 diverted to a Pre CT Gateway will arrive in this queue

### No call Divert match filter

All calls that have been diverted from a device to any Pre CT Gateway and could not be caught by any divert filter will arrive in the Queue in which this filter is applied. User does not need to give any number in case of this filter. This filter will be applied only once in any call queue in the system. This filter will work in the absence of Divert internal call filter and Divert external call filter



## EXAMPLE

1. Select **New**.
2. Highlight the session **Welcome**.
3. Select DDI exact match filter.
4. Enter the DDI number that will be used for Welcome into the Number field.
5. This number will vary according to the DDI digit presentation of the switch. I.e. if the full DDI number is 020 8498 7904, then the switch will present 7904 if four digit presentation is used.
6. Enter the required text into the routing tag field.
7. Multiple filters can apply to a single session.

### 6.10.8 Break Hours

It sets up the times and days of operation for each Voice session. It allows specific days of the week and dates to be entered for when a Queue will not operate, i.e. Sunday, Christmas Date.

Database config

File Database Configuration Reports Help

General Phrases Messages In Queue Messages Voice Scripts Voice Session Voice Call Filters Break Hours

Breaks

Queue Name: session1

Days

Day	Start Time	End Time	Reason
Thursday	12:00:00	1:00:00 AM	Night Service

Dates

Date	Start Time	End Time	Reason
------	------------	----------	--------

Delete

Break Properties

Date: 12/15/2005

Day: Thursday

Reason: Night Service

Start Time: 12:00:00 AM

End Time: 1:00:00 AM

Overflow

Forward Destination Type: Device

Forward Destination: 5600

New Update

OK Cancel Help

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### To Add New Break Hours for Days,

1. Select the **Voice Session** Name from the drop down list.
2. Click the **New** button.
3. Select **Day** radio button.
4. Select the **Day** in which **Break** is required on weekly basis.
5. Select reason for the Break.
6. Set the **Break Properties**. Select the **Start** and **End** Time of the Break.
7. Set a **Forward Destination** where calls would be forwarded during the **Break Hour**.
8. Click **Update** button.
9. Newly added Break Hour will be seen in the list.

### To Add New Break Hours for Date,

1. Select the **Voice Session** name from the drop down list.
2. Click the **New** button.
3. Select **Date** radio button.
4. Select the **Date** for the Break.
5. Select reason for the Break.
6. Set the **Break Properties**. Select the **Start** and **End** Time of the Break.
7. Set a **Forward Destination** where calls would be forwarded during the **Break Hour**.
8. Click **Update** button.
9. Newly added Break Hour will be seen in the list.

## 6.11 Console Connect Configuration

The following steps will set up the Operators, Call Queues, apply the Filters (that allow calls to reach the correct Queues) and, if applicable, allocate Directory groups to incoming numbers in a multi-tenant scenario.

1. Open the Arc Connect Administration application by selecting *Start Programs > Arc Connect > Arc Connect Administration*.
2. Select *Configuration > Console Connect*.

### 6.11.1 Console Queues

These are the Queues to which the Operators will be allocated. The Queues can be departments or whole companies in a multi-tenant scenario. You can allocate one or more incoming call numbers (DDI/DNIS) to each Queue, however, if you have only a single inbound number there is no need of more than one Queue. Select the Console Queues tab.

Console Connect Configuration - Database CONFIGURATION DB

File Database Configuration Reports Help

Console Queues Operator Queues Operator Groups Console Call Filters Routing Tag Groups Break Hours

Queue Name

Sales

Support

Delete

Queue Details Queue Overflow

Queue Properties

Name: Marketing

Location: 3333

☒ Forced Delivery

☐ Longest Waiting

☒ Circular

New Update

OK Cancel Help

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### Add a Console Queue,

1. In the **Queue Detail** tab, click **New**.
2. Type the **Name** and **Location** for the Queue. Location is the number configured in CallManager as a CTI Route Point. Dialling this number internally allows calls to be routed into the Queue directly.
3. If **Force Delivery** is selected, the call can go to the Operator who has been waiting the longest for a call, or to each Operator in strict rotation. This setting is individual to each Queue.
4. Go to the **Queue Overflow** tab. The Queue Overflow allows calls to be overflowed to other destinations. A call may be overflowed because of any of the following reasons,
  - a. Emergency – a destination that can be used in an emergency situation. This can quickly be activated by Supervisors with the appropriate privileges (Supervisory Access)
  - b. Max Call Waiting Time - the call has been waiting longer than X hours, X minutes and X seconds can be - overflowed to a different destination.
  - c. Max calls - if there are already XX calls waiting in the queue, subsequent incoming calls can be overflowed until the queue backlog falls below the threshold again.
  - d. No Operators – calls will be overflowed if there are no Operators logged in and available in the queue. This does NOT include operators who are logged into the queue but are currently on calls.
5. Select a **Forward Destination Type** such as a Queue or a device and select the **Forward Destination**. The default destination type is *Device* and default destination is *100*. The following destination types are available.

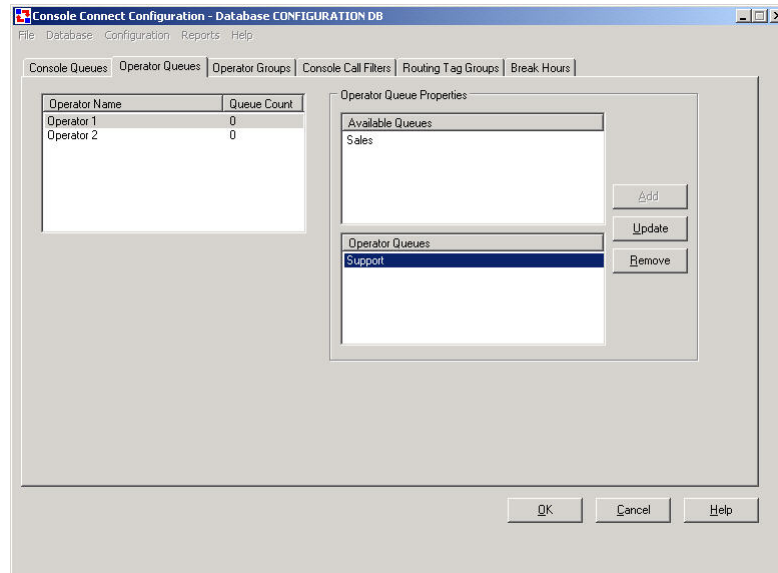
None:	If selected no overflow will occur.
Queue:	If using the Console Connect, this allows calls to be routed to any configured console Queue.
Voice Session:	If using Voice Connect Auto Attendant, you can overflow to any session that has been configured.
Console:	Overflow to any other Console Connect Queue
Device:	Any device can be used for overflow. This can be an internal device selected from the drop down list in the <b>Forward Destination</b> , any other internal device or an external device. Simply type in the device number if either of the last two options is required.

6. Click **Update** to finish.

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### 6.11.2 Operator Queues

This tab allocates call Queues to Operators. This allows you to allocate specific Queues to certain Operators. They will only be able to take calls from the Queues that are allocated to them.



#### To allocate Queues,

1. In the **Operator Name** list, select the operator whom you want to assign a Queue.
2. Select a **Queue** in the **Available Queues** list.
3. Click **Add**.
4. Click **Update** to finish.

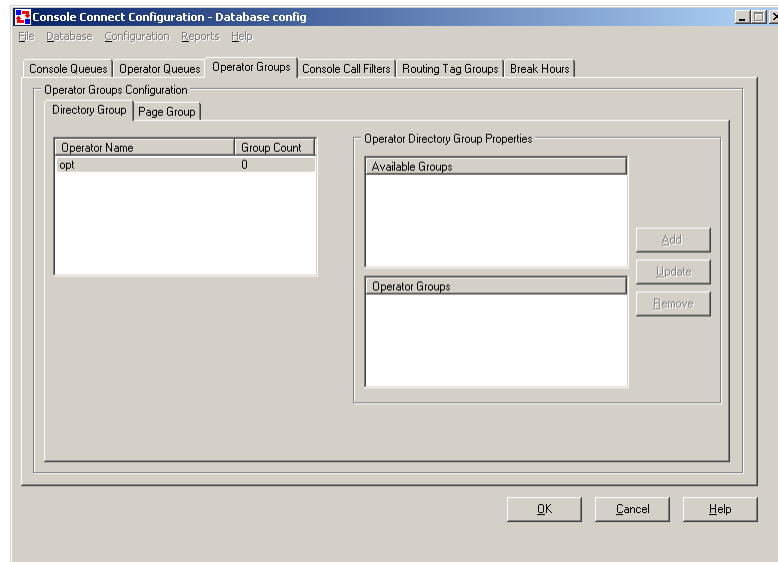
#### To remove a Queue from an Operator,

1. In the **Operator Name** list, select the Operator from whom you want to remove a Queue.
2. In the **Operator Queue** list, select the Queue you want to remove and click **Remove**.
3. Click **Update** to save changes.

