Oracle Contact Center Anywhere Installation and Upgrade Guide

Version 8.1.3, Rev. B

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1 What's New in This Release

What's New in Oracle Contact Center Anywhere Installation and Upgrade Guide, Version 8.1.3, Rev. B

Table 1 lists changes described in this version of the documentation to support release 8.1.3 of the software.

Table 1. New Product Features in Oracle Contact Center Anywhere Installation and Upgrade Guide, Version 8.1.3, Rev. B

Topic	Description
Configuring the Call Center Resource on page 41	Modified topic. Added a cross-reference in the Payload field for configuring the G.729 protocol.
Configuring the MCU Server Resource on page 45	Modified topic. Added a cross-reference in the Payload field for configuring the G.729 protocol.
Configuring and Deploying the G.729 Protocol on page 77	New chapter. It describes how to configure Oracle Contact Center Anywhere to use the G.729 protocol.

Table 2. New Product Features in Oracle Contact Center Anywhere Installation and Upgrade Guide, Version 8.1.3, Rev. A

Topic	Description
Requirements for Installing the Web Server for Oracle Contact Center Anywhere on page 17	Revised topic. Removed the procedure, Oracle Contact Center Anywhere for the SQL Database.
Creating a New Database on Microsoft SQL Server on page 23	Modified topic. Added a note pertaining to log in security to the %12 CCR81 and %13 CCR81 parameters.
Installing Oracle Contact Center Anywhere Server Files and Network Manager on page 30	Modified topic. Removed the Linux reference from the changes that need to be made to the `/etc/system` file.
Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g on page 61	Modified topic. Added regular and ReadOnly user references to the task.

Table 2. New Product Features in Oracle Contact Center Anywhere Installation and Upgrade Guide, Version 8.1.3, Rev. A

Topic	Description
Deploying Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10g on page 64	Modified topic. Added the following parameters to the table: ■ reportServerUrl ■ databaseDatasourceReadOnly ■ databaseUserReadOnly ■ databasePasswordReadOnly Also replaced the definition of the databaseSchema parameter. Replaced the sample location where log files are created in the logPath parameter.
Deploying Oracle Contact Center Anywhere cca.war on Oracle Application Server 10g on page 66	Modified topic. Added the display-name parameter to the table.
Configuring Oracle Contact Center Anywhere Web Applications on WebLogic on page 71	Modified topic. Added regular and ReadOnly user references to the task. Also replaced the parameter that is added to the WebLogic config.xml file at the end of the security definition block.
Configuring the JDBC Connection Pool on page 72	Modified topic. Removed SQL Server references from the topic. Also modified steps in the task.
Upgrading a Database for Oracle Contact Center Anywhere on page 91	Modified topic. Added a note pertaining to log in security to the &20 and &21 parameters. Also added 'CCR81' 'CCR81' to the end of the sample script file.
Upgrading a Microsoft SQL Server Database for Oracle Contact Center Anywhere on page 94	Modified topic. Added a note pertaining to log in security to the %12 CCR81 and %13 CCR81 parameters.
Upgrading Oracle Contact Center Anywhere Web Applications on page 98	Modified topic. Replaced WebLogic 8.1 SP5 with WebLogic 10. Also added links to configuring JDBC data sources and connection pools and for WebLogic.

Table 3. New Product Features in Oracle Contact Center Anywhere Installation and Upgrade Guide, Version 8.1.3

Topic	Description
Requirements for Installing Oracle Contact Center Anywhere on page 15	Replaced BEA WebLogic 10 MP1 or 8.1 Service Pack 5 with BEA WebLogic 10.0 MP1 and 10.3. Also modified the list of other software required for installation. Changes include adding JRE 1.5.0 Update 10 and the removal of BEA 8.1.
Required Software Reference Links on page 17	Replaced WebLogic 8.1 or 10 to WebLogic 10.
Requirements for Installing the Web Server for Oracle Contact Center Anywhere on page 17	Revised topic. Removed the procedure Removing Duplicate Tags from web.xml. Renamed the topic Setting Up Oracle Contact Center Anywhere for the Oracle Database to Setting Up Oracle Contact Center Anywhere for the SQL Database. Replaced the parameters for the Oracle Contact Center Anywhere web.xml file.
Creating a New Oracle Database 10g on page 20	Removed note pertaining to character set. Added read-only username and password to both *cca* and *TAW* to facilitate security enhancements. Changed instances of cc811 to cc81, instances of cc70 to cc81, and instances of ADMINCC70 to ADMINCC81.
Creating a New Database on Microsoft SQL Server on page 23	Modified topic. Added read-only username and password to both *cca* and *TAW* to facilitate security enhancements.
Setting Up Oracle Contact Center Anywhere Network Manager to Manage Oracle Contact Center Anywhere Resources on page 36	Changed NetworkManager812.exe to NetworkManager813. Changed instances of cc812 to cc81. Updated the descriptions for the fields: Server Host, Server Root Path, File Size Limit (KB), FTP Username, and FTP Password.
Configuring the Call Center Resource on page 41	Modified topic. Added Default DNIS and ANI/DNIS Format fields and field descriptions to the table. For Oracle Contact Center Anywhere web application the logging configuration was moved from web.xml to log4j.xml.
Deploying Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10g on page 64	Modified URLstoragePath and databaseSchema parameters.

Table 3. New Product Features in Oracle Contact Center Anywhere Installation and Upgrade Guide, Version 8.1.3

Topic	Description
Deploying Oracle Contact Center Anywhere cca.war on Oracle Application Server 10g on page 66	Modified URLstoragePath and databaseSchema parameters.
Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g on page 61	Added configuration for Blob handling in the systemresourceconfiguration table.
Deploying Oracle Contact Center Anywhere cca.war on WebLogic on page 74	For Oracle Contact Center Anywhere web application the logging configuration was moved from web.xml to log4j.xml.
Upgrading a Database for Oracle Contact Center Anywhere on page 91	Added read-only username and password to both *cca* and *TAW* to facilitate security enhancements.
Upgrading a Microsoft SQL Server Database for Oracle Contact Center Anywhere on page 94	Added read-only username and password to both *cca* and *TAW* to facilitate security enhancements.
Upgrading Oracle Contact Center Anywhere TAW-general.war on page 98	Modified URLstoragePath and databaseSchema parameters.
Upgrading Oracle Contact Center Anywhere cca.war on page 101	Modified URLstoragePath and databaseSchema parameters.

2 Oracle Contact Center Anywhere Overview and Requirements

This chapter describes Oracle's Contact Center Anywhere architecture, and the software that is required to run Oracle Contact Center Anywhere. This chapter also provides a brief overview of the Oracle Contact Center Anywhere installation procedures described in other chapters. It includes the following topics:

- Overview of Oracle Contact Center Anywhere Architecture on page 11
- Requirements for Installing Oracle Contact Center Anywhere on page 15
- Requirements for Installing the Web Server for Oracle Contact Center Anywhere on page 17

Overview of Oracle Contact Center Anywhere Architecture

Oracle Contact Center Anywhere is a multichannel e-contact center solution. It is built on a carrier-grade architecture that is designed to address the needs of telecommunications organizations and other service providers that want to deploy hosted, contact-center technology within their networks.

Architecturally, Oracle Contact Center Anywhere is divided into four tiers, as shown in Figure 1.

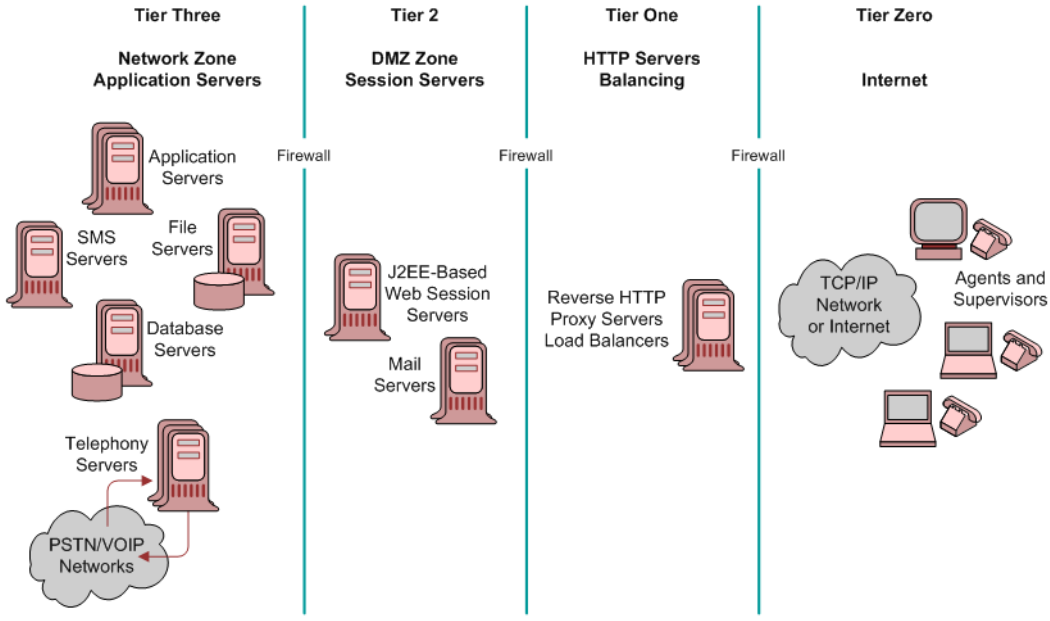

Figure 1. Overview of Oracle Contact Center Anywhere Architecture

Tier Zero of Oracle Contact Center Anywhere Architecture

Tier Zero is also referred to as the *Internet zone* or the *user zone*. Agents, supervisors, and administrators reside in Tier Zero with their respective interfaces. Several communication threads connect Oracle Contact Center Anywhere to these users. For example, a session is established between their PCs, using their Web-based interface, and the Web servers in Tier One and Tier Two zones. This session is supported over HyperText Transfer protocol (HTTP), typically using port 80 (or a user-defined port), or the more secure, HTTPS, typically using port 443 on the firewall.

Likewise, chat communications flow over HTTP, and emails are sent and received on the native protocol of the corporate email server. In addition, call control messages and screen refreshes all use HTTP or HTTPS. Using these standard protocols and ports helps avoid unnecessary customizations of firewall rules, which makes Oracle Contact Center Anywhere easy to implement, install, and maintain.

Agents and supervisors are also connected to Oracle Contact Center Anywhere by the telephony network (either Public Switched Telephone Network (PSTN) or Voice over Internet Protocol (VoIP)). When a customer call flows from the network through the Telephony Servers in Tier Three, then a call is made from the telephony server to an available agent and the server then links the two calls together. Tier Zero of the architecture is where the Oracle Contact Center Anywhere client applications reside and where connectivity to the locations outside Oracle Contact Center Anywhere happens. Agents and supervisors can be located wherever a broadband Internet connection, or private network connection, is available. This connectivity means Tier Zero extends into the home of remote agents.

Tier One of Oracle Contact Center Anywhere Architecture

Tier One is an optional tier, which can be collapsed into Tier Two (DeMilitarized Zone (DMZ)). Oracle Contact Center Anywhere can fit into an overall multitiered communications infrastructure, which many companies can use. For example, many companies with distributed users and multiple sites, use a set of HTTP servers as the user interface to their DMZ, where various Web-based session servers reside. You use HTTP servers for two reasons: load balancing and HTTP caching.

The interface handling and caching are typically managed by Reverse Proxy Servers and basic HTTP Servers. HTTP servers can cache static information (such as images), and provide segmentation for additional tiers of security. This layer of the HTTP servers is not part of the traditional Oracle Contact Center Anywhere implementation, but usually exists in larger corporate environments.

Load balancers are an essential part of any architecture using multiple HTTP J2EE servers. Load balancers perform three functions:

- Balancing the HTTP traffic among multiple HTTP J2EE servers
- Off-loading of HTTPS-to-HTTP de-encryption Secure Sockets Layer (SSL) encryption
- Redirecting HTTPS sessions during failovers from one HTTP J2EE server to another

Oracle Contact Center Anywhere works with the Cisco CSS11500 content switch, which offers these three load-balancing functions. Other switches might work as long as a persistent session from the Load Balancer can be maintained for each HTTP J2EE server. However, other switches are not certified by Oracle.

Tier Two of Oracle Contact Center Anywhere Architecture

Tier Two is where the J2EE-based session servers of Oracle Contact Center Anywhere reside. A traditional firewall implementation in most corporate networks includes a DMZ to provide maximum security. DMZ access is based on the rules set up by a security administrator, who dictates what communications are allowed through the DMZ to the internal network zone. Oracle Contact Center Anywhere is engineered to work properly within this structure.

Client applications access the J2EE Web Session Servers supporting Oracle Contact Center Anywhere, using HTTP or HTTPS. The J2EE Web Session Servers then request data and services from the application servers (in Tier Three, the network zone) using port 9001 on the company local area network (LAN). This traffic can be limited, using a firewall, to accept only traffic on that port from a specific Web server. Traffic is never given permission to access corporate data or application servers directly.

One of the most critical components of Oracle Contact Center Anywhere is the J2EE Web Session Server. The J2EE Web Session Server, which is located in Tier Two (DMZ), handles all requests from all users and customers who are located in Tier Zero (Internet and user zone). These J2EE Web Session Servers handle dynamic information and act as the main point of entry.

J2EE Web Session Servers are hosted. The computers on which they are hosted run four types of software:

- Off-the-shelf Web server software, such as Oracle Web Session Server or BEA Systems WebLogic.
- Oracle Contact Center Anywhere JSP pages.
- Servlets and other connectivity software, such as File Transfer Protocol (FTP) and Java Database Connectivity (JDBC) software.
- A Web services library and interpretive layer. The Web Services interpretive layer acts as a standard interface to the Oracle Contact Center Anywhere native Web container.

In larger environments, such as overlay networks or service provider deployments, it is best to have separate physical servers set up as report servers. The Report Servers serve all customer reports and extract data from secondary databases.

Tier Two (DMZ) is a typical zone to house corporate mail servers. These corporate mail servers are not part of the Oracle Contact Center Anywhere architecture, but they communicate with Oracle Contact Center Anywhere to facilitate unified messaging and identification of automatic call distributor (ACD) email projects.

In some cases, additional physical servers can be placed in Tier Three (network zone) to act as Email proxy servers. Use Email proxy servers when corporate Email servers use IMAP/4 protocols in Tier Two (DMZ). The Email proxy servers (POP3 and SMTP-to-IMAP) in Tier Three (network zone) perform the protocol conversion duties.

Tier Two is also a typical zone to house the SMS Server, which consists of the SMS Server (a dedicated resource) and the SMSC Gateway Server (a shared resource). You must configure both servers to support SMS inbound ACD Media type.

Tier Three of Oracle Contact Center Anywhere Architecture

Tier Three, which is also referred to as the *network zone*, is where the Application Servers, File Servers, Database Servers, and Telephony Servers reside. The Oracle Contact Center Anywhere Servers can be classified into separate functional areas or resources. Each Oracle Contact Center Anywhere resource is responsible for delivering specific functionality. Oracle Contact Center Anywhere uses two types of resources in Tier Three:

- **Shared resources.** These are common system resources that are used throughout the Oracle Contact Center Anywhere system. An example of a shared resource is the Call Center Server. It is responsible for managing voice and switching functions between the Telephony Servers and the Public Switched Telephone Network (PSTN). Even though the Call Center Server is used as a shared resource by default, it is possible to configure a Call Center Server to be used for only one company, and to have other Call Center Servers configured as shared on the same server.
- **Dedicated resources.** These are company-specific resources. These dedicated resources use private data that can be accessed by only one company. This is part of Oracle Contact Center Anywhere's partitioning and data security schema. For example, the ACD Server holds all of the routing rules for Company A; so, the ACD Server cannot be used for Company B. Therefore, Company B must have a dedicated ACD Server. In an overlay network or service provider arrangement, it is typical to have multiple instantiations of the same type of dedicated resource running on the same physical server. For example, you might have 2 ACD Servers (each providing dedicated use for a specific company) running on a single, physical-application server.

  In the case of one company with many lines of business or departments, Oracle Contact Center Anywhere can be configured to allow each department or line of business to be set up as individual companies.

Requirements for Installing Oracle Contact Center Anywhere

Before installing Oracle Contact Center Anywhere, verify that the software listed in Table 2 is installed on your system. For more information on required software, see "Required Software Reference Links" on page 17.

Table 2. Software Requirements for Oracle Contact Center Anywhere Installation

Item	Requirement
Operating system	One of the following operating system versions must be present: ■ Microsoft Windows 2000 Server ■ Microsoft Windows 2003 Server (32-bit) ■ Sun Solaris 9 (32-bit or 64-bit) ■ Sun Solaris 10 (5.10) ■ Red Hat Enterprise Linux AS4 for x86 or Oracle Linux EL4
Database server	One of the following database servers must be present: ■ Microsoft SQL Server 2005 Service Pack 3 ■ Microsoft SQL Server 2000 ■ Oracle9*i* Database ■ Oracle Database 10*g*
Web server	One of the following Web servers must be present: ■ Sun One ■ Oracle Application Server 10*g* Release 3 ■ BEA WebLogic 10.0 MP1 and 10.3
Client Web browser	One of the following Web browsers must be present: ■ Microsoft Internet Explorer 6 ■ Microsoft Internet Explorer 7 ■ Firefox

Table 2. Software Requirements for Oracle Contact Center Anywhere Installation

Item	Requirement
Other	The following software must be installed: ■ Sun Java JDK **NOTE:** Oracle Contact Center Anywhere will support the default JDK version installed on the Web server. ■ Sun Java JRE 1.5.0 Update 5, JRE 1.5.0 Update 10 or JRE 1.6 Update 6 installed on client PC, where the Web browser starts Oracle Contact Center Anywhere. ■ SMS Gateway Server: The SMSC gateway requires JRE 1.5.0 Update 10. ■ Oracle Contact Center Anywhere supports the native Oracle JDBC driver for the Web server. This is required for the database connection pool on the Web server. ■ The FTP server hosts all voicemails, quality recordings, agent and supervisor recordings, faxes, and so on. Typically, this server is a separate physical file server with plenty of disk space. The exact amount of disk space you need depends on many factors, including your specific configuration, the FTP server program you are using, and contact center volume.
Optional tools	The following tools are optional: ■ A media player on the client PC to listen to voice mails, recordings, and so on. ■ A sound recorder to record prompts. ■ Adobe Acrobat 7.0 to view advanced reports and PDFs. ■ SNMP client to receive asynchronous event reports (traps) generated by the Oracle Contact Center Anywhere simple network management protocol (SNMP) agent. ■ Converter for switching Waveform Audio (WAV) files to MPEG Layer-3 (MP3) format, which must be installed on the same host as the FTP server.