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### 6.11.3 Operator Groups

These are groups of extensions that an Operator will see as default in the Busy Lamp Field and Internal Extension displays. This could be one main group, a combination of groups or could be left blank with the Operator only seeing Busy Lamps when calls arrive in a Multi-Tenant scenario (See Routing Tag Groups)



### 6.11.4 Directory Groups

The Operators can be assigned Directory Groups that were created in the CT Gateway configuration. This has been explained below,

#### To associate an Operator with a directory group,

1. In the **Operator Name**, select an Operator.
2. Select a group in the **Available Groups** list.
3. Click **Add**. The selected group will appear in the **Operator Groups** list.
4. Click **Update** to finish.

#### To de-associate an Operator from a group,

1. In the **Operator Name**, select an Operator.
2. Select a group in the **Operator Groups** list.
3. Click **Remove**.
4. Click **Update** to finish.

### 6.11.5 Page Groups

The Operators can be assigned Page Groups that were created in the Messaging configuration. This has been explained below,

#### To associate an Operator with a page group,

5. In the **Operator Name**, select an Operator.
6. Select a group in the **Available Groups** list.
7. Click **Add**. The selected group will appear in the **Operator Groups** list.
8. Click **Update** to finish.

#### To de-associate an Operator from a group,

5. In the **Operator Name**, select an Operator.
6. Select a group in the **Operator Groups** list.

[<<TOC](#)

7. Click **Remove**.
8. Click **Update** to finish.

### 6.11.6 Console Call Filters

This is where you configure which incoming calls get routed into which Console Queues. These filters can be against either a CLI/ANI or a DDI/DNIS.

The available filters are,

<b>CLI exact match filter:</b>	Any calls with this exact CLI will be sent to the required Queue.
<b>CLI pattern match filter:</b>	Any calls matching this CLI pattern will be filtered to the required Queue. For example, all calls that are CLI begin with 020849884* and are filtered to the required Queue.
<b>DDI exact match filter:</b>	Any calls matching this DDI will be filtered to the required Queue.
<b>DDI pattern match filter:</b>	Any calls matching this DDI pattern will be filtered to the required Queue. All calls that's DDI begins with 020849884* will be filtered to the required Queue.
<b>Divert exact match filter</b>	All calls that have been diverted from a device to any Pre CT Gateway will arrive in the Queue in which this filter is applied.
<b>Divert external call filter</b>	All External calls that have been diverted from a device to any Pre CT Gateway and could not be caught by any divert filter will arrive in the Queue in which this filter is applied. Operator does not need to give any number in case of this filter. This filter will be applied only once in any call queue in the system.
<b>Divert internal call filter</b>	All internal calls that have been diverted from a device to any Pre CT Gateway and could not be caught by any divert filter will arrive in the Queue in which this filter is applied. Operator does not need to give any number in case of this filter. This filter will be applied only once in any call queue in the system.
<b>Divert pattern match filter</b>	All calls that have been diverted from a device (with a number that matches the pattern given in this filter) to any Pre CT Gateway will arrive in the Queue in which this filter is applied. If operator has given a number i.e. 300 in this filter then all calls from 3005 and 3006 diverted to a Pre CT Gateway will arrive in this queue
<b>No call Divert match filter</b>	All calls that have been diverted from a device to any Pre CT Gateway and could not be caught by any divert filter will arrive in the Queue in which this filter is applied. Operator does not need to give any number in case of this filter. This filter will be applied only once in any call queue in the system. This filter will work in the absence of Divert internal call filter and Divert external call filter
<b>New External Call Filter</b>	Any calls that do not meet any of the above criteria, yet are <i>external</i> will be filtered to the required Queue. A number does not need to be entered, as all external calls will be filtered.
<b>New Internal Call Filter</b>	As above but for internal calls.

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In addition to creating a filter, a Routing Tag can be allocated. The Operator on screen with the call can see this, and it also can be allocated to a **Directory Group** so that an Operator only sees relevant extension in the Busy Lamp Field display when they answer a call.

A Priority is allocated to a call filter. This dictates the order in which calls are handled when they arrive in the Queue. A higher number represents lower priority.

Call filter type	Number	Routing Tag	Priority	Resource Group
No Call Matc...		Default destinatio...	99	Resource Gro...
Queue DDI / ...	1015	Sales Routing for ...	99	Resource Gro...

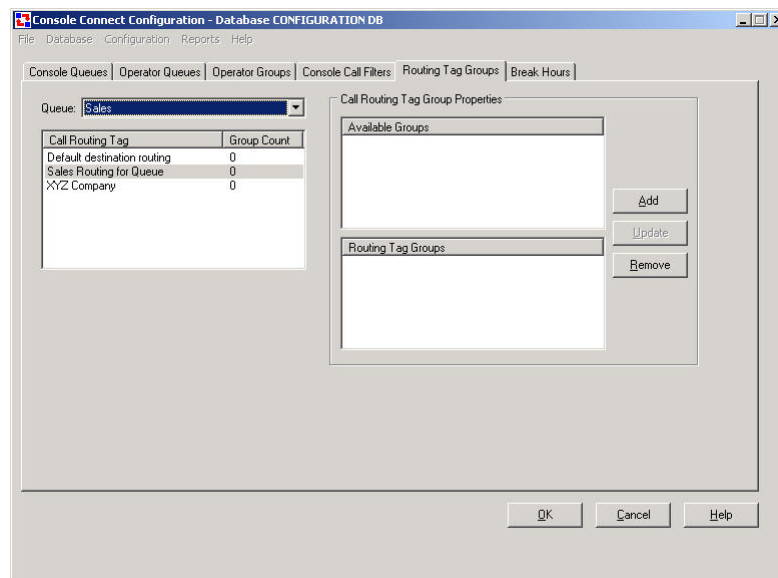
#### To allocate a call filter,

1. In the **Queue Name**, select a **Queue**.
2. Select the filter type from **Available Filters** list.
3. Click **New** and select the relevant Resource Group.
4. Enter the number, which is to be filtered.
5. Type a routing tab in the **Routing Tag** text field.
6. Type salutation if required and set priority.
7. Click **Update** to allocate the filter.

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### 6.11.7 Routing Tag Groups

It allows a Routing Tag (see Console Call Filters) to be attached to a **Directory Group**. In a Multi-Tenant scenario an Operator can only see relevant devices. The result is that when a call arrives on a certain routing tag, the Operator will only see devices in the relevant **Directory Group** on their BLF and Internal Directories, thus making it easier to transfer the call.



#### To allocate a Routing Tag Group,

1. Select the **Queue** from the **Queues** drop down list.
2. The relevant routing tag for the Queue will appear in the **Call Routing Tag** list.
3. Select a routing tag from the **Call Routing Tag** list.
4. In the **Available Groups** list, select the desired group.
5. Click **Add**.
6. Click **Update** to finish.

#### To remove a Routing Tag Group,

1. Select the **Queue** from the **Queues** drop down list.
2. The relevant routing tag for the Queue will appear in the **Call Routing Tag** list.
3. In the **Routing Tag Groups** list, select the group you want to remove.
4. Click **Update** to save changes.

### 6.11.8 Break Hours

This tab is further divide into three tabs.

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### 6.11.8.1 Queue Breaks

It sets up the times and days of operation for each Console Queue. It allows specific days of the week and dates to be entered for when a Queue will not operate, i.e. Sunday, Christmas Date.

Console Connect Configuration - Database CONFIGURATION DB

File Database Configuration Reports Help

Console Queues Operator Queues Operator Groups Console Call Filters Routing Tag Groups Break Hours

Queue Breaks Break Hours Templates Template Assignment

Breaks

Queue Name: Support

Days

Day	Start Time	End Time	Reason
-----	------------	----------	--------

Dates

Date	Start Time	End Time	Reason
12/21/2004	12:00:00 ...	11:59:59 ...	Holidays
12/22/2004	12:00:00 ...	11:59:59 ...	Holidays
12/23/2004	12:00:00 ...	11:59:59 ...	Holidays
12/24/2004	12:00:00 ...	11:59:59 ...	Holidays
12/25/2004	12:00:00 ...	11:59:59 ...	Holidays
12/26/2004	12:00:00 ...	11:59:59 ...	Holidays

Delete

Break Properties

Date: 12/21/2004

Day: Sunday

Reason: Holidays

Start Time: 12:00:00 AM

End Time: 11:59:59 PM

Overflow

Forward Destination Type: Device

Forward Destination: 100

New Update

OK Cancel Help

#### To Add New Break Hours for Days,

1. Select the **Queue** Name from the drop down list.
2. Click the **New** button.
3. Select **Day** radio button.
4. Select the **Day** in which **Break** is required on weekly basis.
5. Select reason for the Break.
6. Set the **Break Properties**. Select the **Start** and **End** Time of the Break.
7. Set a **Forward Destination** where calls would be forwarded during the **Break Hour**.
8. Click **Update** button.
9. Newly added Break Hour will be seen in the list.