Required Software Reference Links

Table 3 provides links to Web sites associated with the software that must be installed before you begin installation of Oracle Contact Center Anywhere software.

Table 3. Required Software Reference Links

Software	Reference Link
Microsoft SQL Server 2000 and 2005	See the following: ■ http://support.microsoft.com/kb/303747 ■ http://support.microsoft.com/ph/2855
Oracle9*i* Database	http://www.oracle.com/technology/documentation/oracle9i.html
Oracle Database 10*g*	http://www.oracle.com/technology/pub/articles/smiley_10gdb_install.html
Oracle Unbreakable Linux	https://linux.oracle.com/
Red Hat Enterprise Linux	http://www.redhat.com/
WebLogic 10	See the following: ■ http://e-docs.bea.com/platform/docs81/install/index.html ■ http://e-docs.bea.com/wls/docs100/index.html
Oracle Application Server 10*g*	http://www.oracle.com/technology/pub/articles/smiley-as10gr3-install.html

Requirements for Installing the Web Server for Oracle Contact Center Anywhere

For Oracle Contact Center Anywhere version 8.1.3, some changes must be made to the `web.xml` and `custom.xml` files to prevent installation and operation errors.

3 Configuring a Database for Oracle Contact Center Anywhere

This chapter describes how to create and configure a database for Oracle Contact Center Anywhere. It includes the following topics:

- About Database Configuration on page 19
- Creating a New Database for Oracle Contact Center Anywhere on page 20
- Modifying Database Tables on page 25

About Database Configuration

Before installing Oracle Contact Center Anywhere, you must decide whether to create a new database or upgrade an existing database used by previous versions of Oracle Contact Center Anywhere.

Creation of a New Database

If you are installing Oracle Contact Center Anywhere for the first time, create a new database. For information about how to create a database, see "Creating a New Database for Oracle Contact Center Anywhere" on page 20.

Database Upgrade

If a previous version of Oracle Contact Center Anywhere is installed and you plan to upgrade to the latest version, then choose the database upgrade option. For more information about upgrading your database, see "Upgrading a Database for Oracle Contact Center Anywhere" on page 91.

Database Installation and Upgrade Directories

The Oracle Contact Center Anywhere installation package includes a \Database directory that has two subdirectories: Oracle and SQL Server.

The Oracle directory contains scripts to configure a database on an Oracle database server. The SQL Server directory is reserved for a Microsoft SQL Server database. Each directory has two subdirectories:

- **Automated.** Oracle Contact Center Anywhere uses this subdirectory when creating a new database.
- **Patch.** Oracle Contact Center Anywhere uses this subdirectory when upgrading an existing database.

Before Beginning Database Installation or Upgrade

Before you install or upgrade a database for Oracle Contact Center Anywhere, make sure that Sun Java JDK 1.5.0_10 is installed on the host used to run the database scripts.

Creating a New Database for Oracle Contact Center Anywhere

Complete one of the following operating system-specific procedures, as required, to create a new database for Oracle Contact Center Anywhere:

- Creating a New Oracle Database 10g on page 20
- Creating a New Database on Microsoft SQL Server on page 23

Creating a New Oracle Database 10*g*

Complete the steps in the following procedure to create a new Oracle Database 10*g* for use with Oracle Contact Center Anywhere.

For information about how to upgrade an existing Oracle Database 10*g* for use with Oracle Contact Center Anywhere, see "Upgrading an Oracle Database for Oracle Contact Center Anywhere" on page 91.

To create a new Oracle Database 10g

1. Copy the following directory from the Oracle Contact Center Anywhere installation package to the host that is running the database creation scripts:

   ```
   database\Oracle\Automated
   ```

2. Use the following guidelines to edit the UseMe.sql file, so that it includes the correct information for creating the database:

   NOTE: Retain the quotation marks surrounding parameter values.

   a. Replace parameter &1 with the password of the database user.

   b. Replace parameter &2 with the name of the connection to the database server saved in the tnsnames.ora file. Typically, the tnsnames.ora file resides in the `ORACLE_HOME\network\admin` directory.

   c. Replace parameter &3 with the name of the tablespace that contains all the database tables.

   d. Replace parameter &4 with the path to the location where the tablespace is created. For example:

      ```
      C:\oracle\oradata\oracle\twcc81.ora
      ```

   e. Replace parameter &5 with the size of the tablespace. The default size is 500 megabytes (MB).

      NOTE: This value is not a limitation. The database can grow larger than 500 MB.

f Replace parameter &6 with the name of the temporary tablespace that contains the temporary data. Temporary data occurs, for example, when executing a complex SELECT statement.

g Replace parameter &7 with the path to the location where the temporary tablespace is created. For example:

```
C:\oracle\oradata\oracle\twcc81tmp.ora
```

h Replace parameter &8 with the size of the temporary tablespace. The default size is 50 MB.

i Replace parameter &9 with the growth size of the temporary tablespace. The default size is 10 MB.

j Replace parameter &10 with the name of the database role that is created.

k Replace parameter &11 with the user name of the user who has administration privileges on the new database. For example, `admincc81`.

l Replace parameter &12 with the password of the user declared in parameter &11.

m Replace parameter &13 with the user name of the user who has access to the Oracle Contact Center Anywhere database. For example, `cc81`.

n Replace parameter &14 with the password of the user declared in parameter &13.

o Replace parameter &15 with the database service name (SID). For example: `oracle`.

p Replace parameter &16 with the host name or Internet Protocol (IP) address of the database server.

q Replace parameter &17 with the port that the Oracle Database 10*g* server uses to listen for a new connection. The default port is 1521. If your Oracle Database 10*g* server uses a different port, you must change this default value.

r Replace parameter &18 with the total number of databases in your Oracle Contact Center Anywhere installation. If there are two databases, then set parameter &18 to 2.

Parameter &18 works in conjunction with the seed value (parameter &19) by offsetting the primary key identifier. For example, if parameter &18 is set to 2:

- IDs for the first database start with 1 and increment by 2 (giving 1, 3, 5, and so on).
- IDs for the second database start with 2 and increment by 2 (giving 2, 4, 6, and so on).

NOTE: If replication of multiple databases is not required, then this value is not required.

s Replace parameter &19 with the starting number of the sequence that is used to set the ID field or primary key of the table.

For example, if there are 2 database instances in your Oracle Contact Center Anywhere installation as follows:

```
seed=1
seed=2
```

then all IDs for the first instance will start with 1, and for the second instance will start with 2.

NOTE: Set this option only if database replication is required (so that multiple databases can be identified).

t Replace parameter &20 with a ReadOnly user name.

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

u Replace parameter &21 with a ReadOnly user password.

3 After editing the script file (UseMe.sql), the following information is returned:

```
--  &1 - sys password                sys_password
--  &2 - Database TNS Name           my_db_connection
--  &3 - TWTableSpace                TAW Table Space
--  &4 - PathTableSpace              /usr/oracle/ora9i/oradata/oracle/twtablespace.dbf
                                     Path for the TAW Table Space
--  &5 - TableSpaceSize              500M Initial size of the Table Space
--  &6 - TWTableSpaceTemp            TAW Temporary Table Space
--  &7 - PathTableSpaceTemp          /usr/oracle/ora9i/oradata/oracle/twtablespacetmp.dbf
                                     Path for the TAW Temporary Table Space
--  &8 - TableSpaceTempSize          50M Initial size of the Temporary Table Space
--  &9 - TableSpaceTempGrowthSize    10M Temporary Table Space Growth Size
-- &10 - TWRole                      TWRole
-- &11 - ADMINCC81 (Admin Username)  ADMINCC81
-- &12 - ADMINCC81 (Admin Password)  ADMINCC81
-- &13 - CC81 (User Username)        CC81
-- &14 - CC81 (User Password)        CC81
-- &15 - Database Service Name       oracle --> Used by the JDBC Connection
-- &16 - Database Hostname           dbHostname --> Used by the JDBC Connection
-- &17 - Database Port Number        db port number --> Used by the JDBC Connection
-- &18 - Sequence increment number   Number of machines in the system - this is
                                     the number that you must skip. For example,
                                     if you have 2 machines, then this number is 2.
-- &19 - Sequence start number       1
-- &20 - CCR81 (ReadOnly Username)   1
-- &21 - CCR81 (ReadOnly Password)   1


@CreateDatabase.sql 'syspasswo' 'oracle' 'TWTableSpacecc81'
'c:\oracle\oradata\oracle\twcc81.ora' '500M' 'TWTableSpacecc81Tmp'
'c:\oracle\oradata\oracle\twcc81tmp.ora' '50M' '10M' 'TWRolecc81' 'ADMINCC81'
'admincc81' 'cc81' 'cc81' 'oracle' 'support-db' 1521 2 1 'CCR81' 'CCR81'
```

4 Open a command-line window and type cd to change to the directory containing the UseMe.sql file.

NOTE: To open a command-line window: click Start, Run, type CMD, and then click OK.

5 Open the SQL Plus console by typing the following: `sqlplus /nolog`

6 From the SQL Plus command-line prompt, type the following to run the script file: `@UseMe.sql`

7 After the script file completes, check for errors in all of the newly created log files.

Creating a New Database on Microsoft SQL Server

Complete the steps in the following procedure to create a new database on Microsoft SQL Server.

For information about how to upgrade and existing Microsoft SQL Server for use with Oracle Contact Center Anywhere, see "Upgrading a Microsoft SQL Server Database for Oracle Contact Center Anywhere" on page 94.

To create a new database on Microsoft SQL Server 2005

1 From the installation package, copy the Automated directory of the SQL Server to the host that is running the database scripts. For example:

```
C:\CCA\database\Sql Server\Automated
```

NOTE: When creating your SQL Server 2005 user name and password, you must create them in uppercase. Otherwise, you get an error when attempting to log in to Network Manager.

2 Follow these guidelines to edit the useMe.bat file batch to include information for creating the new database:

a Replace parameter %1 with the host name of the database server.

b Replace parameter %2 with the administrator user name. Typically, sa is the default.

c Replace parameter %3 with the password for the administrator user.

NOTE: Oracle Contact Center Anywhere Network Manager does not accept complex passwords. Sometimes Microsoft SQL Server forces you to follow Microsoft Windows password policy, which is to create a complex password. In such a case, go back to the new database you created, and change the password to a simple password (without special characters).

d Replace parameter %4 with the path to the location where the database files are created.

e Replace parameter %5 with the database name for Oracle Contact Center Anywhere. Typically, the default is CC81.

f Replace parameter %6 with the name of the user who is created, and have access to the database. Oracle Contact Center Anywhere uses this value to access the database. Typically, the default is CC81.

g Replace parameter %7 with the password that you will provide to the user defined in the previous parameter.

h Replace parameter %8 with the port used by Microsoft SQL Server to listen for new connections. By default, Microsoft SQL Server listens on port 1433.

i Keep parameter %9, -remoteDatabase flag set to False.

j Replace parameter %10 only if database replication is required, so that multiple databases can be identified.

k Replace parameter %11 with the total number of databases in your Oracle Contact Center Anywhere installation.

l Replace parameter %12 CCR81 (ReadOnly user name)

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

m Replace parameter %13 CCR81 (ReadOnly password)

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

3 After editing the batch file, it returns the following:

```
echo off

CHCP 437

   rem %1 <The database server name>

   rem %2 <The admin users - normally sa ->

   rem %3 <The password for the admin user>

   rem %4 <The database path where to create it, for example: c:\databases>

   rem %5 <The database name>

   rem %6 <CCA username>

   rem %7 <CCA password>

   rem %8 <database port number by default Sql server is using 1433>

   rem %9 <remote database - "true" or "false">

   rem %10 <seed: sequence start number for identity in replication environment>

   rem %11 <increment: sequence increment number for identity in replication
   environment>

   rem %12 CCR81 <ReadOnly Username>

   rem %13 CCR81 <ReadOnly Password>

   java -jar DatabasePopulation.jar -hostname=support-db -username=CC81 -
   password=CC81 -databasePortNumber=1433 -databaseName=CC81 -saUsername=sa -
   saPassword=sa -dbPath=C:\databases -remoteDatabase=false -seed=1 -
   increment=1 -readUsername=CCR81 -readPassword=CCR81

   echo on
```

4 Open a command-line prompt, and run the useMe.bat batch file.

5 After the batch file completes, check the newly created log files for errors.

Modifying Database Tables

Modify the database systemconfiguration table to activate and deactivate SIP re-invite, and configure the URL for Supervisor Reporting. For more information about modifying the systemconfiguration table, see the following:

- Configuring SIP Re-Invite for Oracle Contact Center Anywhere on page 25
- Configuring Supervisor Reporting for Oracle Contact Center Anywhere on page 75.

Modify the sipalarmcodes table to configure specific SIP Gateway alarms for Oracle Contact Center Anywhere. For more information about modifying the sipalarmcodes table, see “Configuring SIP Gateway Alarms for Oracle Contact Center Anywhere” on page 25.

Configuring SIP Re-Invite for Oracle Contact Center Anywhere

In Oracle Contact Center Anywhere version 8.1.3, SIP re-invite is disabled by default. Complete the following procedure to activate SIP re-invite.

NOTE: In earlier versions of Oracle Contact Center Anywhere, SIP re-invite was activated by default.

To activate SIP re-invite for Oracle Contact Center Anywhere

- Set the usereinvite field in the systemconfiguration database table to 1.

  To deactivate SIP re-invite, set usereinvite to 0.

  For example:

  ```
  usereinvite = 1
  ```

  NOTE: If the Call Center is running, you will need to restart it to allow the changes to take effect.

Configuring SIP Gateway Alarms for Oracle Contact Center Anywhere

Use the sipalarmcodes table to configure specific SIP Gateway alarms for Oracle Contact Center Anywhere. Complete the following procedure to activate SIP Gateway alarms for Oracle Contact Center Anywhere.

To activate SIP Gateway alarms for Oracle Contact Center Anywhere

1. Add specific gateway conditions that must be activated to the sipalarmcodes table.

   For example:

   ```
   insert into sipalarmcodes(errorcode, alarminfo, reported) values(1,'Unallocated
   number',1);
   ```

2 Log in to Network Manager, right-click on Call Center and select the Call Center option, then select Reload SIP Alarm Codes.

4 Installing Oracle Contact Center Anywhere Server Components

This chapter describes how to install the server components for Oracle Contact Center Anywhere, configure Oracle Contact Center Anywhere resources, and create the database connection to your application server. It includes the following topics:

- Roadmap for Installing Oracle Contact Center Anywhere Server Components on page 27
- Creating Database Connections to the Application Server on page 28
- Installing Oracle Contact Center Anywhere Server Files and Network Manager on page 30
- Installing TCP/IP Bus on page 31
- Process of Configuring Oracle Contact Center Anywhere Resources on page 34
- Configuring Resources Using Oracle Contact Center Anywhere Network Manager on page 41
- Configuring File Transfer Using Oracle Contact Center Anywhere Network Manager on page 51
- Starting and Stopping Oracle Contact Center Anywhere Resources on page 59

Roadmap for Installing Oracle Contact Center Anywhere Server Components

To install Oracle Contact Center Anywhere server components, perform the following processes and tasks:

1. Create a database connection for Oracle Contact Center Anywhere, as described in Creating Database Connections to the Application Server on page 28.
2. Install Oracle Contact Center Anywhere Network Manager and server files as described in Installing Oracle Contact Center Anywhere Server Files and Network Manager on page 30.
3. Install TCP/IP Bus for Oracle Contact Center Anywhere as described in Installing TCP/IP Bus on page 31.
4. Configure Oracle Contact Center Anywhere resources as described in Process of Configuring Oracle Contact Center Anywhere Resources on page 34.
5. Set up file transfer for Oracle Contact Center Anywhere as described in Configuring File Transfer Using Oracle Contact Center Anywhere Network Manager on page 51.

Creating Database Connections to the Application Server

You must create a database connection for Oracle Contact Center Anywhere. Oracle Contact Center Anywhere Network Manager and all resources use this database connection to connect to the database, and load Oracle Contact Center Anywhere configuration data.

This task is a step in "Roadmap for Installing Oracle Contact Center Anywhere Server Components" on page 27. Complete one of the following operating system-specific procedures, as required, to create a database connection to the application server:

- To create a database connection for Oracle database 10*g*, see "Creating a TNS Name for Oracle Database 10g" on page 28.
- To create a database connection for Microsoft SQL Server, see "Creating an ODBC Data Source for Microsoft SQL Server Database" on page 28.

Creating a TNS Name for Oracle Database 10*g*

Complete the following procedure to create a TNS name for Oracle Database 10*g*.

NOTE: Install Oracle 10*g* Client Tool on the servers running Oracle Contact Center Anywhere resources.

To create a TNS name for Oracle Database 10g

- On the server running Oracle Contact Center Anywhere resources, edit the `tnsnames.ora` file to point to Oracle Database 10*g* server. Typically, this file resides at the following location:

  ```
  ORACLE_HOME/network/admin
  ```

  For example, if your database server is support-db, where SID is oracle, then add the following record to the `tnsnames.ora` file:

  ```
  CC81 =
     (DESCRIPTION =
        (ADDRESS_LIST =
           (ADDRESS = (PROTOCOL = TCP)(HOST = support-db)(PORT = 1521) )
        )
        (CONNECT_DATA = (SERVICE_NAME = ORACLE)
        )
     )
  ```

Creating an ODBC Data Source for Microsoft SQL Server Database

Complete the following procedure to create an ODBC Data Source for Microsoft SQL Server.

To create an ODBC data source for Microsoft SQL Server database

1. From the Windows Start menu, navigate to Programs, Administrative Tools, and then Data Sources (ODBC).
2. From the ODBC System Administrator System DSN tab, click Add.
3. Select SQL Server from the list, and click Finish.

   NOTE: If this option is not present, install the SQL Server Client Tools.
4. In the Wizard dialog boxes, provide the following information, and click Next where appropriate.

   The following table describes the fields.

Field	Description	Comments
Name	The name of the data source. **NOTE:** For Microsoft SQL Server 2005, the data source name must be in capitals.	The name must not include spaces and must be similar to your database name.
Description	The description of the data source.	For example, Oracle Contact Center Anywhere V8.1 Data Source Name.
Server	The SQL Server that you want to connect to.	For example, support-db.
Login	Select the option that specifies the method that the SQL Server uses to authenticate the login ID.	SQL Server Authentication.
Connect to SQL Server to obtain default settings	Select the check box.	Allows you to provide the user privilege used when creating the database.
Login ID	The SQL Server login ID.	For example, cc81.
Password	The SQL Server Password.	For example, cc81.
Default database	Select the Oracle Contact Center Anywhere database.	For example, cc81.
Client Configuration	Confirm that the Client Configuration selection is set for Transmission Control Protocol/Internet Protocol (TCP/IP) and not for Named Pipes.	None.

5. Click Next until the last screen is displayed, and then click Finish.
6. To test the data source, click Test Data Source.

   NOTE: The test must verify that the connection is correct before you can continue.

Installing Oracle Contact Center Anywhere Server Files and Network Manager

This task is a step in "Roadmap for Installing Oracle Contact Center Anywhere Server Components" on page 27. Complete the following procedure to install the Oracle Contact Center Anywhere Server files, including Network Manager.

NOTE: On Solaris and Linux, for security reasons, do not use a root account to run Oracle Contact Center Anywhere resources. Instead, create another user account to run Oracle Contact Center Anywhere resources. Change the owner of the Oracle Contact Center Anywhere directory to the user running Oracle Contact Center Anywhere resources. Assign write and execute permissions for this directory.

To install Oracle Contact Center Anywhere Server files

1. Create a directory for the Oracle Contact Center Anywhere Server files. For example:
   - On Microsoft Windows: `C:\ccanywhere (on MS Windows)`
   - On Solaris and Linux: `/usr/ccanywhere`
2. From the Oracle Contact Center Anywhere installation package, copy the Oracle Contact Center Anywhere Server directory to the directory that is created in Step 1, and then verify that the following subdirectories exist in the Oracle Contact Center Anywhere directory:
   - bin
   - lib (only on Solaris and Linux)
   - prompt
   - log
   - tmp
   - Network Manager (only for Windows box)
3. Add the path to the location of the `\bin` directory in the Oracle Contact Center Anywhere directory created in Step 1 to your PATH environment variable:
   a. For Windows:
      - On the desktop, right-click My Computer, and select Properties.
      - Select the Advanced tab, and then click Environment Variables.
      - Select the variable PATH, click Edit, and then add the Oracle Contact Center Anywhere directory (for example, `c:\ccanywhere\bin`) to the path.

      NOTE: Type a semicolon (;) before making a new entry.

   b. For Linux or Solaris, you must put both the `ccanywhere/bin` and the `ccanywhere/lib` path in the Oracle Contact Center Anywhere system environment PATH and `LD_LIBRARY_PATH`. You can put them in the startup script file, such as `.profile`.

      The following is an example of a `.profile` file:

```
CCA_INSTALL_PATH=/usr/ccanywhere;export CCA_INSTALL_PATH
LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:$ORACLE_HOME/lib:$CCA_INSTALL_PATH/
lib;export LD_LIBRARY_PATH

PATH=${PATH}:/usr/bin:/usr/ccs/bin:/etc:/opt/sfw/bin:/space/oracle/oracle/
bin:/usr/local/bin:/usr/sbin:/sbin:/space/j2sdk1.5.0_10/bin:/space/
j2sdk1.5.0_10/jre/bin:$CCA_INSTALL_PATH/bin:$CCA_INSTALL_PATH/lib; export
PATH
```

NOTE: Set the ulimit according to the maximum number of processes that the customer can run. The maximum is 65535.

c For Solaris make the following changes to the `/etc/system` file:

```
set rlim_fd_cur=55000
set hires_tick=1
set clock_highres_nonroot=1
set rlim_fd_max=55000
```

Installing TCP/IP Bus

The Oracle Contact Center Anywhere Server uses the TCP/IP Bus connection to communicate with the resources. This is a critical part of Oracle Contact Center Anywhere. You must install the TCP/IP Bus as a service on each host that runs the Oracle Contact Center Anywhere Server. This task is a step in "Roadmap for Installing Oracle Contact Center Anywhere Server Components" on page 27.

Complete one of the following operating system-specific procedures to install the TCP/IP Bus:

- Installing the TCP/IP Bus on Microsoft Windows on page 31
- Installing the TCP/IP Bus on Solaris or Linux on page 32

When finished installing the TCP/IP Bus, you can start the TCP/IP Bus as described in "Starting and Stopping TCP/IP Bus" on page 33. However, note the following:

- In a multi-machine environment, install the same TCP/IP Bus configuration on each machine running Oracle Contact Center Anywhere resources.
- Do not install a TCP/IP Bus for a Web server or Database server.
- Do not start the TCP/IP Bus after it finishes installing; add a Host Manager first before starting the TCP/IP Bus.
- If you change the port of the TCP/IP Bus, then you must restart the database and the Web servers.

Installing the TCP/IP Bus on Microsoft Windows

Complete the following procedure to install the TCP/IP Bus on Microsoft Windows.

To install the TCP/IP Bus on Microsoft Windows

1. Open a command-line window (click Start, Run, type CMD, and then click OK).
2. From the command-line prompt, change the current directory to the Oracle Contact Center Anywhere bin directory.

   By changing the current working directory to the Oracle Contact Center Anywhere bin directory, you can execute the Oracle Contact Center Anywhere server files without specifying the absolute path to those files. For example:

   ```
   C:\ccanywhere\bin
   ```

3. Install the TCP/IP Bus service:

   a. Run: `"tcpipbus -?"` to display the usage:

   ```
   tcpipbus [-install | -remove | -debug] -au
   ```

   where:

   - *`-install`* installs TCP/IP Bus as a Windows service, saving the parameter to the registry
   - *`-remove`* removes TCP/IP Bus from Windows service manager
   - *`-debug`* runs TCP/IP Bus on the console mode
   - Use *`-a<Database alias>`* when installing the bus
   - Use *`-u<Database user>`* when installing the bus

   b. Type the following, making sure that there is no space after `-a` and `-u`:

   ```
   "tcpipbus -install -a<database alias> -u<database user>"
   ```

   NOTE: If using a database server for Oracle9*i* Database or Oracle Database 10*g*, then the database alias and database user must correspond to the same information used to create the database connection in "Creating an ODBC Data Source for Microsoft SQL Server Database" on page 28.

   A prompt appears requesting the ODBC connection password. The password is saved in an encrypted format in the Windows registry.

4. After installing the TCP/IP Bus, a registry entry named, Telephony@Work, is created in the Windows registry at `HKEY_LOCAL_MACHINE\SOFTWARE\Telephony@Work`.

Installing the TCP/IP Bus on Solaris or Linux

Complete the following procedure to install the TCP/IP Bus on Solaris or Linux.

To install the TCP/IP Bus on Solaris or Linux

1. Verify that the LD_LIBRARY_PATH variable includes the path to the location of the Oracle Contact Center Anywhere library directory, and that execute permission has been given to the `/bin` and `/lib` directories.

2 Open a terminal, type cd, and navigate to the Oracle Contact Center Anywhere bin directory.

3 Run the following command:

```
tcpipbus -install -aTNSAlias -uDBUuser
```

where:

a *TNSAlias* is the TNS name saved in tnsname.ora file.

This must match the name you used to create the database connection in "Creating an ODBC Data Source for Microsoft SQL Server Database" on page 28.

b *DBUser* is the database user for Oracle Contact Center Anywhere.

For more information, see parameter &13 in "Creating a New Oracle Database 10g" on page 20.

4 Press Enter and, at the prompt, type the database user password.

5 Verify that the taw_tcpip_bus.cfg file exists in the /etc directory.

6 Change the owner of the taw_tcpip_bus.cfg file to the user name used to run Oracle Contact Center Anywhere resources, and assign write permission.

7 Add a Host Manager.

NOTE: A Host Manager must be added before starting the TCP/IP Bus.

For more information about adding a Host Manager, see *Oracle Contact Center Anywhere Network Manager Guide* and "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34.

Starting and Stopping TCP/IP Bus

TCP/IP Bus is a key element of the Oracle Contact Center Anywhere Server. Using TCP/IP Bus, the Web server and all Oracle Contact Center Anywhere resources can communicate with each other in real time.

NOTE: You must start the TCP/IP Bus before starting any Oracle Contact Center Anywhere resources. However, make sure that you add a Host Manager first before starting the TCP/IP Bus.

This task is a step in "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34. Complete one of the following operating system-specific procedures, as required, to start or stop TCP/IP Bus:

- Starting and Stopping TCP/IP Bus on Microsoft Windows on page 33
- Starting and Stopping TCP/IP Bus on Solaris or Linux on page 34

Starting and Stopping TCP/IP Bus on Microsoft Windows

Complete the following procedure to start or stop the TCP/IP Bus on Microsoft Windows.

To start or stop TCP/IP Bus on Microsoft Windows

1. Open the Services control panel from the Start menu by navigating to Start, Programs, Administrative tools, and then Services.
2. Navigate to the TCP-IP Bus service.
3. Using the menu on the right side, do one of the following:
   - Click Start to start TCP/IP Bus.
   - Click Stop to stop TCP/IP Bus.

Starting and Stopping TCP/IP Bus on Solaris or Linux

Complete the following procedure to start or stop TCP/IP Bus on Solaris or Linux.

To start or stop TCP/IP Bus on Solaris or Linux

1. Log in with a user account that is allowed to run Oracle Contact Center Anywhere server resources.
2. To start TCP/IP Bus and run it as a background process, use the following run command:

   ```
   nohup ./tcpipbus &
   ```

3. To stop TCP/IP Bus:
   a. Find the process ID of the running TCP/IP Bus by entering the following command:

      ```
      ps -e | grep tcpipbus
      ```

   b. Then stop the TCP/IP Bus process using the following command, where PID is the process of the ID of the running TC/IP Bus:

      ```
      kill -9 <PID>
      ```

Process of Configuring Oracle Contact Center Anywhere Resources

The Oracle Contact Center Anywhere Server has separate functional areas or resources. Each Oracle Contact Center Anywhere resource is responsible for delivering specific functionality. For example, the call center resource manages all of the phone call functionality.

Use Oracle Contact Center Anywhere Network Manager to configure, start, and stop Oracle Contact Center Anywhere resources. This process describes how to add and run all resources required by Oracle Contact Center Anywhere using Oracle Contact Center Anywhere Network Manager.

This process is a step in "Roadmap for Installing Oracle Contact Center Anywhere Server Components" on page 27. To configure Oracle Contact Center Anywhere resources, perform the following tasks:

1. Set up Oracle Contact Center Anywhere Network Manager to manage Oracle Contact Center Anywhere resources by completing the following tasks:
   a. Creating an ODBC Data Source for Oracle Database 9i or 10g on page 35

b Setting Up Oracle Contact Center Anywhere Network Manager to Manage Oracle Contact Center Anywhere Resources on page 36

2 Add shared and dedicated server resources for Oracle Contact Center Anywhere as described in "Adding a Host Manager and Server Resources (Shared and Dedicated)" on page 37.

3 Carry out additional configuration on some Oracle Contact Center Anywhere resources (for example, the Call Center, Redirect Server, and SMSC Gateway Server) after adding them to Host Manager, as described in "Starting and Stopping TCP/IP Bus" on page 33.

4 Start TCP/IP Bus as described in "Starting and Stopping TCP/IP Bus" on page 33.

5 Start Oracle Contact Center Anywhere resources as described in "Starting and Stopping Oracle Contact Center Anywhere Resources" on page 59.

Creating an ODBC Data Source for Oracle Database 9*i* or 10*g*

This task is a step in "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34. Complete the following procedure to create an ODBC DSN for Oracle Database 9i or 10*g*.

NOTE: A new database connection library (`libtawdbapi.so.ForOracle10g`) has been released for Oracle Database 10*g* on Solaris. This database connection library needs to be renamed to `libtawdbapi.so` when installing.

To create an ODBC data source for Oracle Database 9i or 10g

NOTE: Configure this on the Windows box that is used for the Network Manager.

1 From the Windows Start menu, navigate to Programs, Administrative Tools, and then Data Sources (ODBC).

2 From the ODBC System Administrator System DSN tab, click Add.

3 Select Oracle in OraDb10g_Home1 from the list, and click Finish.

NOTE: If this option is not available, install Oracle 10g Client Tools.

4 In the Wizard dialog boxes, complete the following fields, clicking Next where appropriate.

The following table describes the fields.

Field	Description	Comments
Data Source Name	The name of the data source.	The name cannot include spaces and must be similar to your database name.
Description	A description of the data source.	For example, Oracle Contact Center Anywhere V8.1 Data Source Name.

Field	Description	Comments
TNS Service Name	The TNS name containing the connection to the database server.	For example, support-db.
UserID	The name of the user on Oracle Database 10*g*. **TIP:** See parameter &13 in the database creation script file described in "Creating a New Oracle Database 10g" on page 20.	For example, cc81.

5 To verify that the connection is working, click Test Connection.

6 Click OK.

Setting Up Oracle Contact Center Anywhere Network Manager to Manage Oracle Contact Center Anywhere Resources

This task is a step in "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34. Complete the following procedure to set up Oracle Contact Center Anywhere Network Manager to manage Oracle Contact Center Anywhere resources.

To set up Oracle Contact Center Anywhere Network Manager to manage Oracle Contact Center Anywhere resources

1 From Oracle Contact Center Anywhere Network Manager installation directory (such as, `C:\ccanywhere\NetworkManager`), run the executable file `NetworkManager813.exe`.

2 Log in using the information you specified during ODBC setup, where for example:

- Alias is cc81
- User is cc81
- Password is cc81

NOTE: If you wish to log files (for example, when experiencing problems while running a service), then the log directory must already exist, for example: (`ccanywhere\Network Manager\log`).

3 From the Database tab, configure the Database Connections properties using the same information specified during ODBC setup, where for example:

```
Alias is cc81
User is cc81
Password is cc81
Driver is SQL
```

- For master and backup, configure the user, password and driver, and URL for both the master and backup.
- For SMSCG, configure the class name and URL for both the master and backup.

4 From the System tab, which specifies the values used for the File Transfer connection, complete the fields described in the following table, and then click OK.

Field	Description
Server Host	Type the name of the computer where Oracle Contact Center Anywhere will store uploaded files.
Server Root Path	Type a valid, existing path on the computer specified in the Server Host text box. Oracle Contact Center Anywhere will create a directory structure for storing transferred files. Use a slash mark (/) to access the root directory of the FTP server.
File size limit (KB)	Type the maximum file size (in kilobytes) allowed for Oracle Contact Center Anywhere prompt recordings.
FTP Username	Type a user name for the computer specified in the Server Host text box. **NOTE:** The user must have the necessary permissions for FTP.
FTP Password	Type a password for the user specified in the FTP Username text box.

Adding a Host Manager and Server Resources (Shared and Dedicated)

This task is a step in "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34.

Before adding shared and dedicated resources, add the Host Manager. Each server running Oracle Contact Center Anywhere resources requires a running Host Manager. The Host Manager creates the directories that are specific to the server that it is running for storing and retrieving voice files, greetings, chat, email history, and so on. The Host Manager also assists in the File Transfer process by helping to upload and download the required files from the File Server to the server that it is running.

To add a Host Manager and server resources (shared and dedicated)

1 Complete the Oracle Contact Center Anywhere system configuration settings.

For more information about completing the Oracle Contact Center Anywhere system configuration settings, see *Oracle Contact Center Anywhere Network Manager Guide.*

2 Add a Host Manager using:

a Either the Add Host Manager dialog box, which automatically appears after the Oracle Contact Center Anywhere system settings are configured;

b Or, the Network Manager as follows:

- In the Hosts view in Network Manager, click View by Host to open the Host View.
- From the Resources menu, select Add Host Manager.

c Click Save.

Network Manager opens the Default Resources dialog box. Resources that you add using the Default Resources dialog box adopt the parameters that you set for the Host Manager.

If you decide not to add resources using the Default Resources dialog box, then you can use Network Manager at a later time to add them.

For more information about adding a host manager, see the topic about installing a Host Manager in *Oracle Contact Center Anywhere Network Manager Guide*.

3 Add shared resources using either:

a The Default Resources dialog box as follows:

- From the Shared tab on the Default Resources dialog box, select the shared resources that you want to add (according to your server).
- Then click Save.

b Or, the Network Manager as follows:

- In Network Manager, click View by Host to open the Host View.
- From the Resources menu, select Add Resource.

The following table describes the shared resources that can be added.

Resource	Description
Call Center Server	This resource serves as the interface between the telephony server resources and the rest of the Oracle Contact Center Anywhere system. The Call Center Server is also responsible for controlling all voice and fax communications as well as IVR routing functionality. For more information about the Call Center Server, see "Configuring the Call Center Resource" on page 41 and *Oracle Contact Center Anywhere Network Manager Guide*.
CTI Bridge (for ATM configurations only)	This resource allows the bridging of calls across hardware resources in the Dialogic environment. For more information about the CTI Bridge, see "Configuring the CTI Server Resource" on page 46 and *Oracle Contact Center Anywhere Network Manager Guide*.
License Server	This resource performs real-time tracking of the number of active Interactions for each Company (and the entire system), and enforces the Interaction limits imposed by each Company's license. For more information about the License Server, see *Oracle Contact Center Anywhere Network Manager Guide*.

Resource	Description
MCU Server	This resource supports voice conferencing and call monitoring. For more information about the MCU Server, see "Configuring the MCU Server Resource" on page 45 and *Oracle Contact Center Anywhere Network Manager Guide*.
Music Server	This resource provides RTP music stream to callers on hold and callers in queue. For more information about the Music Server, see *Oracle Contact Center Anywhere Network Manager Guide*.
Redirect Server	This resource redirects SIP INVITE messages to a Call Center Server with available RTP Streams. It is used for load balancing. For more information about the Redirect Server, see "Configuring the Redirect Server Resource" on page 44 and *Oracle Contact Center Anywhere Network Manager Guide*.
SNMP Agent	This resource monitors and provides (to a connected SNMP Browser) data for all Oracle Contact Center Anywhere objects defined in the TelephonyAtWork Management Information Base (taw.mib). For more information about the SNMP Agent, see *Oracle Contact Center Anywhere Network Manager Guide*.
Unified Messenger	This resource sends and receives voicemail, fax, and email messages to and from mail servers and agents. For more information about the Unified Messenger resource, see *Oracle Contact Center Anywhere Network Manager Guide*.
MP3 Converter	This resource converts WAV file quality assurance recordings to MP3 format. This service must be loaded on the File Server Host. For more information about the MP3 Converter, see "Configuring the MP3 Server Resource" on page 45 and *Oracle Contact Center Anywhere Network Manager Guide*.
SMSC Gateway	This resource provides support for the SMS inbound ACD Media type. For more information about the SMSC Gateway, see "Configuring the SMSC Gateway Server Resource" on page 47 and *Oracle Contact Center Anywhere Network Manager Guide*.