#### To Add New Break Hours for Date,

1. Select the **Queue** name from the drop down list.
2. Click the **New** button.
3. Select **Date** radio button.
4. Select the **Date** for the Break.
5. Select reason for the Break.
6. Set the **Break Properties**. Select the **Start** and **End** Time of the Break.
7. Set a **Forward Destination** where calls would be forwarded during the **Break Hour**.
8. Click **Update** button.
9. Newly added Break Hour will be seen in the list.

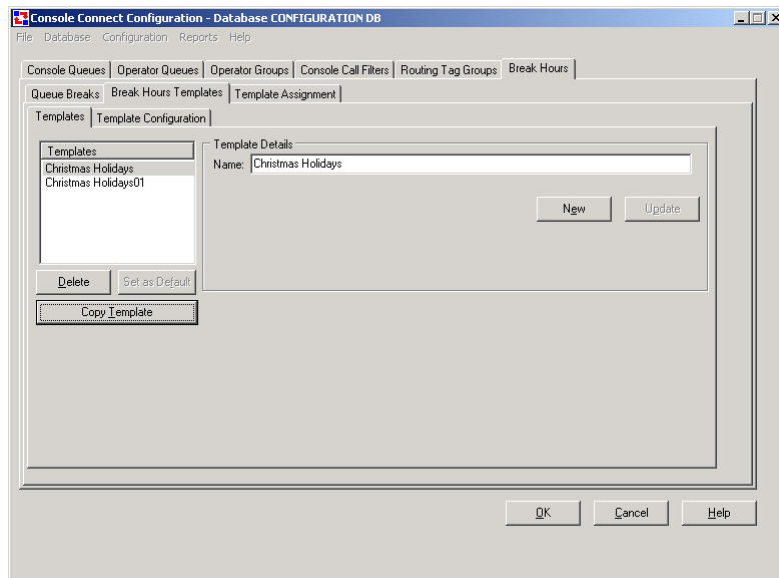
### 6.11.8.2 Break Hour Templates

This tab is further divided into two tabs. It sets up the Default Template and assigns it to the Queues.

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#### 6.11.8.2.1 Templates

Break Hours Template is a pattern that is devised by the operator for applying later on a group of Queues. This functionality reduces the time and effort as Template can be assigned to more than one Queue in Template Assignment tab. This is useful especially for the Break Hours times that will be common for most of the Queues. For example, a template can have Saturday and Sunday as **Off** days. This template can then be assigned to most of the Queues apart from those in which calls are to be forwarded on these two days.



##### To Create a new Template,

1. Click the **New** button with the **Template Name** text box.
2. Give a name for the new Template.
3. Click **Update**.

##### To Copy a Template,

1. In the **Template Name list**, select the template you want to copy.
2. Click **Copy Template** button. This will create a copy of the selected template.

##### To Set a Break Hours Template as Default,

1. In the **Template Name list**, select a template.
2. Click on the **Set as Default** button to set this Template as Default.
3. Break Hours specified in this template will be applied on every new Queue created in this module.

##### To Delete a Template,

1. In the Templates list, select the template you want to delete.
2. Click **Delete**.
3. Click **Update** to finish.

#### 6.11.8.2.2 Templates Configuration

The user can assign Break Hours in the Templates created in **Templates** tab.

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### To Add New Break Hours for Days,

1. Select the **Template** Name from the drop down list.
2. Click the **New** button.
3. Select **Day** radio button.
4. Select the **Day** in which **Break** is required on weekly basis.
5. Select reason for the Break.
6. Set the **Break Properties**. Select the **Start** and **End** Time of the Break.
7. Set a **Forward Destination** where calls would be forwarded during the **Break Hour**.
8. Click **Update** button.

The screenshot shows the 'Console Connect Configuration - Database CONFIGURATION DB' window. The 'Break Hours' tab is active. Under 'Template Configuration', the 'Breaks' section shows a table for 'Christmas Holidays' with columns: Day, Start Time, End Time, Reason. The table contains one row: Wednesday, 12:00:00 AM, 11:59:59 PM, Holidays. Below this is a 'Dates' section with a table showing dates from 12/21/2004 to 12/26/2004, all with the same start/end times and 'Holidays' reason. On the right, the 'Break Properties' section has a 'Date' dropdown set to 1/12/2005, a 'Day' dropdown set to Wednesday, a 'Reason' dropdown set to Holidays, and 'Start Time' (12:00:00 AM) and 'End Time' (11:59:59 PM) fields. Below these are 'Forward Destination Type' (Queue) and 'Forward Destination' (Help) dropdowns. At the bottom right are 'New' and 'Update' buttons. At the very bottom are 'OK', 'Cancel', and 'Help' buttons.

### To Add New Break Hours for Date,

1. Select the **Template** name from the drop down list.
2. Click the **New** button.
3. Select **Date** radio button.
4. Select the **Date** for the Break.
5. Select reason for the Break.
6. Set the **Break Properties**. Select the **Start** and **End** Time of the Break.
7. Set a **Forward Destination** where calls would be forwarded during the **Break Hour**.
8. Click **Update** button.

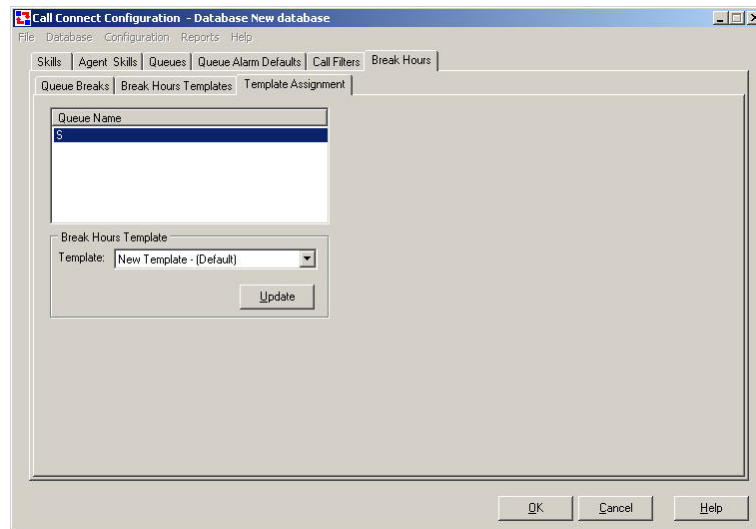
### To Delete a Break Hour,

1. In the **Template Name** list, select the template from which you want to delete a break hour.
2. The break hours related to the template will be displayed in the relevant section, that is, **Day** or **Date**.
3. Select the break hour you want to delete and click **Delete**.
4. Press **Update** to finish.

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### 6.11.8.3 Template Assignment

Every newly created Queue is assigned a Break Hours Template that has been set as Default. User can change the Break Hour Template for the specific Queue.



**To assign Break Hour Template to a Queue,**

1. In the **Queues Name** list, a Queue.
2. Select the temple you want to assign to the Queue from the **Templates** drop down list.
3. Click **Update** to finish.

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## Section 7: Configuring Call Manager for Arc Connect

### 7.1.1 Call Manager Partitions and Calling Search Spaces

If Partitions and Calling Search Spaces are being used on the Call Manager there are some important items to be taken into consideration.

The way in which calls are routed down to operators, transferred to extensions and recalled to the operator means that many devices are used to complete a route. Because of this certain Partitions and Calling Spaces play a very important role that can affect the Operator. To counteract potential problems you should set up a new partition Arc Partition and a new Calling Search Space Arc Search Space, which includes all partitions. The new Partition and Calling Search Space should be allocated to the entire Arc devices, Pre CT Gateways, Host PBX Gateways, Service Queue, and Voice Port (s).

#### 7.1.1.1 Setting up a Partition

A partition is simply a description that dictates who can call a certain Line. A line allocated to a partition can be dialed from any other phone or Gateway that has a Calling Search Space (see below) which includes the partition.

Select *Route Plan > Partition*

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

**Partition Configuration**

[Add a New Partition](#)  
[Back to Find/List Partitions](#)

Partition: New

Status: Ready

To enter multiple partitions, use one line for each partition entry. You can enter up to 75 partitions; the names and descriptions can have up to a total of 1475 characters. Use a comma (',') to separate the partition name and description on each line. If a description is not entered, Cisco CallManager uses the partition name as the description. For example:

<< partitionName >> , << description >>  
CiscoPartition, Cisco employee partition  
DallasPartition

ArcPartition, Arc Device Partition

1. Enter a Partition Name of Arc Partition
2. Enter a **Description** for the Partition.
3. Click **Insert**.

#### 7.1.1.2 Create a calling Search Space

A Calling Search Space is a list of partitions that dictate where the allocated line can call. The lines used for Arc need to be able to call all devices on the system. Failure to allocate all partitions to the Search Space used by Arc may cause problems in call delivery.