Resource	Description
Other resources include	■ Dial Plans ■ Dialing Pattern ■ Local Dial Pattern ■ Local Number Pattern ■ Dial Plan Group For more information about these resources, see *Oracle Contact Center Anywhere Network Manager Guide*.

4 Add dedicated resources using either:

a The Default Resources dialog box as follows:

- From the Dedicated tab, select the company from the list to which you want to add resources.

  NOTE: By default, a company named ASP Services already exists. This company is automatically created when creating the database.

- Select the check box for each dedicated resource that you want to add, then click Save.

b Or, the Network Manager as follows:

- In Network Manager, click View by Company.
- From the Resources menu, select Add Resource.

For more information about adding the following dedicated resources, see *Oracle Contact Center Anywhere Network Manager Guide*:

- ACD Server Resource
- CTI Server Resource
- Chat Server Resource
- Email Server Resource
- Internet Manager Server Resource
- IVR Server Resource
- Schedule Server Resource
- Predictive Server Resource
- Stats Server Resource
- SMS Server Resource

Configuring Resources Using Oracle Contact Center Anywhere Network Manager

This task is a step in "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34. Some resources require additional configuration after you add them to Host Manager. The following topics describe how to configure these resources, using Oracle Contact Center Anywhere Network Manager:

- Configuring the Call Center Resource on page 41
- Configuring the Redirect Server Resource on page 44
- Configuring the MP3 Server Resource on page 45
- Configuring the MCU Server Resource on page 45
- Configuring the CTI Server Resource on page 46
- Configuring the SMSC Gateway Server Resource on page 47

When adding or modifying server information, you must restart the resource for the changes to take effect. For more information about starting and stopping server resources, see "Starting and Stopping Oracle Contact Center Anywhere Resources" on page 59.

Configuring the Call Center Resource

The call center resource serves as the interface between the telephony server resources and the rest of the contact center system. It is responsible for controlling all voice and fax communications as well as integrated voice response (IVR) routing capabilities. Complete the steps in the following procedure to configure a basic VoIP call center resource. To add an SMSC Gateway Server resource, see "Adding a Host Manager and Server Resources (Shared and Dedicated)" on page 37.

To configure the call center Resource

1. From Oracle Contact Center Anywhere Network Manager, select the call center resource that you want to modify.
2. From the Resources menu, select Modify Resource.
3. From the Resource Information dialog box, click Advanced.
4. From the Call Center Advanced dialog box, complete the fields, and then click Save.
5. Click Configure to continue the configuration.
6. Complete the applicable fields.

   The following table describes the fields.

Field	Description
Hardware	Select TAW-VoIP.

Field	Description
Ext length	The length of the extension number depends upon the customer. Typically, this value is 4.
Dial Out	The number to dial outside the company. Typically, this value is 9.
Pbx Prefix	Use this field only if connections to an external PBX (Private Branch Exchange) are required.
ANI Validation Size	This value depends upon the country. Typically, for the United States, it is 10. For more information about country codes, see *Oracle Contact Center Anywhere Network Manager Guide*.
Auto Answer Call	If this check box is not selected, the call center rejects calls for undefined projects. If this check box is selected, the call center accepts calls for undefined projects and plays a prompt that the service is unavailable.
Country Code	In the United States, for example, this value is 1. For more information about country codes, see *Oracle Contact Center Anywhere Network Manager Guide*.
Nation Prefix	This is the prefix for national dialing. In the United States, for example, this value is 1.
Int Prefix	This is the international dialing prefix.In the United States, for example, this value is 011.
Private Prefix	Leave this field blank.
Strip Country Code (check box)	Select this check box to remove the country code from the ANI.
Local Patterns	Use this field to set up the local patterns for the call center. The path is: Resources, then Call Center, then Local Patterns. For more information on local patterns, see *Oracle Contact Center Anywhere Network Manager Guide*.
Dial Plan Group	Use this field to assign the defined dial plan group to a specific call center. The path is: Resources, then Call Center, then Dial Plan Groups. For more information on dial plans, see *Oracle Contact Center Anywhere Network Manager Guide*.
Description	A description of the call center's configuration.

7 Click Save, and then Configure.

8 From the VoIP dialog box, complete the fields.

The following table describes the general VoIP Interface configuration fields.

Field	Description
Host	The IP address of the call center host. **NOTE:** If this value is incorrect, only one-way audio is available.
Start Port	Represents the starting point in the range of ports from which a call center uses to pass calls. Typically, the value is 8000.
Payload	MuLaw is the typical choice. The G.729 codec requires a special configuration. For more information on configuring the G.729 protocol, see Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77.
Frame Per Second	This value is always 160.
SIP Port	5060

9 From the VoIP dialog box, double-click the area beneath Name to continue the configuration of the call center.

10 Complete the applicable fields.

The following table describes the fields.

Field	Description
Name	Specify the component that you are installing, for example, gateway or agent channels.
Interface	Specify which interface you are installing and what information your gateway is passing to you. The following options are available: ■ SIP Gateway ■ SIP ■ H323 Gateway ■ H323
Number of Channels	Set this value to the number of channels the call center plans to use. Reference the sizing recommendations for the particular vendor equipment for the appropriate number.
Gateway IP Address	The address of the gateway that is sending the calls.

Field	Description
Gateway Type	Select a gateway type from one of the following: ■ Unknown ■ Audio codes ■ Quintum ■ Cisco
Default DNIS	Enter the default dialed number identification service (DNIS) to route calls if the DNIS is not included or errors are encountered with the incoming call.
SIP Port	5060
Enable Takeback	Enter the appropriate command string for the carrier in the Command entry box. If this option is identified, the carrier feature to take back and transfer on the same trunk is activated. A second channel is not used for this transfer. **NOTE:** This service must be activated with your carrier.
ANI/DNIS Format	Define the DNIS format expected for this Call Center. The Size, Prefix and Suffix are specified.
Outbound	Select this field to allow outbound calling from the call center
Predictive	Select this field to allow predictive calling from the call center.
PBX	Select this field to allow the call center to act as a PBX.

For more information about the Call Center Server resource, see *Oracle Contact Center Anywhere Network Manager Guide*.

Configuring the Redirect Server Resource

The Redirect Server routes calls to multiple call centers for load balancing. You can specify that all inbound calls be directed to a specific group of call centers.

To configure the Redirect Server resource

1. From Oracle Contact Center Anywhere Network Manager, select Redirect Server as the resource that you want to modify.
2. From the Resources menu, select Modify Resource.
3. From the Resource Information dialog box, click Advanced.
4. From the Redirect Server dialog box, select the call center from the Call Centers Unused list, and move it to the Call Centers Used list to specify the call center to which calls are routed.

5 Enter the Server IP Address.

This is the IP address of the server where the Redirect Server is installed.

6 Click Save.

For more information about the Redirect Server resource, see *Oracle Contact Center Anywhere Network Manager Guide*.

Configuring the MP3 Server Resource

The MP3 Server automatically converts all WAV files listed in the QualityControl and ClientHistory tables to MP3 format. This in turn reduces the recording size to facilitate quicker replay to the supervisors and agents. Also, reduces the File Server space requirements for recordings.

NOTE: Before configuring the MP3 Server, you must install an MP3 converter on the same host as the FTP server. Reference the sizing requirements for the MP3 converter for quality recording rates that are compliant with MP3 converter capacity.

To configure the MP3 Server resource

1 From Oracle Contact Center Anywhere Network Manager, select MP3 Server as the resource to modify.

2 From the Resources menu, select Modify Resource.

3 From the Resource Information dialog box, click Advanced.

4 From the MP3 Server dialog box, complete the fields as described in the following table, and then click Save.

Field	Description
Enable MP3 Encoding	Select to activate the MP3 conversion option.
Command	Insert the MP3 conversion executable file with appropriate options.
FTP Path	Identify the path to store converted files relative to the FTP path.

For more information about the MP3 Server resource, see *Oracle Contact Center Anywhere Network Manager Guide*.

Configuring the MCU Server Resource

The MCU Server manages conference calls in Oracle Contact Center Anywhere. Complete the steps in the following procedure to configure the MCU Server resource.

To configure the MCU Server resource

1. From Oracle Contact Center Anywhere Network Manager, select MCU Server as the resource that you want to modify.
2. From the Resources menu, select Modify Resource.
3. From the Resource Information dialog box, click Advanced.
4. From the MCU Server dialog box, complete the fields as described in the following table, and then click Save.

Field	Description
IP Address	The IP address of the server hosting the MCU service. If there is more than one Network Interface card, you must select a single IP address to use.
Payload	Mulaw (payload type) For more information on configuring the G.729 protocol, see Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77.
Frame per Second	Typically, this value is 160.
SIP Port	The default setting for the SIP Port is 5070.
Number of Channels	Enter the number of channels that are handled by the MCU Server.
Start RTP Port	Enter the starting port of the RTP ports.
End RTP Port	The ending port is calculated. Number of Channels x 10 plus the start RTP port.
Description	Enter text to help identify the MCU service.

For more information about the MCU Server resource, see *Oracle Contact Center Anywhere Network Manager Guide.*

Configuring the CTI Server Resource

The Computer Telephony Interface (CTI) Server serves as the interface between the telephone network resources (the call center) and the software interface. In effect, this resource manages all of the available telephony resources. While the call center provides the interface that allows access to the resources, the CTI Server determines what to do with those resources.

Configuring the CTI Server resource is similar to configuring the Redirect resource. However, if you do not select any call centers in the Call Centers Unused and Call Centers Used dialog boxes, Oracle Contact Center Anywhere will use all of the call centers in the list by default.

NOTE: If you select a call center, then the CTI server uses only that call center.

To configure the CTI Server resource

1. From Oracle Contact Center Anywhere Network Manager, select CTI Server as the resource to modify.
2. From the Resources menu, select Modify Resource.
3. From the Resource Information dialog box, click Advanced.
4. From the Call Centers (tab) dialog box, select the call center that is dedicated to the CTI server from the Call Centers Unused list, and move it to the Call Centers Used list.

For more information about the CTI Server resource, see *Oracle Contact Center Anywhere Network Manager Guide*.

Configuring the SMSC Gateway Server Resource

The SMS Server consists of two components: the SMS Server which is a dedicated resource, and the SMSC Gateway Server which is a shared resource. You must configure both servers to support the SMS inbound ACD Media type:

- The SMSC Gateway Server handles all SMS messages coming from outside Oracle Contact Center Anywhere, and acts as an interface to send message responses back to the location outside Oracle Contact Center Anywhere:
  - To add an SMSC Gateway Server resource, see "Adding a Host Manager and Server Resources (Shared and Dedicated)" on page 37.
  - Additional configuration is required after adding the SMSC Gateway Server resource to the Host Manager, as described in the following procedure.

    NOTE: JRE 1.5.0_10 is required to configure SMSC Gateway Server resource.
  - The SMSC Gateway Server resource uses a JDBC connection to access the Oracle Contact Center Anywhere database. To configure a JDBC connection for the SMSC Gateway Server resource, see "Creating a JDBC Connection Pool on Oracle Application Server 10g" on page 62.
- The SMS Server receives SMS messages sent by the SMSC Gateway Server, passing them to the Interaction Manager (IM) Server. The IM Server, in turn, distributes each message received to a workgroup agent to handle the message. Responses are returned by the agent to the IM Server, passed to the SMS Server, and then forwarded to the SMSC Gateway Server:
  - To add an SMS Server resource, see "Adding a Host Manager and Server Resources (Shared and Dedicated)" on page 37.
  - No additional configuration is required after adding the SMS Server resource to the Host Manager.

To configure the SMSC Gateway Server resource

1. From Oracle Contact Center Anywhere Network Manager, select SMSC Gateway Server as the resource to modify.
2. From the Resources menu, select Modify Resource.

3 From the Resource Information dialog box, click Advanced.

4 From the SMSC Gateway Server dialog box, complete the fields as described in the following table, click OK, and then Save.

Field	Description
Address	The IP address or hostname of the SMSC.
Port	The port where the SMPP protocol is running.
Username	The user name provided by the SMSC service provider.
Password	The password provided by the SMSC service provider.

For more information about the SMSC Gateway Server and SMS Server resources, see *Oracle Contact Center Anywhere Network Manager Guide*.

SMSC Gateway Server Configuration File

The SMSC Gateway Server communicates using the standard Short Message Peer-to-Peer (SMPP) protocol, which includes a configuration file (SmsConfig.txt) for customizing interoperability settings. Copy this configuration file to the `C:\<ccanywhere install location>\bin` directory.

An example SmsConfig.txt configuration file follows. Table 4 on page 49 describes the parameters that can be configured for SMS.

```
Submit System ID:smppclient
Submit Password:password
Submit System Type:MHS
Submit Bind Ton:0
Submit Bind Npi:0
Submit Address Range:0
Submit Source Ton:0
Submit Source Npi:0
Submit Source Address:0
Submit Destination Ton:0
Submit Destination Npi:0
Submit Destination Address:0
Receive System ID:0
Receive Password:0
Receive System Type:MHS
Receive Bind Ton:0
Receive Bind Npi:0
Receive Address Range:0
Receive Source Ton:0
Receive Source Npi:0
Receive Source Address:0
Receive Destination Ton:0
Receive Destination Npi:0
Receive Destination Address:0
```

NOTE: The SmsConfig.txt configuration file is optional; if it does not exist, the SMSC Gateway Server uses default SMS configuration parameter values.

Table 4. SMS Configuration Parameters

Parameter Name	Definition
Submit System ID	User name to connect to the SMSC. Configure this parameter if you prefer to override the user name given through Network Manager.
Submit Password	Password to connect to the SMSC. Configure this parameter if you prefer to override the password given through Network Manager.
Submit System Type	Type of ESME system; by default, it is empty.
Submit Bind Ton	This value overrides the default Ton (0) when binding with SMSC.
Submit Bind Npi	This value overrides the default Npi (0) when binding with SMSC.
Submit Address Range	This value overrides the default Address Range when binding with SMSC.
Submit Source Ton	This value overrides the destination Ton in the message received, and submits the message response with the value given in Submit Source Ton.
Submit Source Npi	This value overrides the destination Npi in the message received, and submits the message response with the value given in Submit Source Npi.
Submit Source Address	This value overrides the destination address in the message received, and submits the message response with the value given in Submit Source Address.
Submit Destination Ton	This value overrides the source Ton in the message received, and submits the message response with the value given in Submit Destination Ton.
Submit Destination Npi	This value overrides the source Npi in the message received, and submits the message response with the value given in Submit Destination Npi.
Submit Destination Address	This value overrides the source address in the message received, and submits the message response with the value given in Submit Destination Address.
Receive System ID	User name to connect to the SMSC. Configure this parameter if you prefer to override the user name given through Network Manager.
Receive Password	Password to connect to the SMSC. Configure this parameter if you prefer to override the password given through Network Manager.
Receive System Type	Type of ESME system; by default, it is empty.
Receive Bind Ton	This value overrides the default Ton (0) when binding with SMSC.
Receive Bind Npi	This value overrides the default Npi (0) when binding with SMSC.

Table 4. SMS Configuration Parameters

Parameter Name	Definition
Receive Address Range	This value overrides the default Address Range when binding with SMSC.
Receive Source Ton	This value replaces the original source Ton value present in the message received with the configured value.
Receive Source Npi	This value replaces the original source Npi value present in the message received with the configured value.
Receive Source Address	This value replaces the original source Address present in the message received with the configured value.
Receive Destination Ton	This value replaces the original Destination Ton value present in the message received with the configured value.
Receive Destination Npi	This value replaces the original Destination Npi value present in the message received with the configured value.
Receive Destination Address	This value replaces the original Destination Address present in the message received with the configured value.

Configuring File Transfer Using Oracle Contact Center Anywhere Network Manager

File Transfer can be configured using Oracle Contact Center Anywhere Network Manager. The following File Transfer options are available from Oracle Contact Center Anywhere Network Manager:

- FTP
- FTPS (FTP using Secure Sockets Layer, or SSL)
- SFTP (Secure Shell FTP)
- File Copy

You must configure both Web file transfer and server file transfer options for the Oracle Contact Center Anywhere system to be fully operational:

- The Web file transfer option transfers all transcripts and recordings between the Web, File Server, and remote database options.
- The server file transfer option transfers all transcripts and recordings between backend resources (databases), the Host Manager, and File Server.

NOTE: If you are upgrading from 8.1.2, then the existing FTP configuration is migrated. All other previous versions will not be migrated. The FTP configuration must be recreated.

A transfer is considered *external* if the target file server is located outside Oracle Contact Center Anywhere, for example, at a third-party location or on another host. External configuration is only used for the Recording Archive of the Data Retention feature; all other transfers are considered *internal*.

For more information about configuring FTP using Oracle Contact Center Anywhere Network Manager, see the following:

- Configuring Standard FTP on page 51
- Configuring Other File Transfer Types on page 54
- Configuration Parameter Settings for FTP on page 54

Configuring Standard FTP

Many configurations use standard FTP access, along with internal access. You must configure both Web file transfer and server file transfer when configuring the standard FTP option, as described in the following procedures:

- Configuring Standard FTP for Web File Transfer on page 52
- Configuring Standard FTP for Server File Transfer on page 53

NOTE: It is recommended that migrated customers review existing FTP settings before proceeding.

Configuring Standard FTP for Web File Transfer

Complete the following procedure to configure standard FTP for Web file transfer.

To configure standard FTP for Web file transfer

1. From Oracle Contact Center Anywhere Network Manager, select System, then Web File Transfer - Web File Transfer Internal.
2. On the Web File Transfer Configuration dialog box, select FTP from the list.
3. Complete the applicable fields.

   The following table describes the fields.

Field	Description
remoteHost	Enter the IP address or name of the remote host.
remotePort	21 (default value)
initialRemoteDirectory	/ (default value)
username	Enter the FTP user name.
password	Enter the password corresponding to the FTP user name.
connectMode	passive (default value)
	active

   Table 5 on page 52 describes the complete list of FTP configuration settings.

4. Click OK to save your changes.
5. Restart all Host Managers and Web servers for the changes to take effect.

FTP Configuration Parameter Settings

Table 5 describes the configuration parameter settings for FTP.

Table 5. FTP Configuration Parameter Settings

Parameter Name	Parameter Value	Description
protocol	ftp	The protocol used to interact with the remote host.
factoryClass	com.taw.util.filetransfer.enterprisedt.FTPClientFactory	The class that is responsible for creating file transfer client instances.
remoteHost	Enter the IP address or name of the remote host.	The IP address or name of the remote host.

Table 5. FTP Configuration Parameter Settings

Parameter Name	Parameter Value	Description
remotePort	21 (default value)	The port to connect to on the remote host.
initialRemoteDirectory	/ (default value)	The initial remote directory that all connections change to immediately on connection.
timeout	30000 (default value)	Sets the timeout (in milliseconds) for socket connections.
username	Enter the FTP user name.	The name of the FTP user.
password	Enter the password corresponding to the FTP user name.	The password of the FTP user.
connectMode	passive (default value)	The data transfer mode where the client initiates the connection.
	active	The data transfer mode where the remote host initiates the connection.

Configuring Standard FTP for Server File Transfer

Complete the following procedure to configure standard FTP for server file transfer.

To configure standard FTP for server file transfer

1. From Oracle Contact Center Anywhere Network Manager, select System, then Server File Transfer - Server File Transfer Internal.
2. On the Server File Transfer Configuration dialog box, select FTP from the list.
3. Complete the applicable fields.

   The following table describes the fields.

Field	Description
remoteHost	Enter the hostname or IP address of your File Server.
remotePort	Port 21 is the default setting for the remotePort field.
initialRemoteDirectory	Enter a slash mark (/) or what you copied from the system configuration.
username	Enter the FTP user name.
password	Enter the password corresponding to the FTP user name.
connectMode	Specify either active or passive.

Table 5 on page 52 describes the complete list of FTP configuration settings.

4 Click OK to save your changes.

5 Restart all Host Managers and Web servers for the changes to take effect.

Configuring Other File Transfer Types

Configuration of FTPS and SFTP follows the same steps as outlined for "Configuring Standard FTP" on page 51, however, configuration parameter settings are different. Configure both Web file transfer and server file transfer as appropriate for your configuration:

- **FTPS Configuration.** Configuration parameter settings for FTPS are described in Table 6 on page 55.

  NOTE: FTPS is not available for Server File transfer.

- **SFTP Configuration.** Configuration parameter settings for SFTP are described in Table 7 on page 57.

  Note the following:

  - SFTP will perform as a secure copy without the secure shell.
  - All authentication types must provide a user name as set up on the server.
  - In public key authentication, Secure Shell clients and servers authenticate each other using public and private key pairs where each client and server must have access to their own private key and to each others public key (unless server validation is disabled). Make sure that server public keys are loaded by specifying knownHostsFilePath or serverKeyfilePath. Client public keys must be registered with the Secure Shell server, typically by copying it to the server's authorized_keys file.

Configuration Parameter Settings for FTP

This topic describes the configuration parameter settings for FTP, FTPS, and SFTP:

- FTP Configuration Parameter Settings on page 52
- FTPS Configuration Parameter Settings on page 55
- SFTP Configuration Parameter Settings (Secure Shell) on page 57

FTPS Configuration Parameter Settings

Table 6 describes the configuration parameter settings for FTPS (FTP using SSL).

Table 6. FTPS Configuration Parameter Settings

Parameter Name	Parameter Value	Description
protocol	ftps	The protocol used to interact with the remote host.
factoryClass	com.taw.util.filetransfer.enterprisedt.FTPSClientFactory	The class that is responsible for creating file transfer client instances.
remoteHost	Enter the IP address or name of the remote host.	The IP address or name of the remote host.
remotePort	21 (default value)	The port to connect to on the remote host.
initialRemoteDirectory	/ (default value)	The initial remote directory that all connections change to immediately on connection.
timeout	30000 (default value)	Sets the timeout (in milliseconds) for socket connections.
username	Enter the FTP user name.	The name of the FTP user.
password	Enter the password corresponding to the FTP user name.	The password of the FTP user.
connectMode	passive (default value)	The data transfer mode where the client initiates the connection.
	active	The data transfer mode where the remote host initiates the connection.
securityMechanism	auth_tls	Used to ask for SSL negotiation without implicitly protecting the data connection.
startWithClearDataChannels	false (default value)	By default, the client switches to private data channels immediately after connecting to the remote host. This flag stops this behavior if set to true.

Table 6. FTPS Configuration Parameter Settings

Parameter Name	Parameter Value	Description
allowBasicConstraints NonCA	false (default value)	Enabling this flag permits non-CA certificates to have basic constraints.
disableSessionResumption	false (default value)	Session resumption is a feature of SSL/TLS that speeds up the establishment of secure connections by caching certain cryptographic parameters during the first connection, so that they can be used in subsequent connections. This is useful for FTPS, as it opens a new connection for each file transfer. Occasionally, it can cause problems when establishing secure connections on data channels; hence this flag is provided for disabling the feature, and forcing a full exchange of cryptographic data for every file.
disableSSLClosure	false (default value)	Disables standard SSL closure by forcing SSL connections to close in a non-standard manner on both data and control channels. This flag is useful if it is found that the client or server (or both) freezes after a data transfer or when the FTP connection is closed.
disableWaitOnClose	false (default value)	If set, stops the client from waiting for an SSL closure acknowledgement on both the control channel and the data channel. This flag is useful if it is found that the client freezes after a data transfer, or when the FTP connection is closed.
enableServerValidation	No default value	If server validation is active, the identity of the server as presented by the certificate (SSL) is verified by checking a certificate store. **NOTE:** In production systems, server validation must always be active.

Table 6. FTPS Configuration Parameter Settings

Parameter Name	Parameter Value	Description
rootCertificatesPath	No default value	The full path of the root certificates that the remote host certificate will be validated against.
clientCertificatePath	No default value	The full path of the PEM file containing the client certificate and private key. This is required if client authentication is to be used.
clientCertificatePassphrase	No default value	The pass phrase for the client certificate.

SFTP Configuration Parameter Settings (Secure Shell)

Table 7 describes the configuration parameter settings for SFTP (Secure Shell FTP).

Table 7. SFTP Configuration Parameter Settings

Parameter Name	Parameter Value	Description
protocol	sftp	The protocol used to interact with the remote host.
factoryClass	com.taw.util.filetransfer.enterprisedt.SFTPClientFactory	The class that is responsible for creating file transfer client instances.
remoteHost	Enter the IP address or name of the remote host.	The IP address or name of the remote host.
remotePort	22 (default value)	The port to connect to on the remote host.
initialRemoteDirectory	/ (default value)	The initial remote directory that all connections change to immediately on connection.
timeout	30000 (default value)	Sets the timeout (in milliseconds) for socket connections.
username	Enter the FTP user name.	The name of the FTP user.
password	Enter the password corresponding to the FTP user name.	The password of the FTP user.

Table 7. SFTP Configuration Parameter Settings

Parameter Name	Parameter Value	Description
enableServerValidation	No default value	If server validation is active, the identity of the server as presented by the public key (Secure Shell) is verified by checking a known host's file or a server key file. **NOTE:** In production systems, server validation must always be active.
knownHostsFilePath	No default value	The full path to the file containing public keys that the server public key will be validated against. Public keys are typically stored in a file named *known_hosts*. This parameter is mutually exclusive with *serverKeyfilePath*.
serverKeyfilePath	No default value	Server public keys can be maintained in their own individual key files and used for server validation without adding them to the *known_hosts* file. Both OpenSSH and SECSH standard formats are supported. This parameter is mutually exclusive with *knownHostsFilePath*.
authenticationType	password	Sets up client validation using a username and password.
	publickey	Sets up client validation using a private and public key-pair.
	publickeyandpassword	Sets up client validation using a private and public key-pair, followed by password authentication.
clientKeyfilePath	No default value	The full path of the private key file.
clientKeyfilePassphrase	No default value	(Optional) The pass phrase of the private key file.
disableWaitForChannelClose	false (default value)	Disables waiting for an acknowledgement from the server when the client has requested that a channel be closed. Set this parameter to true to disable the wait.

Table 7. SFTP Configuration Parameter Settings

Parameter Name	Parameter Value	Description
maxPacketSize	No default value	Sets the maximum packet size. Set this parameter if errors similar to the following are received: `packet too long: xxxx` Set maxPacketSize to a size smaller than the size flagged in the error message.

Starting and Stopping Oracle Contact Center Anywhere Resources

This task is a step in "Process of Configuring Oracle Contact Center Anywhere Resources" on page 34. Complete the following procedure to start or stop Oracle Contact Center Anywhere resources.

NOTE: You must install and start TCP/IP Bus before starting any Oracle Contact Center Anywhere resources. For more information about installing and starting TCP/IP Bus, see "Installing TCP/IP Bus" on page 31 and "Starting and Stopping TCP/IP Bus" on page 33.

To start or stop Oracle Contact Center Anywhere resources

1. From Oracle Contact Center Anywhere Network Manager, select the resource that you want to start.
2. Click Go.

   If Go is not available, then the resource is already running and you must click Go to Stop it.

5 Configuring and Deploying Oracle Contact Center Anywhere Web Applications

This chapter describes how to configure and deploy Oracle Contact Center Anywhere Web applications on WebLogic 10.0MP1 and 10.3 and Oracle Application Server 10*g*. It includes the following topics:

- Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g on page 61
- Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic on page 69
- Configuring Supervisor Reporting for Oracle Contact Center Anywhere on page 75
- Initiating Data Retention on page 76

Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10*g*

This topic describes how to set up and deploy Oracle Contact Center Anywhere Web applications on Oracle Application Server 10*g* Release 3. The same process can be used for Oracle Database 10*g* and Oracle9*i* Database.

Before you begin, make sure that Sun JDK 1.5.0_10 is installed on the Web server.

To set up and deploy Oracle Contact Center Anywhere Web applications on Oracle Application Server 10*g*, perform the following tasks for both regular and ReadOnly users:

1. Creating a JDBC Connection Pool on Oracle Application Server 10g on page 62
2. Creating a JDBC Data Source on Oracle Application Server 10g on page 63
3. Deploy the following Oracle Contact Center Anywhere Web applications (TAW-general.war, cca.war) on Oracle Application Server 10*g* when you have finished creating a JDBC connection pool and JDBC data source on Oracle Application Server 10*g*:
   a. Deploying Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10g on page 64.
   b. Deploying Oracle Contact Center Anywhere cca.war on Oracle Application Server 10g on page 66.

Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10*g* is similar to deploying these applications on WebLogic.

Creating a JDBC Connection Pool on Oracle Application Server 10*g*

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g" on page 61. Complete the following procedure to create a JDBC connection pool on Oracle Application Server 10*g*.

When you create a JDBC Connection Pool, you must identify the name, connection factory class, URL, database user name, and database user password as outlined in the following procedure.

To create a JDBC connection pool on Oracle Application Server 10g

1. Log in to the Administration console of Oracle Application Server 10*g*.

   The default administrator user name of Oracle Application Server 10*g* is `oc4jadmin`. When installing Oracle Application Server 10*g*, the typical URL is:

   ```
   http://<server_name>[:port]/em
   ```

   where:

   a. *`server_name`* is the host name for Oracle Application Server 10*g*.

   b. *`port`* is the endpoint of a logical connection. The number specifies what type of port. For example, 80 is for HTTP traffic.

2. From the Administration console home page, click the Oracle Application Server 10*g* instance used to deploy the Oracle Contact Center Anywhere Web applications.

3. From the Oracle Application Server 10*g* Instance detail page, in the Administrations tab, click the Create JDBC Resources icon.

4. On the JDBC Resources page, from under the Connection Pool label, click Create.

5. From the Create Connection Pool - Application page, select New Connection Pool, and click Continue.

6. From the JBDC Connection Pool detail page, complete the required fields.

   The following table describes the fields.

Field Name	Value
Name	The name of the JDBC connection.
Connection Factory Class	oracle.jdbc.pool.OracleDataSource
JBDC URL	The JDBC URL is as follows: `jdbc:oracle:thin:@<dbservername>:<port>:<SID>` where: ■ `<dbservername>` is the host name or IP address of the database server ■ `<SID>` is the database service name

Field Name	Value
Username	The database user name. For more information, see parameter &13 in "Creating a New Oracle Database 10g" on page 20.
Password	The password of the database user declared in the Username parameter.

NOTE: If creating a JDBC connection pool on a Sun One Application Server, you must also add the following connection pool settings:

```
SetBigStringTryClob=true
 sduSize=58400
```

7 Click Test Connection to verify that the connection is set correctly.

8 Click Finish.

Creating a JDBC Data Source on Oracle Application Server 10*g*

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g" on page 61. Complete the following procedure to create a JDBC datasource on Oracle Application Server 10*g*.

When you create a JDBC data source on Oracle Application Server 10*g*, you must identify the name of the data source, the JNDI location, the transaction level, the connection pool, and a login timeout value.

To create a JDBC data source on Oracle Application Server 10g

1 Open the JDBC Resource page.

See Step 1 through Step 3 of Creating a JDBC Connection Pool on Oracle Application Server 10g on page 62.

2 From the JDBC Resources page, click Create, which is under the Data Sources label.

3 From Create Data Source - Application & Type page, select Managed Data Source for the data source type, and click Continue.

4 From the Create Data Source - Managed Data Source page, complete the following fields.

The following table describes the fields.

Field	Description
Name	The name of the data source.
JNDI Location	Use the same value as the data source name.
Transaction Level	Global & Local Transaction.

Field	Description
Connection Pool	Select the connection pool that you previously created.
Login Timeout	60

5 Click Finish.

The JDBC Resources page reappears.

6 From the JDBC Resources page, click the Test Connection icon next to the Data Source that you just created to verify that the data source is working correctly.

Deploying Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10*g*

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g" on page 61. Complete the following procedure to deploy TAW-general.war on Oracle Application Server 10*g*.

When you deploy Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10*g*, you deploy the customer Web client pages and libraries.

To deploy Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10g

1 From the Oracle Contact Center Anywhere installation package, copy the TAW-general.war file to Oracle Application Server 10*g*. For example:

```
<temp directory>/TAW-general.war
```

2 Edit the web.xml file in the `TAW-general.war\WEB-INF` directory, and then change the values of the context parameters.

The following table describes the parameters.

Context Parameter Name	Parameter Value
applicationPath	The path to the location of TAW directory, for example: `<oas installation path>/TAW`
storagePath	This value must match the last reference in the URLstoragePath. The default value is `/Storage`.
URLstoragePath	The URL from where clients download the files for their session. It is the URL to the Storage directory under the Oracle Contact Center Anywhere directory, for example: `http://webserver/cca/Storage`

Context Parameter Name	Parameter Value
busConnection	Host name or IP address of the server that the TCP/IP Bus is running.
busConnectionBackup	The host name or IP address of the server that the secondary TCP/IP Bus is running. Leave this blank if you have only one TCP/IP Bus running.
databaseDatasource	The name of the data source you created in "Creating a JDBC Data Source on Oracle Application Server 10g" on page 63.
databaseSchema	The owner of the schema, which is defined in uppercase in the web.xml file. For example: `ADMINCC81`
databaseUser	The user name of the WebLogic domain user, for example: `cc81`
databasePassword	The password of the WebLogic domain user, for example: `cc81`
isReportServer	true
logPath	The location where log files are created, for example: `<OAS installation path>/TAW/WEB-INF/logs/jnlpdownloadservlet.log` **NOTE:** Used solely for the jnlpdownloadservlet.
reportServerUrl	The URL for viewing the reports.
databaseDatasourceReadOnly	The name of the ReadOnly data source you created in "Creating a JDBC Data Source on Oracle Application Server 10g" on page 63.
databaseUserReadOnly	The ReadOnly user name of the WebLogic domain user. For example: `cc81`
databasePasswordReadOnly	The ReadOnly user's password of the WebLogic domain user. For example: `cc81`

3. From the Oracle Application Server 10*g* Instance home page (Applications tab), click Deploy to deploy a new Web application.
4. From the Deploy: Select Archive page, select Archive Is Already Present on the server where Application Server Control Is Running, and enter the absolute path to TAW-general.war in the Oracle Application Server 10*g*. For example:

```
<temp directory>/TAW-general.war
```

For the deployment plan, use the default selection.

5 From the Deploy: Application attributes page, complete the following fields.

The following table describes the fields.

Field	Value
Application name	TAW
Parent Application	Default
Bind Web Module to Site	Default Web site
Context Root	/TAW

6 Click Next.

7 From the Deploy: Deployment settings page, verify that all information is correct

8 Click Deploy to deploy Oracle Contact Center Anywhere TAW application.

9 Wait until Oracle Application Server 10*g* finishes deploying the TAW Web application.

Deploying Oracle Contact Center Anywhere cca.war on Oracle Application Server 10*g*

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on Oracle Application Server 10g" on page 61. Complete the following procedure to deploy cca.war on Oracle Application Server 10*g*.

NOTE: Deploying Oracle Contact Center Anywhere cca.war on Oracle Application Server 10*g* is similar to deploying TAW-general.war.

To deploy Oracle Contact Center Anywhere cca.war on Oracle Application Server 10g

1 From the installation package, copy the cca.war file to Oracle Application Server 10*g*. For example:

```
<temp directory>/cca.war
```

2 Edit the web.xml file in the `cca.war\WEB-INF` directory, and change the values of the context parameters to the correct information for your site.

The following table describes the parameters to modify in Oracle Contact Center Anywhere web.xml file.