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Select *Route Plan* → *Calling Search Space*

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Calling Search Space Configuration

[Add New Calling Search Space](#)  
[Back to Find/List Calling Search Spaces](#)

**Calling Search Space: New**  
Status: Ready

Insert Cancel Changes

**Calling Search Space Information**

Calling Search Space Name\* Arc Search Space

Description Arc Search Space

**Route Partitions for this Calling Search Space**

Available Partitions

ARC 22 Partition  
IP Phones

Selected Partitions\*  
(ordered by highest priority)

ArcPartition

\* indicates required item

1. Enter **Name** of Arc Search Space.
2. Enter **Description**.
3. Add all partitions into the **Selected Partitions** box. To do this, click a **Partition Name** in the Available Partitions box. Click the Down Arrow between the 2 boxes.
4. Repeat step 4 to add all partitions into the **Search Space**.
5. With all partitions added click **Insert**.
6. The new **Search Space** appears in the list on the left of the page.

### 7.1.2 Configuring Host PBX Gateway Devices

Host PBX Gateway ports for the Arc Connect system is where the calls are held prior to their delivery to the operators. To support the inclusion of Music on Hold with the latest release of Call Manager the ports should now be configured as CTI Ports, which means that they need a voice capability i.e. set up within the limits of the max number of Automated Voice Lines on the Cisco TAPI tsp.)

Select *Device* → *Phone*

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Find and List Phones

[Add a New Phone](#)

No current search

Find phones where Device Name begins with Find

and show 20 items per page < Enter search text above >

To list all items, click Find without entering any search text, or use "Device Name is not empty" as the search.

No active query. Please enter your search criteria using the options above.

1. Select **Add a New Phone**.

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**Add a New Phone**

Select the type of the phone you would like to create:

Phone type\* — Not Selected —

Status: Ready

\* indicates required item

Cancel Changes

Cisco 12 SP  
 Cisco 12 SP+  
 Cisco 30 SP+  
 Cisco 30 VIP  
 Cisco 7910  
 Cisco 7935  
 Cisco 7940  
 Cisco 7960  
 Cisco ATA 186  
**CTI Port**  
 H.323 Client

2. Select CTI Port from the drop down list.
3. Click **Next**.

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**Phone Configuration**

[Add a new phone](#)  
[Back to Find/List Phone](#)

**Directory Numbers**  
Lines can be added after the new phone is inserted in the database.

**Phone: New**  
Status: Ready  
Insert Cancel Changes

**Phone Configuration (Model = CTI Port)**

**Device Information**

Device Name*	Gateway1
Description	Gateway1
Device Pool*	Default (View details)
Calling Search Space	< None >
Media Resource Group List	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Location	< None >

\* indicates a required item.

[Back to top of page](#)  
[Back to Find/List Phones](#)

1. Enter the relevant information for the port including the **Music On Hold** source. The **User Hold Audio Source** is the required field
2. Click **Insert**.

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3. The Line dialog window appears.

The screenshot shows the 'Directory Number Configuration' window in Cisco CallManager Administration. The title bar includes 'Cisco CallManager Administration' and 'For Cisco IP Telephony Solutions'. The main heading is 'Directory Number Configuration'. On the left, a sidebar shows 'Devices using this Directory Number' with 'Gateway1 (Line 1)' selected. The main area displays 'Directory Number: 8000 (ArcPartition)' with a status of 'Ready'. Below this are buttons for 'Update', 'Delete', 'Reset Devices', and 'Cancel Changes'. The 'Directory Number' section has a text field for 'Directory Number\*' containing '8000' and a dropdown for 'Partition' set to 'ArcPartition'. The 'Directory Number Settings' section includes dropdowns for 'Voice Mail Profile' (set to '<None>'), 'Calling Search Space' (set to 'Arc Search Space'), 'User Hold Audio Source' (set to '<None>'), 'Network Hold Audio Source' (set to '<None>'), 'Call Waiting' (set to 'On'), and 'Auto Answer' (set to 'Auto Answer Off'). The 'Call Forward and Pickup Settings' section has a table with columns 'Voice Mail', 'Destination', and 'Calling Search Space'. It includes rows for 'Forward All' and 'Forward Busy', each with a checkbox and dropdowns for 'Destination' and 'Calling Search Space' (both set to '<None>').

4. Enter the information as shown above including the partition and **Search Space**.
5. Click **Insert** once completed.

### 7.1.3 Configuring Pre CT Gateway Devices

Select *Device* → *CTI Route Point*.

1. Select Add A New CTI Route Point.

The screenshot shows the 'CTI Route Point Configuration' window in Cisco CallManager Administration. The title bar includes 'Cisco CallManager Administration' and 'For Cisco IP Telephony Solutions'. The main heading is 'CTI Route Point Configuration'. On the left, a sidebar shows 'Directory Numbers' with a note: 'Lines can be added after the new CTI Route Point is inserted in the database.' The main area displays 'Device: New' with a status of 'Ready'. Below this are buttons for 'Insert' and 'Cancel Changes'. The 'CTI Route Point Configuration' section has a sub-heading 'Device Information' and includes text fields for 'Device Name\*' (containing 'PreGateway1') and 'Description' (containing 'PreGateway1'). It also has a dropdown for 'Device Pool\*' set to 'Default' with a '(View details)' link, a dropdown for 'Calling Search Space' set to 'Arc Search Space', and a dropdown for 'Location' set to '<None>'. A note at the bottom states '\* indicates a required item.'

2. Insert a **Device Name** and description of Pre-Gateway.
3. Select a **Device Pool** and Location as required.
4. Select **Insert**.

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5. Configure the directory number as follows,

6. Enter the **Directory Number**, **Partition** and **Calling Search Space** as required
  - a. Note that **Call Pickup Group** is off.
  - b. Note that **Call Waiting** is on.
7. To provide resilience you can enter a destination in the **Forward No Answer** section. This will forward the call to the selected destination if Arc cannot answer the call for any reason.
8. Select **Insert** and **Close**.
9. You should create a separate CTI Route Point for every Pre-Gateway port required. At this point select **Copy** to create the next route point.
10. Edit the **Device Name** and **Description**.
11. Enter the **Device Pool** as Default.
12. Repeat the steps from 7 to 13 to create new **Route Points**.
13. Once finished click **Update**.

#### 7.1.4 Configuring Voice Port Devices

These devices are required to be set up as CTI ports, which means that they need a “voice” capability. Whether they are being used for either function is academic as they are both configured in the same way. As mentioned previously, when running Call Manager 3.1.3a or above you need to set up only a single voice port to play and record phrases and messages during configuration.

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To set up these Ports:

1. Select *Device* → *Phone*

The screenshot shows the 'Find and List Phones' page in the Cisco CallManager Administration interface. The page has a yellow background and a dark blue header with the Cisco logo and navigation tabs: System, Route Plan, Service, Feature, Device, User, Application, and Help. The main heading is 'Find and List Phones' with a link 'Add a New Phone' on the right. Below the heading, it says 'No current search'. There is a search section with a dropdown for 'Find phones where' (set to 'Device Name'), a dropdown for 'begins with', a text input field, and a 'Find' button. Below this, it says 'and show 20 items per page' and 'Enter search text above'. A note states: 'To list all items, click Find without entering any search text, or use "Device Name is not empty" as the search.' At the bottom, it says 'No active query. Please enter your search criteria using the options above.'

2. Select Add a New Phone

The screenshot shows the 'Add a New Phone' page in the Cisco CallManager Administration interface. The page has a yellow background and a dark blue header with the Cisco logo and navigation tabs: System, Route Plan, Service, Feature, Device, User, Application, and Help. The main heading is 'Add a New Phone'. Below the heading, it says 'Select the type of the phone you would like to create:'. There is a 'Phone type\*' dropdown menu with a list of options: Cisco 12 SP, Cisco 12 SP+, Cisco 30 SP+, Cisco 30 VIP, Cisco 7910, Cisco 7935, Cisco 7940, Cisco 7960, Cisco ATA 186, CTI Port, and H.323 Client. The 'CTI Port' option is selected. To the left of the dropdown, it says 'Status: Ready' and '\* indicates required item'. To the right of the dropdown, there is a button labeled 'Cancel Changes'.

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3. Select CTI Port from the drop down list.
4. Click NEXT

The screenshot shows the Cisco CallManager Administration web interface. The top navigation bar includes links for System, Route Plan, Service, Feature, Device, User, Application, and Help. The main header displays "Cisco CallManager Administration" and "For Cisco IP Telephony Solutions". The page title is "Phone Configuration". On the right, there are links to "Add a new phone" and "Back to Find/List Phones".

On the left, under "Directory Numbers", it states: "Lines can be added after the new phone is inserted in the database." Below this is a "Phone: New" section with a "Status: Ready" indicator and "Insert" and "Cancel Changes" buttons.

The main configuration area is titled "Phone Configuration (Model = CTI Port)" and "Device Information". It contains the following fields:

- Device Name\*: VoicePort1
- Description: VoicePort1
- Device Pool\*: Default (with a "(View details)" link)
- Calling Search Space: Arc Search Space
- Media Resource Group List: < None >
- User Hold Audio Source: < None >
- Network Hold Audio Source: < None >
- Location: < None >

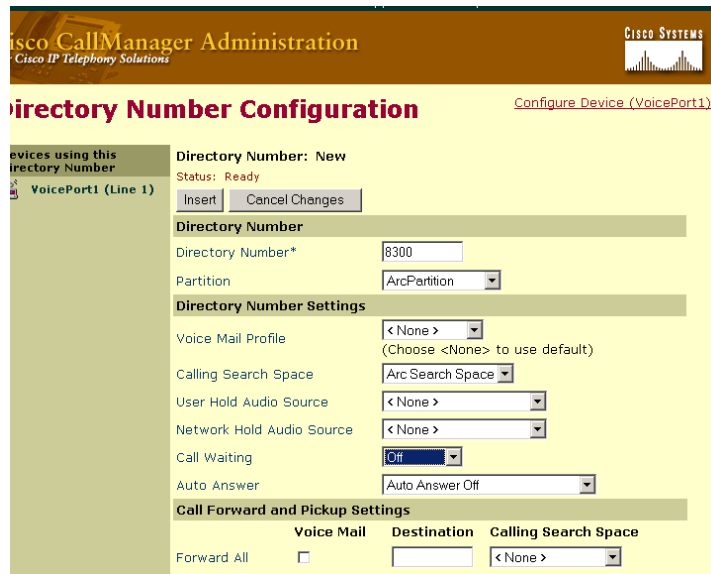
At the bottom, there is a note: "\* indicates a required item." and two links: "Back to top of page" and "Back to Find/List Phones".

5. Enter a name, such as Voice\_Port1 or Service\_Port1
6. Enter a description
7. Select a Device Pool
8. Enter the calling search space that you create for all Arc devices, such as Arc ALL.
9. Enter a User Hold Audio Source to supply music on Hold (for Service Queue ports only)
10. Click INSERT



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When you see the message box above click OK to add a line to the phone just created.



The image shows the Cisco CallManager Administration web interface. The main heading is "Directory Number Configuration" with a link "Configure Device (VoicePort1)". On the left, a sidebar shows "VoicePort1 (Line 1)". The main content area is titled "Directory Number: New" with a status of "Ready". It includes an "Insert" button and a "Cancel Changes" button. Below this, the "Directory Number" section has a "Directory Number\*" field with the value "8300" and a "Partition" dropdown menu set to "ArcPartition". The "Directory Number Settings" section includes a "Voice Mail Profile" dropdown set to "<None>" (with a note "(Choose <None> to use default)"), a "Calling Search Space" dropdown set to "Arc Search Space", "User Hold Audio Source" and "Network Hold Audio Source" both set to "<None>", "Call Waiting" set to "Off", and "Auto Answer" set to "Auto Answer Off". The "Call Forward and Pickup Settings" section has a table with columns "Voice Mail", "Destination", and "Calling Search Space". The "Forward All" row has an unchecked checkbox for "Voice Mail", an empty "Destination" field, and a "<None>" "Calling Search Space" dropdown.

11. Enter the Directory Number for the port
12. Select the partition name "Arc Partition" from the list.
13. Select the Calling Search Space "Arc ALL" from the list
14. Select Call Waiting to OFF
15. Click INSERT AND CLOSE.



16. Click OK
17. Select COPY to configure the next device.
18. Edit the Device Name and Description, for example to Service\_Port2 or Voice\_Port2.
19. Repeat steps 9 to 16 until all Service and/or Voice ports are configured.

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### 7.1.5 Creating the Main Arc user

Users are needed within Call Manager to allow applications like Arc Connect that connect through TAPI to connect up. There should be an Arc Server machine, which has all the Arc Devices. Separate users should then be configured for each User. These do not require all devices to be monitored, just create one user for each PC and its associated phone. This will require a little forward planning but will require less resource from Call Manager during normal operation.

From the Cisco Call Manager configuration,

Select *User* → *Add New User*,

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**User Information** [Basic Search](#)

Application Profiles of  
<No Application Profiles>  
Application Profiles can be accessed after the new User is inserted in the directory.

Status: Please enter information for the new user.

Insert Cancel Changes

First Name\* Arc

Last Name\* Server

User ID\* arcserver

User Password\* [password field]

Confirm Password\* [password field]

PIN \* [PIN field]

Confirm PIN \* [PIN field]

Telephone Number [phone number field]

Manager User ID [manager user ID field]

Department [department field]

UserLocale < None >

Enable CTI Application Use ☒

1. Using the **Add New** user form, create a new user called Arc Server and ensure that the **Enable CTI application use** box is ticked. You will need to enter a PIN number, enter a default of 12345.
2. Click Insert.
3. Next click the Device Association option on the left hand side of the screen.

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**User Information** [Personal Information](#) [Basic Search](#)

Application Profiles of Arc  
Device Association  
Extension Mobility  
SoftPhone

User : Arc Server

Status: Insert Successful.

Update Cancel Changes

First Name\* Arc

Last Name\* Server

User ID arcserver

User Password\* [password field]

Confirm Password\* [password field]

PIN \* [PIN field]

Confirm PIN \* [PIN field]

Telephone Number [phone number field]

Manager User ID [manager user ID field]

Department [department field]

UserLocale < None >

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4. To associate devices you will need to use the Available Devices List Filters.

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**User Information**

[Personal Information](#)  
[Basic Search](#)

Assign Devices for : arcserver (Server, Arc)

Status: Please enter any changes for the current user.

**Available Device List Filters**

Find Devices Where :

Device Name begins with

Select Devices

No Filter Active

0 available device(s) listed at last search.

0 device(s) controlled at last search.

0 device(s) selected currently.

Update Cancel Changes

**Available Devices**

☐ Check All on Page ☐ Check All in Search ☒ No Primary Extension

Type	Device Name	Description	Primary Ext.	Extension
------	-------------	-------------	--------------	-----------

5. You can simplify the process by matching filters, for example if your Gateway ports are called Gateway\_1 to Gateway\_50, select Device Name, begins with and enter the word **Gateway** then press the Select Devices. This will show you all the devices that match the filter.
6. If you require all devices matched click the **Check All In Search** button, and a tick will appear at the left hand side of each line.
7. Repeat the process to add all Pre-Gateway, Service Queue, Voice Queue, Operator extensions and Busy Lamp extensions. The new selection of devices to add will always appear at the end of the list of already selected devices.
8. Repeat the Add a new User step for each Operator position, but instead only monitor a single device that will be associated with a PC where the TAPI driver will reside.

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## Section 8: Configuring TAPI and Testing Arc Connect

### 8.1 Cisco TAPI TSP

Install the Call Manager TAPI on

- Those computers that will run the Arc Connect server
- Those computers that will run the Console Operator.

A user needs to be created for the Arc Server that has the ability to use the following devices in TAPI:

- All Pre Queue Gateways Devices
- All Gateway Devices.
- All Voice Ports.
- All extensions that will be used by the Console operators.
- All extensions that will be monitored in the Busy Lamp Field by an Operator.

#### 8.1.1 Installing the TAPI TSP

The Call Manager TAPI should be installed in the same manner for all Arc Connect server and client application machines.

1. Open the web browser to point to the Call Manager configuration.
2. Select the Application → Install Plugins

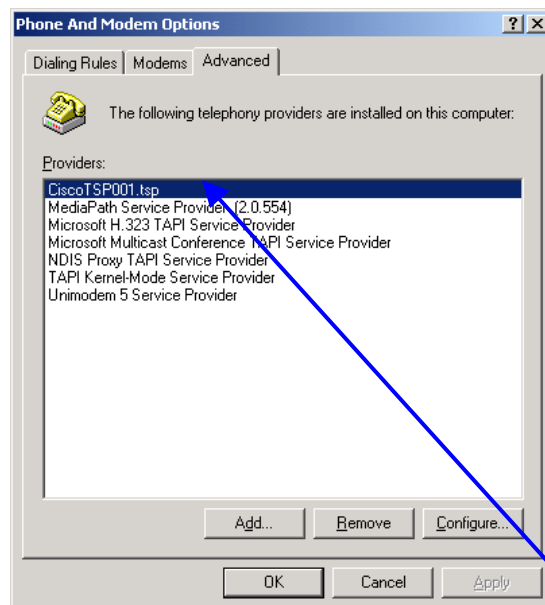
Administration Tool	add, delete and update operations on devices and users.
 Cisco Bulk Trace Analysis Tool	Cisco Bulk Trace Analysis tool is used to do post processing of large SDI/SDL trace files in XML format and provides parsing, filtering, and high performance. This tool should be downloaded, installed, and operated on a client machine.
 Cisco Customer Directory Configuration Plugin	The Cisco Customer Directory Configuration Plugin guides you through the configuration process for integrating the Cisco CallManager with Microsoft Active Directory and Netscape Directory Server.
 Cisco IP Phone Address Book Synchronizer	Cisco IP Phone Address Book Synchronizer allows users to synchronize their Microsoft Outlook or Outlook Express address books with Cisco Personal Address Book. The Synchronizer provides two-way synchronization between the Microsoft and Cisco products. Once installed and Cisco Personal Address Book has been configured, users access this feature from the Cisco IP Phone Configuration web page.
 Cisco JTAPI	This plugin must be installed on any computer that will host applications that access the CallManager via JTAPI. JTAPI is the standard programming interface for telephony applications written in the Java programming language. Reference documentation and sample code are included.
 Cisco Telephony Service Provider	This product contains the Cisco TAPI service provider (TSP) and the Cisco Wave Drivers. It can be installed on either the Cisco CallManager machine or on any other machine running a Microsoft Windows operating system that can communicate with the Cisco CallManager machine via TCP/IP. TAPI is a standard programming interface for telephony applications that run on the Microsoft Windows operating system. An Adobe Acrobat document called the Cisco TAPI Developer's Guide is installed that describes which TAPI interfaces are currently supported. Install the Cisco TSP and the Cisco Wave Drivers to allow TAPI applications to make and receive calls on the Cisco IP Telephony Solution.