Context Parameter Name	Parameter Value
applicationPath	The path to the location of Oracle Contact Center Anywhere directory, for example: `<OAS Installation path>/cca`
URLstoragePath	The URL from where clients download the files for their session. It is the URL to the Storage directory under the Oracle Contact Center Anywhere directory, for example: `http://webserver/cca/Storage`
busConnection	The host name or IP address of the server that the TCP/IP Bus is running.
busConnectionBackup	The host name or IP address of the server that the secondary TCP/IP Bus is running. Leave this blank if you have only one TCP/IP Bus running.
databaseDatasource	The name of the data source created in "Creating a JDBC Data Source on Oracle Application Server 10g" on page 63
databaseSchema	The owner of the schema, which is defined in uppercase in the web.xml file. For example: `ADMINCC81`
databaseUser	The user name of the WebLogic domain user, for example, cc81.
databasePassword	The password of the WebLogic domain user, for example, cc81.
databaseDatasourceReadOnly	The name of the ReadOnly data source you created in "Creating a JDBC Data Source on Oracle Application Server 10g" on page 63.
databaseUserReadOnly	The ReadOnly user name of the WebLogic domain user. For example: `cc81`

Context Parameter Name	Parameter Value
databasePasswordReadOnly	The ReadOnly user's password of the WebLogic domain user. For example: `cc81`
myResourceid	The range must be between retVal >=100000 && retVal <= 110000 inclusive.
display-name	Represents the name for which the CCA application is deployed and is also the same name of the directory where the CCA application is extracted. For example, if the CCA directory were defined as 'cca813ga', then the display name would be: `<display-name>cca813ga</display-name>`

3 Configure the logging for Oracle Contact Center Anywhere by editing the following file:

`log4j.xml` (located under `<oas path>/cca/WEB-INF/classes/log4j.xml`)

4 Change ${cca.root.path} to install path:

```
<param name="File" value="${cca.root.path}/WEB-INF/logs/cca.log"/>
```

5 Complete the relevant steps in "Deploying Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10g" on page 64 to deploy the cca.war file.

Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic

This topic describes how to set up and deploy Oracle Contact Center Anywhere Web applications on WebLogic 10.0MP1 and 10.3.

NOTE: When installing Oracle Contact Center Anywhere on BEA 10 and 10.3 the following entry needs to be added to systemresourceconfiguration to support Blobs. In the systemresourceconfiguration table, insert the following parameters: (resourceid, paramkey, paramvalue, description) and values (-1, 'blobHandler', 'com.taw.database.WeblogicBlobHandler', 'Wrapper to support Blobs on BEA').

To set up and deploy Oracle Contact Center Anywhere Web applications on WebLogic, perform the following tasks:

1 Creating a New WebLogic Server Domain on page 69

2 Installing WebLogic as a Windows Service on page 70

3 Configuring Oracle Contact Center Anywhere Web Applications on WebLogic on page 71

4 Configuring the JDBC Connection Pool on page 72

5 Deploy the following Oracle Contact Center Anywhere Web applications (TAW-general.war and cca.war) on WebLogic when you have completed all previous tasks in this list:

   a Deploying Oracle Contact Center Anywhere TAW-general.war on WebLogic on page 73

   b Deploying Oracle Contact Center Anywhere cca.war on WebLogic on page 74

Deploying Oracle Contact Center Anywhere Web Applications on WebLogic is similar to deploying these applications on Oracle Application Server 10*g*.

Creating a New WebLogic Server Domain

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic" on page 69. Before you can deploy Web applications on a WebLogic Web server, you must first create a WebLogic Server domain. Complete the following procedure to create a new server domain on WebLogic.

To create a new WebLogic server domain

1. Navigate to the Windows Start menu, select Programs, BEA Products, Tools, and then Configuration Wizard.
2. Select Create a new WebLogic Domain, and then click Next.

   The Select Domain Source page appears.
3. From the Select Domain Source page, leave the default and click Next.

   The Configure Administrator Username and Password page appears.
4. Enter a user name and password for the domain administrator, and then click Next.

   The Configure Server Start Mode page appears.
5. From the Configure Server Start Mode and JDK page, select Production Mode and the Sun JDK path from BEA.

   The Customize Environment and Service Settings page appears.
6. Accept *No* as the default and click Next.
7. Enter the domain name as *mydomain* (or any name).
8. Accept the default domain location and click Create.
9. Click Done. The created domain can be seen in the location:

   ```
   <bea path>\user_projects\domains\<mydomain>
   ```

Installing WebLogic as a Windows Service

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic" on page 69. Complete the following procedure to install WebLogic as a Windows service.

NOTE: When installing WebLogic 10 on a Windows operating system, you can optionally install the WebLogic Server Node Manager as a Windows service. The WebLogic Server Node Manager starts and stops the managed servers in a domain. After installing the Node Manager as a Windows service, the service automatically starts the next time you reboot. You can also manually start the service from the Windows Services control panel.

To install WebLogic as a Windows service

1. Edit the `installSVc.cmd` file located at:

   ```
   <bea path>\<myserver>\server\bin\installSvc.cmd
   ```
2. Add the following command after `:noResetMemArgs`, and click Save.

   ```
   set MEM_ARGS=-Xms256m -Xmx256m -XX:MaxPermSize=128m
   ```

   NOTE: You can configure this command. Set the memory as per the operating system requirements.
3. Create a new .cmd file using the following content:

```
echo off
SETLOCAL
set JAVA_HOME=<bea path>\jdk160_05
set JAVA_VENDOR=Sun
set DOMAIN_NAME=mynewdomain
set USERDOMAIN_HOME=<bea path>\user_projects\domains\<mydomain>
set SERVER_NAME=<myserver>
set WLS_USER=<admin user name>
set WLS_PW=<admin user password>
set PRODUCTION_MODE=true
call "<bea path>\<myserver>\server\bin\installSvc.cmd"
ENDLOCAL
```

NOTE: The path, <*mydomain*> is the domain in which you are installing the Windows service.

4. Place the .cmd file in any location (typically, this is the domain folder for which the Windows service is created).
5. Run the .cmd file in the command prompt.

   The Windows service is created for the given domain (beasvcmydomain_myserver).
6. Start WebLogic from the Windows service.

Configuring Oracle Contact Center Anywhere Web Applications on WebLogic

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic" on page 69. Perform the following to configure Oracle Contact Center Anywhere Web applications on WebLogic:

- Configure the listening port of WebLogic domain server and create a domain login user.
- Change the listening port of the domain server after creating a WebLogic domain, if needed. By default, use port 7001 when creating a domain.
- Create a domain user. Oracle Contact Center Anywhere uses the domain user to access all domain resources, such as the connection pool, data source, and so on.

To configure Oracle Contact Center Anywhere Web applications on WebLogic

1. Open the BEA WebLogic Server Administration Console using a Web browser, and log in.

   The WebLogic Console URL is: http://<server_name>[:port]/console.

   NOTE: When creating a new domain, 7001 is the default port. If you are using a different port, replace that port in the URL address.
2. Change the HTTP listening port of the domain server:
   a. Navigate to Environments, Servers, <myserver>, and then General tab.
   b. Change the Listen Port from 7001 to 80.

c Click Save.

d Log out of the WebLogic Server console.

e Log in to the WebLogic Server console using the following URL:

```
http://<servername/console>/console
```

3 To deploy Oracle Contact Center Anywhere Web applications, create a WebLogic user on the domain as follows:

NOTE: If you do not want to use a long password for the user, change the password length.

a Open the WebLogic Server console.

b Navigate to Security Realms, myrealm, and then Providers tab.

c Select Default Authenticator.

d Select the Provider Specific tab.

e Change the minimum password length, for example, change it from 8 to 4.

f Click Save.

g Restart the Web server.

4 Create WebLogic domain database users, both the regular and ReadOnly users as follows:

a Open the WebLogic Server console.

b Navigate to Security Realms, myrealm, and then Users-Groups tab.

c Click New.

d Create a new login user.

e Complete the required information and then click Save.

5 To log into the legacy client, add the following parameter to the WebLogic config.xml file at the end of the security definition block.

```
<enforce-valid-basic-auth-credentials>false</enforce-valid-basic-
authcredentials>

</security-configuration>
```

Configuring the JDBC Connection Pool

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic" on page 69. Before deploying Oracle Contact Center Anywhere Web applications on WebLogic, create JDBC connection pools for Oracle Contact Center Anywhere database users (regular and ReadOnly) as described in the following procedure.

To configure the JDBC connection pool

1 Navigate to JDBC and then DataSources, then click New.

2 Enter the DataSource name and JNDI name (which is same as the DataSource name).

3 Select the Database type and the Database driver, then click Next.

4 Accept the default Transaction Options, then click Next.

5 From the Connection Properties page, enter the connection details and click Next.

6 Click Test Configuration to test the connection, then click Next.

7 Select the target and then click Finish.

This creates the required DataSource.

8 Navigate back to JDBC and then DataSources.

9 Click on the newly created Datasource.

10 Navigate to the Connection Pool tab.

11 Change the Initial Capacity to *25* and the Maximum Capacity to *50*, then click Save.

12 Click the Advanced link (which is present at the bottom of the Connection Pool tab).

13 Set the Test Frequency to *300*.

14 Select the check box for Test Reserved Connections.

15 Set the Connection Creation Retry Frequency to *300*, then click Save.

16 Click Activate Changes.

NOTE: Changes must be activated for them to take effect. The Activate Changes option will change color and turn green when ready and available for you to select.

Deploying Oracle Contact Center Anywhere TAW-general.war on WebLogic

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic" on page 69. Complete the following procedure to deploy TAW-general.war on WebLogic.

When you deploy Oracle Contact Center Anywhere TAW-general.war on WebLogic, you deploy the customer Web client pages and libraries. To deploy TAW-general.war, you must copy and extract the TAW-general.war file from the Oracle Contact Center Anywhere installation package.

To deploy Oracle Contact Center Anywhere TAW-general.war on WebLogic

1 From the Oracle Contact Center Anywhere installation package, copy the TAW-general.war file to the WebLogic domain applications directory. For example:

```
C:/<beapath>/user_projects/domains/<mydomain>/applications
```

2 In the applications directory, create a directory named TAW, and extract the TAW-general.war file into this directory.

3 Delete the TAW-general.war file.

4 Edit the web.xml file to include your specific system information.

For a list of which parameters to modify, see "Deploying Oracle Contact Center Anywhere TAW-general.war on Oracle Application Server 10g" on page 64.

5 Connect to the Web-based WebLogic console (`http://<server_name>[:port]/console`).

6 From the WebLogic console, navigate to Deployments and click Install.

7 Navigate to the following path:

```
C:/<beapath>/user_projects/domains/<mydomain>/applications
```

8 Select the *TAW* application path you want to deploy and click Next.

The Install Application Assistant page appears.

9 Select Install this deployment as an application and click Next.

The Summary of Deployments page appears.

10 Accept the default values and click Finish.

The application is deployed.

11 Navigate to the Deployments page.

The newly installed application will appear in the list of deployments for the domain.

12 Select the application and click Start and then Servicing all requests to check the application.

The application status changes to Active to indicate that it was successfully deployed.

Deploying Oracle Contact Center Anywhere cca.war on WebLogic

This task is a step in "Process of Deploying Oracle Contact Center Anywhere Web Applications on WebLogic" on page 69. Complete the following procedure to deploy cca.war on WebLogic.

NOTE: Deploying Oracle Contact Center Anywhere cca.war on WebLogic is similar to deploying TAW-general.war.

To deploy Oracle Contact Center Anywhere cca.war on WebLogic

1 From the Oracle Contact Center Anywhere installation package, copy the cca.war file to the WebLogic domain applications directory. For example:

```
C:/<beapath>/user_projects/domains/<mydomain>/applications
```

2 In the applications directory, create a directory named Oracle Contact Center Anywhere and extract the cca.war file into this directory.

3 Delete the cca.war file.

4 Edit the web.xml file to include your system information.

For a list of which parameters to modify, see "Deploying Oracle Contact Center Anywhere cca.war on Oracle Application Server 10g" on page 66.

5 Edit the following path for the cca log path:

```
C:/<bea path>/user_projects/domains/mydomain/applications/cca/WEB-INF/classes/
log4j.xml

<param name="File" value="C:/<beapath>/user_projects/domains/<mydomain>/
applications/cca/WEB-INF/logs/cca.log"/>
```

6 Configure the logging for Oracle Contact Center Anywhere by editing the following file:

`log4j.xml` (located under `<oas path>/cca/WEB-INF/classes/log4j.xml`)

7 Change `${cca.root.path}` to the install path:

```
<param name="File" value="${cca.root.path}/WEB-INF/logs/cca.log"/>
```

8 Connect to the Web-based WebLogic console (`<server_name>[:port]/console`).

9 From the WebLogic console, navigate to Deployments and click Install.

10 Navigate to the following path:

```
C:/<beapath>/user_projects/domains/<mydomain>/applications
```

11 Select the *cca* application path you want to deploy and click Next.

The Install Application Assistant page appears.

12 Select Install this deployment as an application and click Next.

The Summary of Deployments page appears.

13 Accept the default values and click Finish.

The application is deployed.

14 Navigate to the Deployments page.

The newly installed application will appear in the list of deployments for the domain.

15 Select the application and click Start and then Servicing all requests to check the application.

The application status changes to Active to indicate that it was successfully deployed.

Configuring Supervisor Reporting for Oracle Contact Center Anywhere

In Oracle Contact Center Anywhere version 8.1.3, supervisor reporting is configured in the systemconfiguration database table as described in the following procedure. Previously, supervisor reporting was configured in the web.xml file.

To configure supervisor reporting for Oracle Contact Center Anywhere

- Set the urlforccatotawreports field in the systemconfiguration database table to the URL of the report server. It is recommended to set this value to the Report Server, however it can be set to any TAW instance `<property name="taw.cca.server.url" value="http://<server>:[port]/<cca instance>"/>`. You must set the urlforccatotawreports field for supervisor reports to run.

  For example:

  ```
  urlforccatotawreports = http://<yourhostname>[:port]/TAW
  ```

  NOTE: If the Web server is running, you will need to restart it to allow the changes to take effect.

Initiating Data Retention

You must modify the `custom.xml` file to initiate data retention for Oracle Contact Center Anywhere. Complete the steps in the following procedure to initiate data retention.

NOTE: Only perform this change on the Web server that has been designated as the report server.

To initiate data retention for Oracle Contact Center Anywhere

- Add the following entry to the `TAW/custom/custom.xml` file:

  ```
  <application
     className="DataRetentionThread"
        package="com.taw.web.service.bean">
  </application>
  ```

  NOTE: If the Web server is running, you will need to restart it to allow the changes to take effect.

6 Configuring and Deploying the G.729 Protocol

This chapter describes how to configure the G.729 protocol in Oracle Contact Center Anywhere. It includes the following topics:

- Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77
- Installing the G.729 Drivers on page 78
- Converting Prompt Directories on page 79
- Process of Stopping All Oracle Contact Center Anywhere Resources on page 80
- Renaming Required Files in All VoIP Call Center Directories on page 81
- Reconfiguring Oracle Contact Center Anywhere to use the G.729 Protocol on page 83
- Process of Restarting Oracle Contact Center Anywhere Resources on page 84
- Configuring Phones on page 85
- Testing the G.729 Protocol Configuration on page 85

Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere

To configure the G.729 protocol to work with Oracle Contact Center Anywhere, perform the following tasks and processes:

- Install the G.729 drivers, as described in Installing the G.729 Drivers on page 78.
- Convert the prompt directories, as described in Converting Prompt Directories on page 79.
- Stop all required resources, as described in Process of Stopping All Oracle Contact Center Anywhere Resources on page 80.
- Rename the required files for all VoIP Call Center directories, as described in Renaming Required Files in All VoIP Call Center Directories on page 81.
- Reconfigure the payload for the affected services, as described in Reconfiguring Oracle Contact Center Anywhere to use the G.729 Protocol on page 83.
- Restart all required resources, as described in Process of Restarting Oracle Contact Center Anywhere Resources on page 84.
- Configure all phones for the G.729 protocol, as described in Configuring Phones on page 85.
- Testing the G.729 configuration, as described in Testing the G.729 Protocol Configuration on page 85.

Installing the G.729 Drivers

The Intel driver for the G.729 protocol is provided with the Oracle Contact Center Anywhere 8.1.3 server installation is located in the Intel Driver directory. The libraries of the Intel driver must be included in the library search path for the user running the resources. The Intel driver for G.729 must also be installed on the file server host and for each VoIP Call Center, MCU server and Music server host.

This task is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Complete one of the following platform-specific procedures, as required, to install the G.729 drivers:

- To install the G.729 drivers for Windows, see Installing G.729 Drivers on Windows on page 78.
- To install the G.729 drivers for Linux, see Installing G.729 Drivers on Linux on page 78.

Installing G.729 Drivers on Windows

Complete the following procedure to install G.729 drivers on the Windows platform.

To install G.729 Drivers on Windows

1. On the desktop, right-click on My Computer and then select Properties.
2. Select the Advanced Tab and then select Environment Variables.
3. From the System variables window, select the Path variable, and then click Edit.

   The Edit System Variable window appears.
4. In the Variable value field, add the Intel driver directory to the path. For example:

   `c:\ccanywhere\Intel Driver`

   NOTE: Type a semicolon (;) before adding the new entry for the Intel driver.

Installing G.729 Drivers on Linux

Complete the following procedure to install G.729 drivers on the Linux platform.

To install G.729 Drivers on Linux

1. Point the LD_LIBRARY_PATH point to the same location you have defined for the driver files in the .bash_profile file.

2 Log out and then log back in to validate the changes you made to the path.

The following is an example of a section of a .bash_profile file:

```
LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$ORACLE_HOME/lib:/usr/ccanywhere/lib:"/usr/
ccanywhere/intel Driver"

export LD_LIBRARY_PATH
```

Converting Prompt Directories

Oracle Contact Center Anywhere does not ship with preformatted G.729 system prompts. Therefore, any custom prompts that you may have created and are unique to the configuration must be converted to the G.729 protocol.

This task is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Complete the following procedure to convert the prompt directories.

To convert the prompt directories

1 Locate the prompts for the following paths on the VoIP Call Center servers:

- <ccanywhere home>/prompt/lg<n>
- <ccanywhere home>/companies/<company alias>/greeting
- <ccanywhere home>/companies/<company alias>/other
- <ccanywhere home>/companies/<company alias>/prompt
- <ccanywhere home>/companies/<company alias>/username

NOTE: If prompts exist in any of the directories, you will need to convert them.

2 Open a command window and use the change directory (CD) command to change the directory to where the prompts are located and then type scandir.

This will automatically go through and convert the .wav files to G.729, leaving both formats.

3 Use the CD command to change directory for each directory for which .wav files exist and run the scandir command each time.

- To convert the prompt directories on Windows, see Converting Prompt Directories on Windows on page 79.
- To convert the prompt directories on Linux, see Converting Prompt Directories on Linux on page 80.