3. Click on the icon to the left of the Cisco Telephony Service Provider.
4. Follow the on screen instructions to complete the install.
5. When installing the TSP on the Arc Server machine you will also need to install the **Cisco Wave Driver**. Instructions on installing this are found in a text file, which can be found in c:\Program Files\Cisco\CiscoTSP.txt

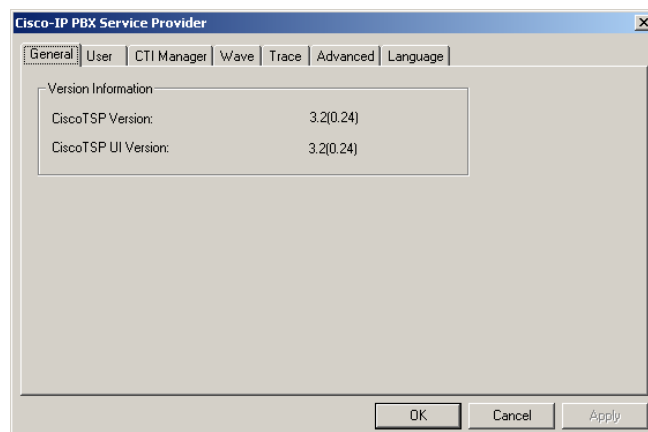
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### 8.1.2 Configuring the TAPI TSP

1. Click on the **Advanced** tab,



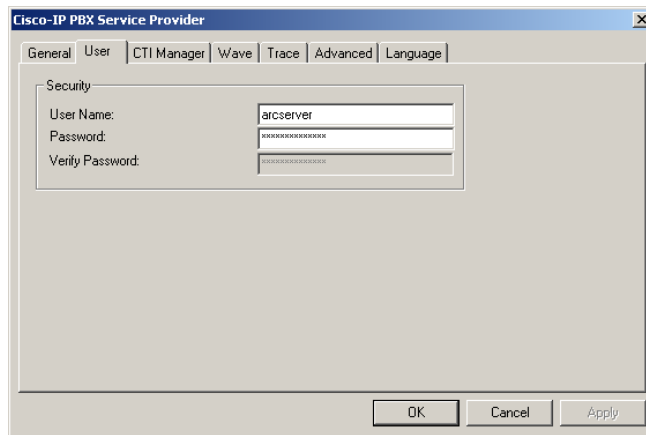
2. If the Cisco TAPI is installed correctly, then it should be seen in this list.
3. To configure the TSP, select it in the TSP list and click the **Configure** button.



3. Ensure that TAPI is the correct version (See Compatibility Matrix Page 7).

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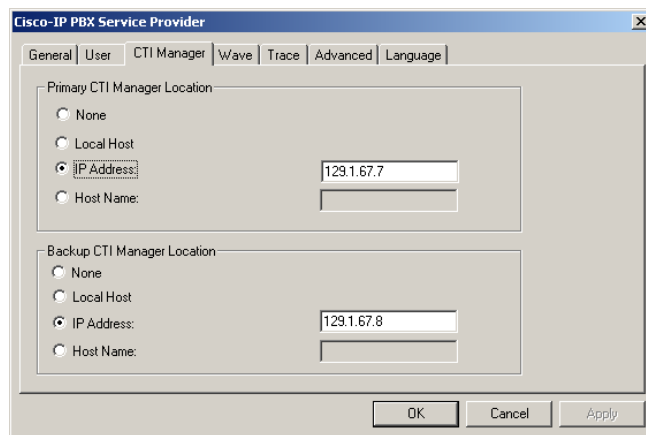
4. Then click the **User** tab.



The screenshot shows the 'Cisco-IP PBX Service Provider' window with the 'User' tab selected. Under the 'Security' section, the 'User Name' field is filled with 'arcserver'. The 'Password' and 'Verify Password' fields are masked with asterisks. The 'OK', 'Cancel', and 'Apply' buttons are at the bottom right.

5. Enter the **User Name** and **Password** for the Call Manager User that was setup for the machine.

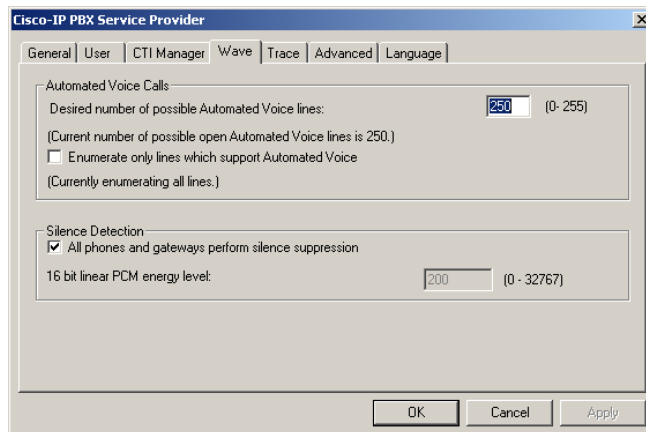
6. Select the **CTI Manager** tab,



The screenshot shows the 'Cisco-IP PBX Service Provider' window with the 'CTI Manager' tab selected. It contains two sections: 'Primary CTI Manager Location' and 'Backup CTI Manager Location'. In both sections, the 'IP Address' radio button is selected. The 'IP Address' field for the primary is '129.1.67.7' and for the backup is '129.1.67.8'. The 'OK', 'Cancel', and 'Apply' buttons are at the bottom right.

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

8. Select the **Wave** tab,



The screenshot shows the 'Cisco-IP PBX Service Provider' window with the 'Wave' tab selected. Under 'Automated Voice Calls', the 'Desired number of possible Automated Voice lines' is set to '250' (range 0-255). A checkbox 'Enumerate only lines which support Automated Voice' is unchecked. Under 'Silence Detection', the checkbox 'All phones and gateways perform silence suppression' is checked. The '16 bit linear PCM energy level' is set to '200' (range 0-32767). The 'OK', 'Cancel', and 'Apply' buttons are at the bottom right.

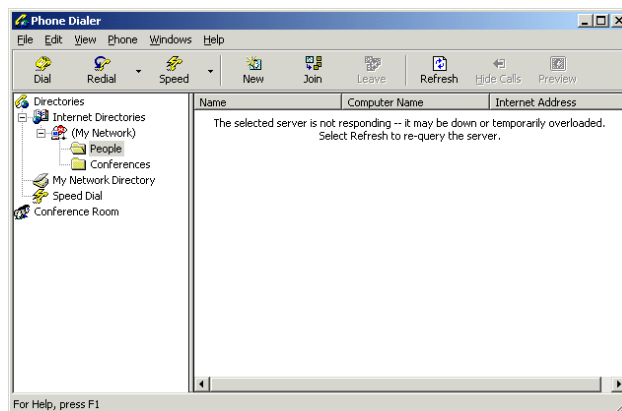
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9. Enter the number of desired **Voice Lines**. This will be the number of Service, Voice and Host PBX Gateway devices that are being run from the server machine. There is a maximum of 255 lines available on a single server. Once this figure is set you will need to (re) 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.
10. Click **Ok**.
11. Reboot all computers that TAPI has been installed on.
12. TAPI must now be tested independently of Arc Connect. Close down all Arc Connect applications.

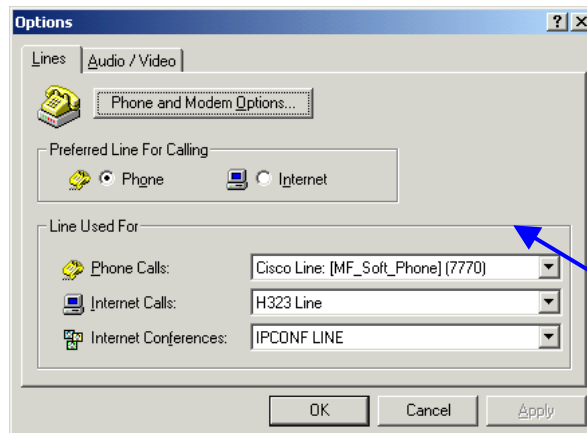
### 8.1.3 Testing TAPI

#### Under Windows 2000:

1. From the Arc Connect Server, select *Start* → *Run* and type **dialler**.



2. Select *Edit* → *Options*. The following screen will appear:

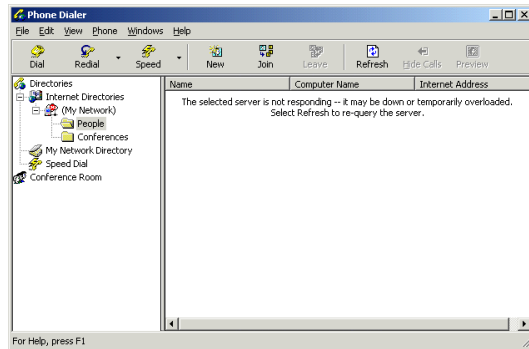


3. Select the local phone extension from the Phone Calls section. If there are no numbers in the line select box then the TAPI configuration must be rechecked.

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4. Select dial to call another extension.

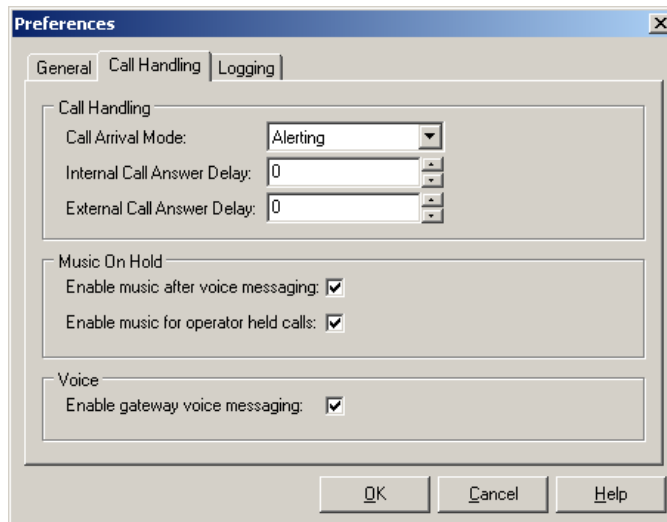


5. If a call can be made and completed, all is ok. Otherwise, recheck the TAPI configuration.

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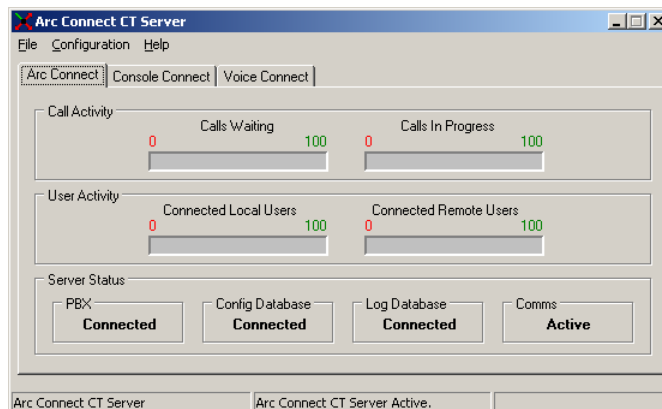
## 8.2 Arc Connect Simple Test

1. Open the Arc Connect Server from *Start → Programs → Arc Connect → Arc Connect Server*
2. If you require **Music on Hold** this must be set on the server. Select *Configuration → Preferences → Call Handling*



Check the box or boxes you require when music is to be played namely after voice messaging and/or when an Operator puts a call on hold. If you require music between messages you must select the **Enable Gateway Voice Messaging** checkbox. Click **Ok** to continue.

3. Start the server



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4. A successfully started server will show the above status.

<b>PBX:</b>	The server has successfully connected to the PBX.
<b>Config Database:</b>	The Server has successfully connected to the Configuration Database.
<b>Log Database:</b>	The Server has successfully connected to the Logging Database.
<b>Comms:</b>	The Server has successfully found I.P. Activity.

### 8.2.1 Confirming Console Operator

1. Click on the **Console Connect** tab.
2. Dial one of the Console Queue locations (8500) configured as Console Queues.
3. This tab shows the number of calls waiting for Console Queues.
4. After dialling the call, the **Calls Waiting** indicator should show one call.
5. Open the *Operator Console* and log in an Operator.
6. You will see that a call is waiting in the Console Queue.
7. Click the + key to answer the call.
8. Click **Page Down** to put the call on hold.
9. Click **Page Down** again to retrieve the call.
10. Type in the number of another extension and click **Enter**.
11. A call should be made from the Operator to that extension.
12. Click the **Enter** key again and the call will be transferred to the 3<sup>rd</sup> extension and the Operator will be free again.

## 8.3 Common Installation Issues

### 8.3.1 Common Installation Issues

Problem	Symptom	Resolution
<b>Arc Server will not start.</b>	When attempting to start the Arc Server, the Server Status changes to <i>Active</i> for a few seconds and then shuts down.	Ensure that the Arc Connect Administration has been completed and that the devices etc. have been entered into the Host PBX Gateway tab.  <b>Note:</b> Ensure that the CTI Route Points and CTI Ports are monitored in TAPI.
<b>Operator Console Cannot transfer/hold calls.</b>	When the Operator attempts a blind transfer or holding a call, an error message is displayed stating <b>Not enough service Queue devices.</b>	Ensure the Arc Server has been configured with Service Queue devices and that they can be monitored in TAPI.  <b>Note:</b> Ensure that the Cisco TAPI Wave Driver has been installed on the Arc Connect Server.

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<p><b>In Queue Position / Estimated Answer Time messages do not work.</b></p>	<p>When a call in the Queue should hear an In-Queue Position message, the caller does not hear a message.</p>	<p>When using In-Queue Position or Estimated Answer Time message, ensure that the thresholds have been configured on the General tab.</p>
<p><b>User does not receive calls.</b></p>	<p>A User is logged into the system, but does not receive any calls when they are put into the queues.</p>	<p>Ensure that the User has been assigned the skill (queue) to where the calls are transferred.</p> <p><b>Note:</b> Ensure that the correct number is being dialled for the queue that the User is logged in.</p>

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## Appendix 1 - DC DIRECTORY IMPORT PROCEDURE

Before the DC Directory can be imported, there are two separate preparation procedures that must be completed. One is performed on the Cisco CallManager, and the other is on the Arc Server.

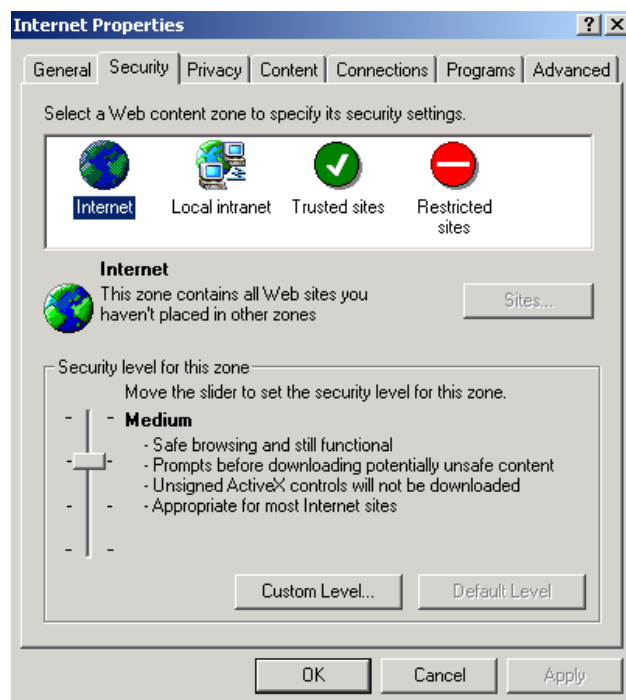
### On the Cisco CallManager:

1. Copy the DCDir.exe Set up file onto the CallManager.
2. Run this executable on the local CallManager.
3. During the installation process, accept all of the default values.

Once this Set up process has completed, a new virtual directory is created within IIS running on the CallManager. The directory is called ArcLDAP. Two ASP files are placed within this directory. This is all performed automatically during the installation process.