Converting Prompt Directories on Windows

Complete the following procedure to convert the prompt directories on Windows.

To convert prompt directories on Windows

1. Run the `CD` command and navigate to the following language directory:

   `c:\ccanywhere\prompt\lg1`

2. Run the `scandir` command.

   NOTE: The conversion time for each language is estimated to be in the 2-minute range for each language.

3. Repeat Step 1 and Step 2 for all languages.
4. Repeat Step 1 and Step 2 for all prompt directories.
5. Repeat or copy converted prompts to all VoIP Call Center Servers.

Converting Prompt Directories on Linux

Complete the following procedure to install G.729 drivers for Windows.

To convert prompt directories on Linux

1. Run the `:./ScanDir -m2g` command for the prompt directory to be converted. For example:

   `./ScanDir -m2g ccanywhere/prompt/lg1`

   NOTE: The conversion time for each language is estimated to be in the 2-minute range for each language.

2. Repeat Step 1 for all languages.
3. Repeat Step 1 for all prompt directories.
4. Repeat or copy converted prompts to all VoIP Call Center Servers.

Process of Stopping All Oracle Contact Center Anywhere Resources

The Oracle Contact Center Anywhere Server is comprised of separate functional areas, otherwise known as resources. Every resource is responsible for delivering specific functionality. Resources are managed and configured in Oracle Contact Center Anywhere Network Manager. It is in the Network Manager where you will stop resources. They include:

- VoIP Call Center
- MCU Servers
- MP3 Server
- Music Server

This process is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Perform one of the following tasks:

Stopping a Resource

Complete the following procedure to stop resources that you have configured for the G.729 protocol.

1. From the Network Manager, select the View by Host button.
2. Select the alphabetical button that represents the first letter of the host manager name and then click on the host manager name. For example, select *E* for the host manager, *envcall01*.
3. In the resource tree view, select the shared resource you want to stop. For example, MCU Server.

   NOTE: In the resource tree view, a status icon appears next to each resource to indicate whether it is active or inactive. The status icon for active resources appears as a green icon with the letter *M* (master) or *B* (backup). If a master resource is stopped, the backup resource becomes the master.
4. Select Resources and then Stop Resource.

   The message, *Are you sure you want to stop resource: MCU Server* displays.
5. Click OK.

   The messages, *Attempting to stop: MCU Server* displays and *Stopped: MCU Server* display.
6. Click OK.

   NOTE: The status icon changes to the color red with the word *Stop* displays in the icon, indicating that the resource has been stopped for the host.
7. Repeat Step 3 through Step 6 for all VoIP Call Center, MCU Server, Music Server, and MP3 Server resources.

Renaming Required Files in All VoIP Call Center Directories

You must rename the required files for your specific platform for all VoIP call center directories.

This task is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Complete the following procedure to rename required files for all VoIP Call Center directories.

Renaming Required Files in All VoIP Call Center Directories on Windows

Complete the following procedure to rename required files for all VoIP Call Center directories on Windows.

To rename required files in all VoIP Call Center directories on Windows

1. From Microsoft Windows, navigate to the bin directory.

2 Rename the required files for all VoIP Call Center directories.

The following table lists the required files you must rename.

Current Value	Change to...
TWRTPManager.dll	TWRTPManager_711.dll.
TWRTPManagerG729.dll	TWRTPManager.dll.
MP3server.exe	MP3server_711.exe
MP3server_G729.exe	MP3server.exe

3 Repeat Step 2 for all shared resources (VoIP Call Center, MCU, MP3, and Music).

Renaming Required Files in All VoIP Call Center Directories on Linux

Complete the following procedure to rename required files for all VoIP Call Center directories on Linux.

To rename required files in all VoIP Call Center directories on Linux

1 From Linux, navigate to the lib directory.

2 Rename the required files for all VoIP Call Center directories.

The following table lists the required files you must rename in the lib directory.

Current Value	Change to...
libTWRTPManager.so	libTWRTPManager_711.so
libTWRTPManagerG729.so	libTWRTPManager.so

3 Repeat Step 2 for all shared resources (VoIP Call Center, MCU, MP3, and Music).

4 Navigate to the bin directory.

5 Rename the required files for all VoIP Call Center directories in the bin directory.

The following table lists the required files you must rename.

Current Value	Change to...
MP3Server	MP3Server_711
MP3Server_G729	MP3Server

6 Repeat Step 5 for all shared resources (VoIP Call Center, MCU, MP3, and Music).

Reconfiguring Oracle Contact Center Anywhere to use the G.729 Protocol

In the Network Manager, you will need to reconfigure the payload for all affected services to use the G.729 protocol. This requires replacing the existing G.711 protocol with G.729. You will need to do this for all of the following resources:

- VoIP Call Centers
- MCU Server
- Music Server

This task is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Complete the following procedure to reconfigure Oracle Contact Center Anywhere for the G.729 protocol.

- To reconfigure VoIP Call Centers for the G.729 protocol, see Reconfiguring VoIP Call Centers for G.729 on page 83.
- To reconfigure MCU servers for the G.729 protocol, see Reconfiguring MCU Servers for G.729 on page 83.
- To reconfigure Music servers for the G.729 protocol, see Reconfiguring Music Servers for G.729 on page 84.

Reconfiguring VoIP Call Centers for G.729

Complete the following procedure to reconfigure VoIP Call Centers from G.711 to the G.729 protocol.

To reconfigure VoIP Call Centers for the G.729 Protocol

1. In the Network Manager, select the VoIP Interface tab.
2. In the Payload field, select G729.
3. Click Save.
4. Repeat Step 2 and Step 3 for all defined VoIP call center resources.

Reconfiguring MCU Servers for G.729

Complete the following procedure to reconfigure MCU servers from G.711 to the G.729 protocol.

To reconfigure MCU Servers for the G.729 Protocol

1. In the Network Manager, select the MCU server you want to configure.
2. In the Payload field, select G729.
3. Click Save.

4 Repeat Step 2 and Step 3 for all defined MCU server resources.

Reconfiguring Music Servers for G.729

Complete the following procedure to reconfigure Music servers from G.711 to the G.729 protocol.

To reconfigure Music Servers for the G.729 Protocol

1 In the Network Manager, select the Music server you want to configure.

2 In the Payload field, select G729.

3 Click Save.

4 Repeat Step 2 and Step 3 for all defined music server resources.

Process of Restarting Oracle Contact Center Anywhere Resources

After configuring the resources, you will need to restart them and run sample tests of the G.729 configuration. You will use the Network Manager to start resources. The resources include:

- VoIP Call Center
- MCU Server
- MP3 Server
- Music Server

This process is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Perform one of the following tasks:

Starting a Resource

Complete the following procedure to restart a server resource.

1 From the Network Manager, select the View by Host option and then the alphabetical button that represents the first letter of the host manager name. For example, select *E* for the host manager, *envcall01*.

2 In the resource tree view, select the shared resource you want to start. For example, MP3 Server.

NOTE: In the resource tree view, a status icon appears next the shared resource. The resource is stopped and appears in the color red with the word *Stop*.

3 Select Resources and then Start Resource.

The message, *Are you sure you want to start resource: MP3 Server* displays.

4 Click OK.

The messages, *Attempting to start: MP3 Server* displays and *Started: MP3 Server* display.

5 Click OK.

NOTE: The color of the icon changes from red to green, indicating that the shared resource has been started.

6 Repeat Step 3 through Step 6 for all VoIP Call Center, MCU Server, Music Server, and MP3 Server shared resources.

Configuring Phones

Oracle Contact Center Anywhere only supports the G.729a protocol. Some phones, for example Polycom, default to G.729b, which is incompatible and results in poor voice quality. If necessary, reconfigure the phones to accept the codec specified by the phone system or reconfigure them to use G.729a protocol.

This task is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Complete the following procedure to configure phones.

Testing the G.729 Protocol Configuration

You can perform any of the following tests to verify and validate the configuration of the G.729 protocol. You can use either a physical IP phone or a softphone, that is configured for G.729 to perform the following tests:

- Make an incoming call to a project and then verify that the prompts are clear and understandable.
- Answer the call at the agent and talk and then verify that the conversation is clear and understandable.
- Make a 3-way conference call or monitor an agent from the supervisor and then verify that the conversation is clear and understandable.
- Accept and listen to an ACD voice mail and then verify that the voice mail is clear and understandable.
- Review the Interaction History or a quality recording and then listen to a call after the conversion to the G.729 protocol. The quality of the recording should be clear and understandable.

NOTE: Another way to test the G.729 configuration is to use an available softphone that supports the G.729 protocol.

This task is a step in Roadmap for Configuring the G.729 Protocol for Oracle Contact Center Anywhere on page 77. Complete the following procedure to test the G.729 protocol configuration.

NOTE: Prior recordings are not automatically converted to G.729. If the prior environment was configured for MP3 conversion, the prior recordings will already be in the MP3 format. If the prior environment was not configured for MP3 conversion, the old recordings will continue to be played as .wav files.

7 Preparing to Upgrade Oracle Contact Center Anywhere

This chapter describes the tasks that must be completed before you upgrade your existing Oracle Contact Center Anywhere application to version 8.1.3. It includes the following topics:

- Required System Information for Oracle Contact Center Anywhere 8.1.3 Upgrade on page 87
- Verifying Available System Space on page 88
- Backing Up Existing Oracle Contact Center Anywhere Components on page 88

Required System Information for Oracle Contact Center Anywhere 8.1.3 Upgrade

Before upgrading from your existing Oracle Contact Center Anywhere application to Oracle Contact Center Anywhere version 8.1.3, identify and record your existing Oracle Contact Center Anywhere system information and access points. Table 8 describes the information you must record:

Table 8. Required System Information

Task	Instruction
Database Information	If running a database upgrade script and configuring the web.xml file, record the following information before the upgrade procedure: ■ Database type. For example, Oracle9*i* Database, Oracle Database 10*g*, or Microsoft SQL Server. ■ Database server hostname. ■ Database service name and TNS name. This is required for an Oracle database server. ■ Database schema name. This is required for an Oracle database server. ■ Database schema administrator user name and password (for an Oracle database server). ■ Oracle Contact Center Anywhere database user name and password. ■ Database port number. The default port number for an Oracle database server is 1521. The default port number for Microsoft SQL Server is 1433. If running only a database upgrade script, record the schema administrator account name (or SA account for MS SQL Server), the TNS name, and the database port before the upgrade procedure.

Table 8. Required System Information

Task	Instruction
Web server Information	Record the following information before you begin upgrading the Oracle Contact Center Anywhere Web application: ■ Web server hostname. ■ Administrator user name and password. For a WebLogic Web server, the default administrator user name is weblogic**.** The user name for a Sun One server is *admin*. For Oracle Application Server 10*g*, it is oc4jadmin. ■ Path to the location of Oracle Contact Center Anywhere Web applications. For example, the typical path for the WebLogic Web server is: `C:/bea/user_projects/domains/mydomain/applications/`

Verifying Available System Space

Before backing up your Oracle Contact Center Anywhere components and upgrading your Oracle Contact Center Anywhere application to version 8.1.3, verify that there is sufficient system space for the backups and for the new Oracle Contact Center Anywhere installation package on each host server (database server, Web server, application server).

The amount of system space needed to perform an upgrade depends on the size of your current system. Use the following task to calculate the space required to perform an upgrade.

To verify available system space

- Add the total size of the backup folders to the size of the new Oracle Contact Center Anywhere package.

  For more information about back up, see "Backing Up Existing Oracle Contact Center Anywhere Components" on page 88.

Backing Up Existing Oracle Contact Center Anywhere Components

Before you perform upgrade tasks, back up all the components of your current Oracle Contact Center Anywhere system. If you experience a problem when you run your upgraded version of the Oracle Contact Center Anywhere application, you can revert to your backup files.

Table 9 describes the components that must be backed up before an upgrade.

Table 9. Oracle Contact Center Anywhere Components That You Must Back Up

Oracle Contact Center Anywhere Component	Description
Database	For more information, contact your database administrator.
Application servers	Before backing up application server folders, stop all services running on TCP/IP Bus. Back up the folders that contain Oracle Contact Center Anywhere server files. These folders are typically found in a folder named ccanywhere. Back up the following folders: ■ bin ■ lib (only on Solaris and Linux) ■ prompt ■ tmp ■ Network Manager **NOTE:** It is unnecessary to back up the log subfolder.

Web server	Back up only the folders that contain Oracle Contact Center Anywhere Web applications. These folders include TAW and cca.
	
	For example, if using a WebLogic Web server and the application path is as follows:
	
	`c:/bea/user_projects/domains/mydomain/applications/`
	
	then back up the following folders:
	
	`<install path>/TAW`
	`<install path>/cca`
	
	NOTE: Stop your Web server before backing up these folders.

8 Upgrading Oracle Contact Center Anywhere Server Components

This chapter describes how to upgrade Network Manager and application server files for Oracle Contact Center Anywhere. It includes the following topics:

- Upgrading a Database for Oracle Contact Center Anywhere on page 91
- Upgrading Network Manager for Oracle Contact Center Anywhere on page 96
- Upgrading Application Server Files for Oracle Contact Center Anywhere on page 97
- Upgrading Oracle Contact Center Anywhere Web Applications on page 98

Upgrading a Database for Oracle Contact Center Anywhere

This topic describes how to upgrade and test your database when upgrading Oracle Contact Center Anywhere. The Database directory in the Oracle Contact Center Anywhere installer contains two subdirectories:

- Oracle, for Oracle database server
- SQL Server, for Microsoft SQL Server

These subdirectories contain the Automated and Patch directories. Use the Patch folder to upgrade the existing database. Use the Automated folder when creating a new database. For more information on upgrading a database, see "Upgrading an Oracle Database for Oracle Contact Center Anywhere" on page 91 and "Upgrading a Microsoft SQL Server Database for Oracle Contact Center Anywhere" on page 94.

NOTE: Before you start upgrading your database, verify that at least Sun Java JRE 1.4.x is installed on the host used to run the database scripts.

For more information on testing your database upgrade, see "Testing Database Upgrade" on page 96.

Upgrading an Oracle Database for Oracle Contact Center Anywhere

Complete the following procedure to upgrade an Oracle database for Oracle Contact Center Anywhere.

NOTE: You can use this procedure to upgrade any Oracle database, for example, Oracle9*i* Database and Oracle Database 10*g*.

To upgrade an Oracle database for Oracle Contact Center Anywhere

1. Navigate to the following location of your Oracle Contact Center Anywhere upgrade installer:

```
<CCA_upgrade_installer>\Database\Oracle
```

2 Copy the Patch folder to the host used to run database upgrade scripts. For example:

```
<new_CC_application>\database\Oracle\Patch
```

NOTE: Do not use spaces in the directory path or the script might fail.

3 Edit the UseMe_upgrade.sql file in the Patch folder using the following guidelines, so that it includes the correct information for updating the database:

NOTE: Retain the quotation marks surrounding parameter values.

a Replace parameter &1 with the password of the database user.

b Replace parameter &2 with the name of the connection to the database server saved in the tnsnames.ora file. Typically, the tnsnames.ora file resides in the `ORACLE_HOME\network\admin` directory.

c Replace parameter &11 with the user name of the user who has administration privileges on the new database. For example, `admincc81`.

d Replace parameter &12 with the password of the user declared in parameter &11.

e Replace parameter &13 with the user name of the user who has access to the Oracle Contact Center Anywhere database. For example, `cc81`.

f Replace parameter &14 with the password of the user declared in parameter &13.

g Replace parameter &15 with the database service name (SID).

h Replace parameter &16 with the host name or IP address of the database server.

i Replace parameter &17 with the port that the Oracle Database 10*g* server uses to listen for a new connection. The default port is 1521.

j Replace parameter &18 with the total number of databases in your Oracle Contact Center Anywhere installation. If there are two databases, then set parameter &18 to 2.

Parameter &18 works in conjunction with the seed value (parameter &19) by offsetting the primary key identifier. For example, if parameter &18 is set to 2:

- IDs for the first database start with 1 and increment by 2 (giving 1, 3, 5, and so on).
- IDs for the second database start with 2 and increment by 2 (giving 2, 4, 6, and so on).

NOTE: If replication of multiple databases is not required, then this value is not required.

k Replace parameter &19 with the starting number of the sequence that is used to set the ID field or primary key of the table.

For example, if there are 2 database instances in your Oracle Contact Center Anywhere installation as follows:

```
seed=1
seed=2
```

then all IDs for the first instance will start with 1, and for the second instance will start with 2.

NOTE: Set this option only if database replication is required (so that multiple databases can be identified).

l Replace parameter &20 with a ReadOnly user name.

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

m Replace parameter &21 with a ReadOnly user password.

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

4 The following example illustrates the content of a script file after editing:

```
--  &1 - sys password                sys_password
--  &2 - Database TNS Name           my_db_connection
--  &3 - TWTableSpace                TAW Table Space
--  &4 - PathTableSpace              /usr/oracle/ora9i/oradata/oracle/twtablespace.dbf
                                     Path for the TAW Table Space
--  &5 - TableSpaceSize              500M Initial size of the Table Space
--  &6 - TWTableSpaceTemp            TAW Temporary Table Space
--  &7 - PathTableSpaceTemp          /usr/oracle/ora9i/oradata/oracle/twtablespacetmp.dbf
                                     Path for the TAW Temporary Table Space
--  &8 - TableSpaceTempSize          50M Initial size of the Temporary Table Space
--  &9 - TableSpaceTempGrowthSize    10M Temporary Table Space Growth Size
-- &10 - TWRole                      TWRole
-- &11 - ADMINCC81 (Admin Username) ADMINCC81
-- &12 - ADMINCC81 (Admin Password) ADMINCC81
-- &13 - CC81 (User Username)       CC81
-- &14 - CC81 (User Password)       CC81
-- &15 - Database Service Name      oracle --> Used by the JDBC Connection
-- &16 - Database Hostname          dbHostname --> Used by the JDBC Connection
-- &17 - Database Port Number       db port number --> Used by the JDBC Connection
-- &18 - Sequence increment number  Number of machines in the system - this is
                                    the number that you must skip. For example,
                                    if you have 2 machines, then this number is 2.
-- &19 - Sequence start number      1
-- &20 - CCR81 (ReadOnly Username)  1
-- &21 - CCR81 (ReadOnly Password)  1


@upgrade.sql 'syspassword' 'oracle' 'dummy' 'dummy' 'dummy' 'dummy'
'dummy''dummy' 'dummy' 'dummy' 'ADMINCC81' 'ADMINCC81' 'CC81' 'CC81' 'oracle'
'supportdb' 1521 2 1 'CCR81' 'CCR81'
```

5 Open a command-line window.

NOTE: To open a command-line window: click Start, Run, type CMD, and then click OK.