### On the Arc Server:

1. Open the Control Panel on the Arc Server.
2. Double click on **Internet Options**. Select the **Security** tab.
3. Click on the **Internet Option** at the top of the box, and then press the **Custom Level** button:



4. The first subheading is **ActiveX controls and Plug-Ins**. Under this heading there are five options:
  - a. *Download signed ActiveX controls*
  - b. *Download unsigned ActiveX controls*
  - c. *Initialise and script ActiveX controls not marked as safe*
  - d. *Run ActiveX controls and plug-in;*
  - e. *Script ActiveX controls marked safe for scripting*


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Check the **Enable** radio button below each of these options.

5. Press **OK**, then **Yes**. Then press **Apply** then **Ok**.
6. Close the Control Panel.

Once you have performed the above preparation, you can then import the DC Directory:

1. Open the Arc Connect Administration.
2. Click on *Configuration* → *CT Gateway*.
3. Click on the **Main Directory** tab.
4. Press the **Import** button. A box appears asking for the address of the CallManager.
5. Type in the IP address of the CallManager that you installed the ASP files on.
6. The DC Directory will now import.

**NOTE**

- Depending on the size of the DC Directory and the network speed, the directory could take a long time to import. If the directory import does not work, you will get an error message as soon as it starts. Therefore if this message does not appear, the import is working.
- When entering the location of the CallManager, it is recommended that the IP address be used instead of the CallManager name.

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## Appendix 2 - Arc Connect Resilience

There are 3 levels of resilience that can be provided,

1. Basic Resilience – Calls forwarded to Call Manager if Arc Server stops.
2. TAPI Resilience – Call Manager ensuring calls are handled in the event of a Call Manager crash.
3. Full Resilience – Covering the eventualities of a Call Manager and/or an Arc Server crash.

### 8.3.2 Scenario One – Basic Resilience

This level of resilience should be configured on all Arc/Call Manager installations. It provides for all incoming calls to be routed to a Call Manager extension in the event of a failure of the Arc Server, or a re-homing of Call Manager devices to a server that cannot be monitored by Arc. To set resilience up simply enter a **Forward No Answer** destination on each of the Pre-Gateway device CTI Route Points.

The screenshot displays the Cisco CallManager Administration web interface. The top navigation bar includes links for System, Route Plan, Service, Feature, Device, User, Application, and Help. The main title is "Cisco CallManager Administration" with the subtitle "For Cisco IP Telephony Solutions". The page is titled "Directory Number Configuration" and includes a link to "Configure Device (Pre-CT Gateway)".

On the left, a sidebar shows "Devices using this Directory Number" with a list containing "Pre-CT Gateway... (Line 1)".

The main content area is divided into several sections:

- Directory Number: New**  
Status: Ready  
Buttons: Insert, Cancel Changes
- Directory Number**  
Directory Number\*: 8500  
Partition: ArcDefault
- Directory Number Settings**  
Voice Message Box: 8500  
Calling Search Space: ArcDefaultCSS  
User Hold Audio Source: <None>  
Network Hold Audio Source: <None>  
Call Waiting: On  
Activate Auto Answer: Not available on this device.
- Call Forward and Pickup Settings**

	Destination	Calling Search Space
Forward All		<None>
Forward Busy		<None>
Forward No Answer		<None>
Forward On Failure		<None>
Call Pickup Group		<None>
- Line Settings for this Device**  
Display (Internal Caller ID):  
External Phone Number Mask:  
Disable ring on this line: Not available on this device.

A footnote at the bottom states: "\* indicates required item; changes to Line or Directory Number settings require restart."

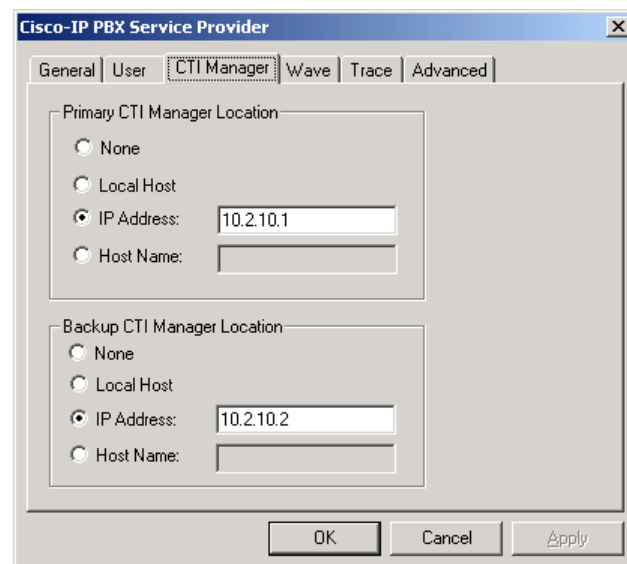
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Once the forward has been set it will activate immediately if the Arc Server is no longer monitoring the CTI Route Point. There are two scenarios where this may happen, a) If the Arc Server is stopped, including if the machine crashes, and b) the phones being monitored rehome to a different Call Manager that is not being monitored by the TAPI user on the Arc Server machine. In release 3.0 of Call Manager the TAPI user can only monitor a single Call Manager. Release 3.1 the TAPI user is setup to monitor two CTI Managers, meaning that even if phone rehome, the TAPI seamlessly carries on monitoring the TAPI devices on the failover Call Manager.

### 8.3.3 Scenario Two – TAPI Resilience

With the release of 3.1 of Call Manager a TAPI user can monitor two CTI Managers. This feature allows auto failover of TAPI devices to a separate Call Manager, while allowing the TAPI user to continue monitoring the devices against the same User profile. The Arc Server will be out of action for just a few seconds while the devices rehome. The Arc client users will see a message that their Device has gone out of service. The message will disappear from the screen once the device comes back into service. They can then carry on as normal. No action needs to be taken by the client. These CTI Managers reside as a service on a Call Manager server.

To provide this resilience, set up a backup CTI Manager on the TAPI configuration as shown:



### 8.3.4 Scenario Three – Full Resilience

Full resilience can now be provided for Arc installations. This covers all eventualities including the two above, but also in the event of an Arc Sever machine crash a second Arc server can take and process the incoming calls.

On the Call Manager there should be set up two identical configurations using different numbering plans. Then set up a new User Profile for the second Arc Server machine. This allows a second Arc Server to be active and ready to take calls.

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The User simply has to switch between the Main Arc Server and the Alternate Arc Server. This is done very easily from the relevant GUI.

Within Call Manager the Forward No Answer on the primary CTI Route Points that are the Pre CT-Gateway ports simply point to the relevant Route Point that is set for the secondary Arc Server. Once the call is routed to the new Route Point it will be routed into the Gateway set on the Secondary Server and then onto the clients, who have re attached himself or herself to the secondary server. A 3<sup>rd</sup> level of Arc resilience can be set by putting a Forward No Answer from the secondary Route Points to a Call Manager device as in scenario One.

To summarise full resilience,

Failed Application	Call Manager Response	Arc Response
First Call Manager	Phones and CTI Manager Rehomes to secondary Call Manager	Arc Server uses backup CTI Manager and automatically monitors rehomed extensions. Client extensions go Out of Service for a few seconds and then client can carry on as normal.
First Arc Server	Forwarding on CTI Route Points sends calls to secondary Route Points.	Secondary Arc Server will automatically start receiving calls. They will be processed accordingly. Clients must manually repoint their applications to the secondary server.
Second Arc Server	Calls forwarded from primary Arc Server will be forwarded again to a third destination, likely a Call Manager destination.	N/A

## 8.4 Redundancy

The methods used to ensure the redundancy in the event of integration failure are,

1. Multiple hot-swap power supplies
2. Hot-swap Hard Drive arrays
3. UPS / power conditioners
4. RAID

## 8.5 Recovery

The software recommended for the backup recovery is **Veritas Backup Exec 8.6**.

The steps to be followed for taking backup with **Veritas Backup Exec 8.6** are as follows,

This backup can be completed while the Arc Connect Server is started. The following sections of Arc Connect need to be backed up if a disaster recovery backup is not required.

1. The complete contents of C:\Program Files\Arc\. This assumes that the default destination directory is used.
2. The following section of the registry, HKEY\_LOCAL\_MACHINE\SOFTWARE\Arc Solutions

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3. The Arc Log database, the location for SQL Server database files would be C:\Arcdata by default. This database needs to be backed up.
4. The Configuration database, the location for SQL Server database files would be C:\Arcdata by default. This database needs to be backed up.

#### **8.5.1 Restoring Arc Connect**

Prior to restoring Arc Connect, ensure that the operating system with all service packs has been installed and the Host PBX TSP has been installed and configured.



#### **NOTE**

Please remember that the Arc Connect solution as a whole will need to be re-registered and that the Arc Connect Server will not start until this is done. Please contact your reseller for new registration codes.

#### **8.5.2 Disaster Recovery Backup**

Simply ensure that the Arc Connect Server PC is backed up as a whole. The Arc Connect server can remain started throughout the whole backup procedure.



#### **NOTE**

Please ensure that the open files upgrade has been installed into Backup Exec. This is required as all the above files and directories will be open / contain open files. If this is not done, any restore procedures will not work.

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