6 Navigate to the Patch folder using the cd command.

7 At the command-line prompt, type the following to open the SQL Plus console:

```
sqlplus /nolog
```

8 Run the `@UseMe_upgrade.sql;` script in the SQL Plus console.

9 Monitor the SQL Plus console for any errors while the script is running.

10 Review the new log files when the script has completed.

The log files indicate if errors occurred during the database upgrade process.

Upgrading a Microsoft SQL Server Database for Oracle Contact Center Anywhere

Complete the following procedure to upgrade a Microsoft SQL Server database for Oracle Contact Center Anywhere.

NOTE: You can also upgrade any Microsoft SQL Server database using this procedure, including Microsoft SQL Server 2000 and 2005.

To upgrade a Microsoft SQL Server database for Oracle Contact Center Anywhere

1 Navigate to the following location of your Oracle Contact Center Anywhere upgrade installer:

```
<CCA_upgrade_installer>\Database\SQLServer
```

2 Copy the Patch folder to the host running database upgrade scripts. For example:

```
<new_CC_application>\database\SQLServer\Patch
```

NOTE: You cannot use spaces in the directory path or the script might fail.

3 Edit the runmePatch.bat batch file using the following guidelines:

- **a** Replace parameter %1 with the host name of the database server.
- **b** Replace parameter %2 with the administrator user name. Typically, sa is the default.
- **c** Replace parameter %3 with the password for the administrator user.
- **d** Replace parameter %4 with the path to the location where the database files are created.
- **e** Replace parameter %5 with the database name for Oracle Contact Center Anywhere. Typically, the default is CC81.
- **f** Replace parameter %6 with the name of the user who is created, and have access to the database. Oracle Contact Center Anywhere uses this value to access the database. Typically, the default is CC81.
- **g** Replace parameter %7 with the password that you will provide to the user defined in the previous parameter.
- **h** Replace parameter %8 with the port number used by Microsoft SQL Server to listen for new connections. By default, Microsoft SQL Server listens in on the port 1433.
- ■ Keep parameter %9, -remoteDatabase flag set to False.

i Replace parameter %10 only if database replication is required so that multiple databases can be identified.

j Replace parameter %11 with the total number of databases in your Oracle Contact Center Anywhere installation.

k Replace parameter %12 CCR81 (ReadOnly Username)

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

l Replace parameter %13 CCR81 (ReadOnly Password)

NOTE: This is the database user for read-only access to the Companies and Users table and is used for authentication. It provides an additional layer of security at log in.

4 The following example illustrates the content of a batch file after editing:

```
rem %1 <The database server name>

rem %2 <The admin users - normally sa ->

rem %3 <The password for the admin user>

rem %4 <The database path where to create it, for example: c:\databases>

rem %5 <The database name>

rem %6 <CCA username>

rem %7 <CCA password>

rem %8 <database port number by default Sql server is using 1433>

rem %9 <remote database - "true" or "false">

rem %10 <seed: sequence start number for identity in replication environment>

rem %11 <increment: sequence increment number for identity in replication
environment>

rem %12 CCR81 <ReadOnly Username>

rem %13 CCR81 <ReadOnly Password>

echo off

CHCP 437

java -jar DatabasePopulation.jar -hostname=dbserver -username=cc81 -
password=cc81 -languageOption=1 -databasePortNumber=1433 -databaseName=cc81 -
saUsername=sa -saPassword=sapassword -isUpgrade=true -seed=1 increment=2

echo on
```

5 Save your changes.

6 Navigate to the Patch folder using the cd command.

7 Open a command-line window.

8 Run the runmePatch.bat batch file.

9 Monitor the console for any error while the batch file is running.

10 Review the created log files when the batch file has completed.

The log files indicate if errors occurred during the database upgrading process.

Testing Database Upgrade

To determine if your database upgraded successfully, test the database upgrade as follows:

To test database upgrade

1 Log in as an administrator to the upgraded database.

2 Select the Versions table in your database.

3 Verify if a row exists in your database that corresponds to the new upgrade version. If a row exists, the upgrade patches were installed correctly.

Upgrading Network Manager for Oracle Contact Center Anywhere

This topic describes the tasks required to successfully upgrade and test Oracle Contact Center Anywhere Network Manager. Since you use Network Manager to configure, start, and stop Oracle Contact Center Anywhere resources, you must also upgrade it to successfully function with the 8.1.3 binaries of Oracle Contact Center Anywhere.

Upgrading Oracle Contact Center Anywhere Network Manager

Complete the following procedure to upgrade Oracle Contact Center Anywhere Network Manager.

To upgrade Oracle Contact Center Anywhere Network Manager

1 Copy the Network Manager folder to the host used to run Network Manager. For example:

<new_CC_application>\Network Manager

2 Run the NetworkManager<version>.exe file.

3 Log in using the ODBC alias, database user name, and the database password.

You must be able to log in successfully.

Testing Oracle Contact Center Anywhere Network Manager Upgrade

To determine if Oracle Contact Center Anywhere Network Manager upgraded successfully, test the upgrade as described in the following procedure.

To test Oracle Contact Center Anywhere Network Manager upgrade

1. Make sure your TCP/IP Bus is running.
2. Start and stop the installed application servers in your Oracle Contact Center Anywhere system to determine if the upgraded Network Manager is running correctly.

Upgrading Application Server Files for Oracle Contact Center Anywhere

This topic describes how to upgrade and test the application server files when upgrading to version 8.1.3 of Oracle Contact Center Anywhere.

Upgrading Oracle Contact Center Anywhere Application Server Files

Complete the following procedure to upgrade Oracle Contact Center Anywhere application server files.

To upgrade application server files for Oracle Contact Center Anywhere

1. Stop all server resources using Network Manager.

   If resources are running on Windows, open the Task Manager and verify that *all* server resources have stopped.

   If resources are running on Solaris or Linux, check using the `ps -eaf` command. If necessary, stop any remaining server resources manually, using the `kill -9 <pid>` command.
2. Stop the SNMP service, if necessary.
3. Stop the TCP/IP Bus service.
4. Open the installation files.
5. Copy and paste the following folders to all hosts with Oracle Contact Center Anywhere application server installations:
   - bin
   - prompt

   NOTE: If you are running your system on Solaris or Linux, copy the lib folder.
6. Delete the contents of the log directory.

   NOTE: Do not modify or delete any file in the tmp directory.
7. Restart the SNMP service (if any).
8. Restart the TCP/IP Bus service.

9 Restart all application servers using Network Manager.

NOTE: If you are implementing G.729 with Oracle Contact Center Anywhere, additional steps are required. If you are using Oracle 10*g* on Solaris, change the `/lib/libtawdbapi.so.ForOracle10g` to `/lib/libtawdbapi.so`.

Testing Application Server Files Upgrade

To determine if the new application server files upgraded successfully, test the upgrade as described in the following procedure.

To test application server file upgrade

1 Verify that you can successfully start all application servers.

2 Call a valid project number.

If this project correctly routes to a workgroup, the ACD introductory recording is played.

Upgrading Oracle Contact Center Anywhere Web Applications

This topic describes the tasks that must be performed to upgrade the Oracle Contact Center Anywhere Web applications on WebLogic 10 and Oracle Application Server 10*g*. If you have not already done so, you will also need to configure JDBC data source and connection pools for ReadOnly users. For more information on creating JDBC data source and connection pools, see "Creating a JDBC Connection Pool on Oracle Application Server 10g" on page 62 and "To create a JDBC data source on Oracle Application Server 10g" on page 63.

- Configuring Oracle Contact Center Anywhere Web Applications on WebLogic on page 71
- Upgrading Oracle Contact Center Anywhere TAW-general.war on page 98
- Upgrading Oracle Contact Center Anywhere cca.war on page 101

NOTE: Make sure that SUN JRE 1.5.0_5 or update 10 or JRE 1.6 update 6 is installed on the client PC. Check your current version of the JDK/JRE installation by navigating to Control Panel, Add or Remove Programs. For further information, see the Sun Web site.

Upgrading Oracle Contact Center Anywhere TAW-general.war

Oracle Contact Center Anywhere TAW-general.war is the client of the Oracle Contact Center Anywhere Administration Manager application. This topic describes how to upgrade TAW-general.war, and how to test the upgrade.

Upgrading Oracle Contact Center Anywhere TAW-general.war

Complete the following procedure to upgrade Oracle Contact Center Anywhere TAW-general.war.

To upgrade Oracle Contact Center Anywhere TAW-general.war

1. Extract the `TAW-general.war\WEB-INF\web.xml` file with a text editor.
2. Change the default parameter names.

   The following table describes the parameters.

Parameter Name	Instructions
URLstoragePath	The URL from where clients download the files for their session. It is the URL to the Storage directory under the Oracle Contact Center Anywhere directory, for example: `http://webserver/cca/Storage`

applicationPath	Enter the path to the location of the TAW directory.
	For example:
	■ On a WebLogic Web server:
	`C:/bea/user_projects/domains/mydomain/applications/TAW`
	■ On an Oracle Application Server:
	`/home/oracle/product/10.1.3.1/OracleAS_1/j2ee/home/applications/TAW/TAW`

busConnection	Enter the host name or IP address of the server run by the TCP/IP Bus.
busConnectionBackup	Enter the host name or IP address of the server run by the secondary TCP/IP Bus. This is optional if only one TCP/IP Bus is running.
databaseDatasource	Enter the name of the data source you created in “Upgrading a Database for Oracle Contact Center Anywhere” on page 91.
databaseSchema	The owner of the schema, which is defined in uppercase in the web.xml file. For example: `ADMINCC81`
databaseUser	Enter the user name of the Oracle Contact Center Anywhere database user. For example, cc81.
databasePassword	Enter the password of the Oracle Contact Center Anywhere database user.

Parameter Name	Instructions
debugLogFile	Enter the path to the log file. For example: `/WEB-INF/logs/CallCenterAnywhere.log`
debugTracelevel	Supply the level of detail to write to the log file. Valid values are: ■ DEBUG (provides most detailed and lengthiest log files) ■ INFO ■ WARN ■ ERROR ■ FATAL (provides the least detailed log files)
isReportServer	Change this parameter to 'true' if the Web server is to handle reports. Change this parameter to 'false' if the Web server is not designated to handle reports.
myResourceid	The resource ID for the Web server. The range must be between retVal >=100000 && retVal <= 110000 inclusive.

3. Save your changes to the `TAW-general.war\WEB-INF\web.xml` file.
4. Insert the web.xml file back in to the TAW-general.war file.
5. Log in to your Web server administration console.

   NOTE: The default administrator user name of Oracle Application Server 10*g* is oc4jadmin. For WebLogic, the default administrator user name is weblogic.
6. In the administration console, delete the previous installation of TAW-general.war.
7. Delete the directory for TAW-general.war, if it still exists.

   NOTE: This is usually located in `C:/bea/user_projects/domains/mydomain/applications/TAW`.
8. Deploy the new Web application using the new TAW-general.war file.

   NOTE: The name is case sensitive.

Testing Oracle Contact Center Anywhere TAW-general.war Upgrade

Complete the following procedure to determine if TAW.general.war upgraded successfully.

To test Oracle Contact Center Anywhere TAW-general.war upgrade

1. Start the Oracle Contact Center Anywhere login page:

   ```
   http://<server name>[:port]/TAW
   ```

2. Log in to the NetAdmin account.

Upgrading Oracle Contact Center Anywhere cca.war

Oracle Contact Center Anywhere cca.war is the Web services and the new Java-based client. This topic describes how to upgrade cca.war, and how to test the upgrade.

Upgrading Oracle Contact Center Anywhere cca.war

Complete the following procedure to upgrade Oracle Contact Center Anywhere cca.war.

To upgrade Oracle Contact Center Anywhere cca.war

1. Extract the `cca.war\WEB-INF\web.xml` file with a text editor.
2. Change the default parameter names, as described in the following table.

Parameter Name	Parameter Value
URLstoragePath	The URL from where clients download the files for their session. It is the URL to the Storage directory under the Oracle Contact Center Anywhere directory, for example: `http://webserver/cca/Storage`

applicationPath	Enter the path to the location of the Oracle Contact Center Anywhere directory.
	For example:
	■ On a WebLogic Web server:
	`C:/bea/user_projects/domains/mydomain/applications/cca`
	■ On an Oracle Application Server:
	`/home/oracle/product/10.1.3.1/OracleAS_1/j2ee/home/applications/cca/cca`

busConnection	Enter the host name or IP address of the server run by the TCP/IP Bus.

Parameter Name	Parameter Value
busConnectionBackup	Enter the host name or IP address of the server run by the secondary TCP/IP Bus. This is optional if only one TCP/IP Bus is running.
databaseDatasource	Enter the name of the data source you created in "Upgrading a Database for Oracle Contact Center Anywhere" on page 91.
databaseSchema	The owner of the schema, which is defined in uppercase in the web.xml file. For example: `ADMINCC81`
databaseUser	Enter the user name of the Oracle Contact Center Anywhere database user. For example, cc81.
databasePassword	Enter the password of the Oracle Contact Center Anywhere database user.

3 Save your changes to the `cca.war/WEB-INF/web.xml` file.

4 Insert the modified web.xml file in to the cca.war file.

5 Log in to your Web server administration console.

6 In the administration console, remove the previous installation of cca.war.

7 Remove the previous deployment of cca.war, and then delete the directory for cca.war if it still exists.

NOTE: This is usually located in `C:/bea/user_projects/domains/mydomain/applications/CCA`.

8 Deploy the new Web application using the new cca.war file.

Testing Oracle Contact Center Anywhere cca.war Upgrade

Complete the following procedure to determine if cca.war upgraded successfully.

To test Oracle Contact Center Anywhere cca.war upgrade

1 Start the Oracle Contact Center Anywhere login page:

```
http://<server name>[:port]/cca
```

2 Log in as an agent or as a supervisor using the upgraded client.

TIP: If you cannot log in, delete the Oracle Contact Center Anywhere cache and Java Webstart. The Oracle Contact Center Anywhere cache is located in *<User Document directory>*\CCA8.0, for example, *C:\Documents and Settings\<user>*\CCA8.0. The cache contains system and user data used by the application. You can delete the Oracle Contact Center Anywhere cache directory directly. Deleting the cache causes the data to download again on access or log in. Delete Java Webstart by navigating to the Java control panel, opening Java, and deleting all files. Deleting the javaws file results in the latest version of javaws downloading again when Oracle Contact Center Anywhere is started again.

3 Make an outbound call.

9 Getting Started with Oracle Contact Center Anywhere

After you have configured your database, installed Oracle Contact Center Anywhere server components, and configured and deployed Oracle Contact Center Anywhere Web applications, start Oracle Contact Center Anywhere to verify that it is working correctly. This chapter describes how to start Oracle Contact Center Anywhere and verify the Oracle Contact Center Anywhere installation. It includes the following topics:

- Logging In to Oracle Contact Center Anywhere Administration Manager on page 105
- Logging In to Oracle Contact Center Anywhere Integrated Client on page 106
- Testing Types of Interactions on page 106

Logging In to Oracle Contact Center Anywhere Administration Manager

Oracle Contact Center Anywhere Administration Manager is a browser-based software program that allows users to set up, configure, and maintain an Oracle Contact Center Anywhere multimedia call center. To log in to Administrator Manager, complete the steps in the following procedure.

To log into Oracle Contact Center Anywhere Administration Manager

1. Open the following URL in a Web browser:

   `http://<server_name>[:port]/TAW`

   where:

   `server_name` is the host name of the Web server.

2. Log in as a network administrator, using the default administrator account.

   This account is created when installing Oracle Contact Center Anywhere. The default user name and password for this user (default administrator account) is netadmin and 1234.

3. Make sure that you can log in without any error messages.

   If you cannot log in, review the log files in `TAW/WEB-INF/logs/ccanywhere.log`, and locate any errors that might have occurred during the Oracle Contact Center Anywhere Web applications deployment.

4. Create an agent.

   For more information about configuring an agent, see *Oracle Contact Center Anywhere Administration Manager Guide*.

Logging In to Oracle Contact Center Anywhere Integrated Client

Oracle Contact Center Anywhere Integrated Client is an application for contact center agents. With the Integrated Client, agents can communicate with customers in different ways, including by phone, email, and the Web. Agents can work from any computer that has access to the Internet. To log in to the Integrated Client, complete the steps in the following procedure.

To log in to the Oracle Contact Center Anywhere Integrated Client

1 Enter the following URL in a Web browser:

```
http://<server_name>[:port]/cca
```

where:

server_name is the name of your server.

2 Click the link that appears in the start page.

3 On the login page, complete the following fields, and then click Login.

The following table describes the fields.

Field	Description
Company Alias	Type the alias of the company.
Username	Type the agent's user name.
Password	Type the agent's password.
Language	Verify or specify the language.

4 If you receive an error message during the log in, check the log files in `CCA/WEB-INF/ccanywhere.log` to find information about the error during the deployment.

Testing Types of Interactions

Agents can communicate with customers using many channels such as telephone calls, email, chat, and so on. After installing Oracle Contact Center Anywhere, make sure that these different channels work correctly by testing interaction types as described in the following procedure.

NOTE: For information about how these channels work, see *Oracle Contact Center Anywhere Administration Manager Guide* and *Oracle Contact Center Anywhere Interaction Manager Guide*.

To test interaction types

1. Log in to Administration Manager.

   For more information about Administration Manager log in, see "Logging In to Oracle Contact Center Anywhere Administration Manager" on page 105.

2. Create a call, chat, and email project.

   For more information about creating each of these tasks, see *Oracle Contact Center Anywhere Administration Manager Guide*.

3. Log in to the Integrated Client as an agent.

   For more information about Integration Client log in, see "Logging In to Oracle Contact Center Anywhere Integrated Client" on page 106.

4. Make sure the agent's status is Available, make an inbound call to Oracle Contact Center Anywhere, and verify that the agent can accept the call.

5. Verify that the agent can connect to an outbound number.

6. Send an email interaction, and verify that the agent can receive the email.

7. Send a chat request to Oracle's Contact Center Anywhere, and verify that the agent can chat with the customer.

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